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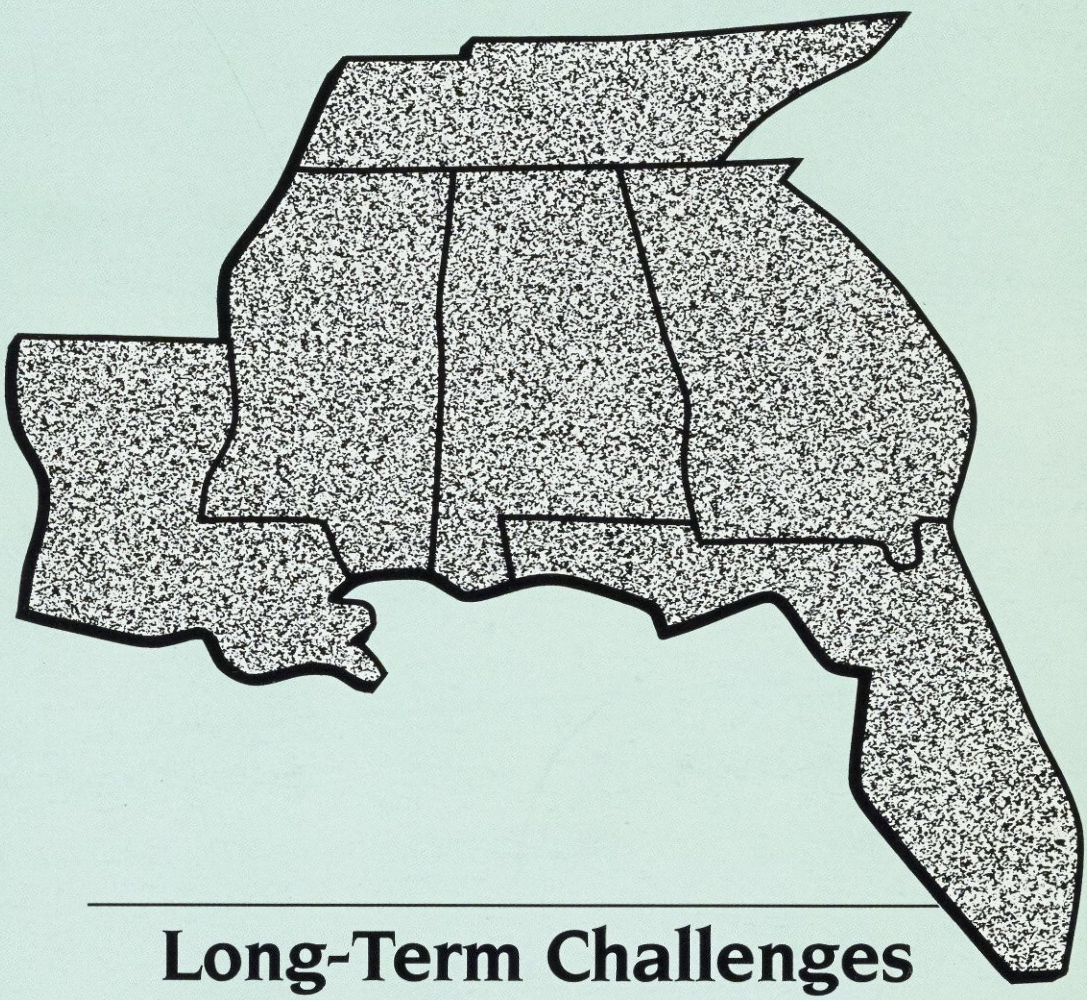

Long-Term Challenges for Southeastern States

Economic Review

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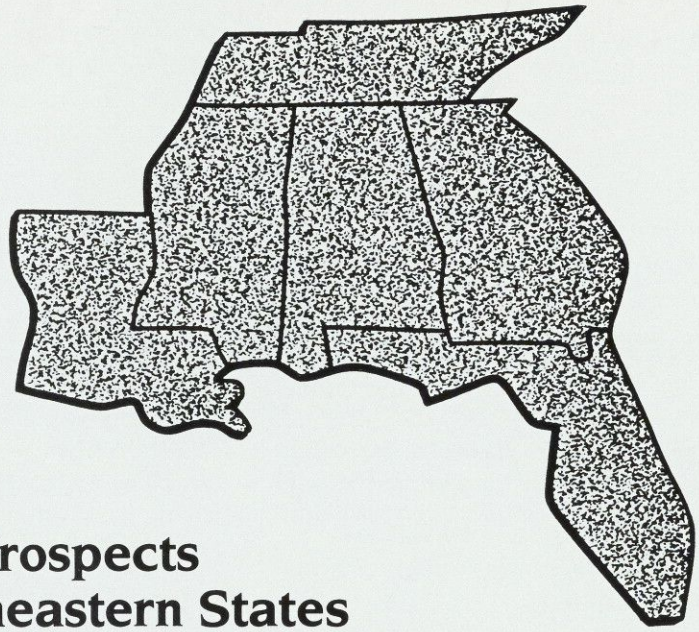

Long-Term Prospects for the Southeastern States

Regular readers of the *Economic Review* probably are anticipating that this special issue will discuss what's in store for the Southeast in 1988. For six years running, economists in the Atlanta Fed's regional section have projected year-ahead growth patterns for each of the six states in the Sixth Federal Reserve District, which includes Alabama, Florida, Georgia, and parts of Louisiana, Mississippi, and Tennessee. This year's issue, however, shifts gears by taking a longer run view of the economic performance of and outlook for southeastern states.

The aim of this report is to improve understanding of the forces that have caused states in the Southeast to develop as they have and to highlight major opportunities and constraints that will help shape future growth in these states. In many instances, the contributions also outline alternative policy prescriptions to address development issues.

The past few decades have been marked by important economic transformations that have enabled the region to grow and prosper at an above-average pace compared with the nation. Specific states have grown quickly for different reasons, however, some relying on exploitation of natural resources while others especially benefited from development of manufacturing or service industries. In all of the states, progress has been uneven and halted occasionally by cyclical reversals. Moreover, the benefits of growth, while widespread among the populace, have not been uniform either within or across states. This special issue is thus warranted because, while the region has achieved substantial progress, some development needs have gone unmet. Disseminating information about these needs is an important move toward satisfying them. The issue also is timely due to emerging structural economic changes that are evident both nationally and around the Southeast.

The longer run outlook for the Southeast depends partly, of course, on national economic developments. For example, forecasts for the national economy consistently anticipate slower labor force growth for two reasons: the smaller generation that followed the baby boom will provide fewer entrants, and the growth in participation rates of women will slow. The national

economy also is expected to become more integrated into the international economy, augmenting exports' share of gross national product (GNP).

These evolving trends will have important effects in the region. Potential output is growing at a slower pace, and even those states that have benefited substantially from migration in the past will find it harder to expand. The rural South, highly dependent upon row-crop agriculture and low-skill manufacturing for its economic base, is poorly positioned in terms of education and skills to meet the export challenge effectively. Around the globe, technological changes are restructuring agriculture and manufacturing markets such that developing countries now pose intense competition for low-wage jobs. As for high-wage jobs, the region must vie strenuously with states elsewhere in the nation whose work force's education and skill levels are superior.

These two examples of major changes expected nationally and their potential impacts on this region reinforce our motivation for preparing this special issue. They remind us that there are both similarities and differences in the growth-stimulating factors across the region, historically and for the foreseeable future. An understanding of these similarities and differences is a necessary first step in formulating appropriate policy responses at the state, regional, or national level to foster or manage growth in the Southeast.

Among the common growth experiences around the Southeast is the dichotomy between burgeoning urban and declining rural communities. This divergent experience is related to the aforementioned restructuring of agriculture and manufacturing and to the continuing fast advances of service employment in urban areas. Furthermore, many of the growth attractions in the southeastern states have common roots—in cheap resources, including labor; a low tax and favorable business environment; and a generally moderate climate.

Strong contrasts in development issues also exist, both among and within states; often these issues echo the disparity of growth experiences. For example, in Louisiana and Mississippi the key development problem is to reduce a strong historical dependency on primary industries that are highly cyclical and economically unstable. In contrast, Tennessee and, less so, Alabama exemplify states where considerable transformations from traditional manufacturing toward a more diversified competitive manufacturing base have been accomplished. Elsewhere, the "two Georgias" dichotomy largely represents the urban-rural prosperity gap that pervades the region. Finally, in Florida the major development issue is that of managing headlong growth so as not to ruin the very characteristics that are conducive to it.

The pressing need to provide a nationally competitive education for all of the region's students is a prominent example of a common shortcoming and objective of southeastern states, both rich and poor. So is the related imperative to prepare a globally competitive work force that can adapt to fast-changing job requirements. Still another shared challenge is to manage growth in the region in ways that will protect and enhance its natural resources—its seacoast, lakes, and rivers; its swampland, farm land, and mountain forests; its air. Virtually all states also proclaim the necessity to build up transportation and health care systems and other public infrastructure to accommodate hoped-for or ongoing expansion while protecting quality-of-life amenities.

The contributors to this issue have chosen to emphasize a particular problem in a single state. However, as the foregoing discussion has demonstrated, the problem outlined in any one of the following essays has a broader relevance in the region: Florida's growth challenge finds its counterpart in metropolitan Atlanta, for example, and Georgia's rural-urban dichotomy typifies the other states as well. For this reason, the entire issue should be of interest to those concerned with state and local economic development, regardless of where they reside. As the following synopses of state issues indicate, all of the southeastern states are making some significant detailed adjustments to address specific development issues.

Production of natural resources has always been a major factor in **Alabama's** economic development. Dependence on primary industries typically increases an economy's vulnerability in recessionary periods, and the state's experience is no exception. However, the wide and growing array of natural resources in Alabama has helped to soften the impact of price

declines for particular commodities. In addition, the state's employment base has diversified toward the processing of natural resources, a move that lessens the adverse effect of more general commodity price declines. For example, manufacturing of lumber and wood products, paper and allied products, chemicals, and petroleum and coal products has grown, adding diversity and stability to labor markets. Moreover, in recent years services and high-tech sectors have been advancing rapidly in important metropolitan areas, imparting still more diversity to the state economy.

Economic development and other state government policies have helped create a more heterogeneous economy. For instance, government support for education and health care infrastructure in Birmingham has helped those industries to grow rapidly, as has support for high-tech manufacturing around Huntsville. Like most southeastern states, Alabama has actively sought foreign as well as domestic investment. State tax policy has continued to nurture the state's vast forest resources (the fourth largest forest acreage among the 50 states), and new state-owned coal-shipping facilities have given a boost to shipments through the port of Mobile. As in the rest of the Southeast, expectations also are strong that new funding for improved education programs will eventually pay off in more and better jobs.

Florida's long-run growth experience and outlook stand up favorably against those of most states. Expansion has been rapid and fairly stable because the state's economic structure has become relatively diversified and service-based compared with other states. The traditional driving forces in Florida's economy—tourism, migration, and agriculture—continue to thrive as well, lifting the state's economic outlook over the longer haul. The major threat to the health of Florida's economy is linked to the adverse consequences of unbridled economic growth and change. Thus, its primary development challenge is one of growth management rather than growth generation.

Florida's past economic expansion undoubtedly has been beneficial overall; however, Floridians have not yet paid for all of the infrastructure costs generated by its prosperity, and the state's infrastructure needs are becoming more costly. Essentially, Florida's economy is booming, but at the same time growth is severely straining the state's transportation, education, and other public "overhead" systems. Unfortunately, Floridians have not reached a consensus on how to preserve and promote the state's quality of life while meeting the increased demand for highways, schools, fresh water, sewage treatment facilities, and other public projects.

On paper, Florida has a strong growth management plan that was designed to deal with these issues. Floridians also have the ability to pay for needed physical and social services. More taxes are inevitable, but the tax structure in the state probably needs fundamental reform. It remains unclear how Floridians ultimately will resolve this question of taxation.

The "two-Georgias" debate that has surfaced recently in **Georgia** reflects dual concerns. Residents are impatient over the pace of economic development in some areas of the state, and they recognize the potential need for public policy to prod growth in parts that are lagging. The huge metropolitan Atlanta area is a step or two ahead of most of the rest of the state in growth indicators and other measures of economic well-being, validating the existence of the gap. Moreover, Atlanta has moved ahead especially rapidly in recent years compared with the remainder of the state.

Among the major issues in the "two-Georgias" debate is whether the gap will narrow naturally; that is, whether buyers will seek lower prices for goods and services and producers will seek lower wage costs to make goods more cheaply, thus elevating demand outside metropolitan Atlanta and dampening it in the higher-cost metropolitan area. Unfortunately, there is some evidence that basic changes in the world's economic structure are making such convergence harder for non-Atlanta portions of the state. While some problems are transient, service employment, in which the capital specializes, will continue to outpace manufacturing and agriculture. Atlanta is further favored by the faster growing industries that require high rather than low skills and by the waxing importance of transportation and communication networks in the economic growth equation.

Solutions to Georgia's rural-urban growth disparity probably require some government action to speed up needed changes. Public

policies that aim to help rural areas catch up include improved adult and child education, developmental highways, and encouragement of local entrepreneurship.

The economies of both **Louisiana** and **Mississippi** are tied closely to a few major industries that are subject to radical cyclical swings. Louisiana's economy, for example, simply cannot advance robustly without strength in the volatile oil, gas, and petrochemical industries. In Mississippi, key problems exist in the state's relatively large rural areas and in its low-wage manufacturing sector as well as in its energy sector. Declining competitiveness in international markets and falling commodity prices stunted short-run growth prospects in both of these states in the 1980s, causing a rising tide of jobless workers to leave these states in search of employment elsewhere. Among states in the region, Louisiana and Mississippi are the only ones experiencing population loss from migration.

Schemes to diversify these economies away from their narrow dependencies are critically important to enhancing their growth prospects. In both Louisiana and Mississippi, developing a commitment to education and finding stable funding sources for improved educational programs are keys to eventual progress. Unfortunately, there are formidable social, political, and financial obstacles to bettering educational systems in both states.

Some other steps might be taken to improve the economic climate in Louisiana and Mississippi. In Louisiana, protection of the ecologically fragile aquatic habitat promises to yield a high payoff in increased fish and seafood production. Additionally, more food processing would help lessen the importance of the energy sector in the state's economy. In other manufacturing industries, a restructuring of the chemical industry toward specialty chemicals would make up for lost sales of bulk chemicals due to intense international competition. Additional processing and manufacturing activities involving commodities and other products that flow through the port of New Orleans could bolster Louisiana's diversification effort. So, too, would efforts to expand jobs in a variety of services supporting international trade.

An increased emphasis on tourism in Louisiana and on resort and retirement community development along Mississippi's Gulf Coast could enhance growth. New Orleans' existing and planned attractions can accommodate more visitors, and the state's Cajun country is ripe for tourism development. Mississippi's beautiful beaches sandwiched between the metropolitan areas of New Orleans and Mobile are relatively undiscovered. In both Louisiana and Mississippi, government fiscal issues are important. Louisiana requires tax reform, and capital-deficient Mississippi needs an influx of financial resources to pay for health, education, and other social services. Both of these states will be hard pressed to achieve stable growth on a par with the nation's average rate.

Owing to its successful shift away from basic manufacturing and toward a healthy mix of services, **Tennessee's** expansion has kept pace with the nation's in recent years. The state's manufacturing industries also are relatively diversified and closely linked to its highly competitive transportation and distribution network, a legacy of the state's crossroads location. Absolute and relative increases in service employment in trade and transportation industries have helped to absorb the jobs lost due to restructuring in agriculture and manufacturing.

Diversity, flexibility, and the ability to reallocate resources between rising and declining industries should spur Tennessee's economy ahead in the near future. These characteristics, hallmarks of the state in recent years, are vital to sustaining Tennessee's progress. Continuing development of the entertainment and air transportation industries in Memphis and Nashville should help spread growth around the state.

The Southeast's structural problems and development issues are reviewed at some length in the pages that follow. To a large extent, the major challenges examined here have deep and long-standing roots. Although finding feasible solutions clearly will not be easy, the progress that has already been made on many fronts bodes well for overcoming the remaining obstacles.

— William J. Kahley

The staff of the regional section of the Atlanta Fed's Research Department prepared this special issue under the coordination of Gene D. Sullivan, Research Officer.

The Lasting Role of Natural Resources in Alabama's Economy

W. Gene Wilson

Although production of natural resources no longer dominates Alabama's economy, primary industries such as mining, agriculture, and forestry still foster a considerable amount of activity. Taken together, their production and processing account for roughly 18 percent of Alabama's gross state product. Furthermore, the seaport of Mobile depends heavily on exports of coal, forest products, and farm goods for its economic vitality, just as the state relies in part on natural resource severance taxes to fill its coffers.

This article evaluates how natural resources currently fit into Alabama's economy and considers what their position might be in the future. In the process, it shows that primary industries make the state more dependent on national or world economic conditions and hence more vulnerable to recessions as compared with more diversified economies. Related questions about the adequacy of Alabama's educational framework and physical infrastructure—both prerequisite to further development—also are raised.

An Inventory of Natural Resources

Coal. Over the first half of the twentieth century, coal mining in Alabama fluctuated greatly. Since mid-century, however, annual coal production has almost steadily trended upward, from an average of 12 million tons in the 1950s to 25 million tons so far in this decade.[1] In fact, at an average of 25.1 million tons, annual production in the 1980s has been the highest in the state's one hundred plus years of coal production. Following the oil price slump in 1986, coal production fell as depressed prices caused mine closures. In the third quarter of 1987, Alabama's coal production began to rise once more; by year's end, it averaged 15 percent above the final quarter of 1986.[2]

The Warrior Coal field is the location of the majority of the state's current coal production as well as of its bituminous coal reserves; production is concentrated in three of the counties it spans. Overall, Alabama's demonstrated coal reserve base is 4.9 billion tons or, at recent rates of production, enough coal to last almost two centuries. Since coal-generated pollution is being lowered through technological advances, coal will likely remain a vitally important energy source.

Petroleum. Petroleum's role in Alabama's economy is relatively small, as is the state's status in the petroleum industry. Only in the last thirty years and most especially the last ten has Alabama's oil production surged. Production jumped from an annual average of 7.8 million barrels during the 1960s to an average of 13.5 million barrels in the following decade, with most of the increase occurring after the Organization of Petroleum-Exporting Countries (OPEC) hiked the price of its oil. So far in the 1980s, oil production has climbed even further to an average of 20 million barrels as compared with

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Disproportionate dependence on primary industries makes Alabama vulnerable to national and worldwide swings in the demand for commodities. While Alabama's resource-based industries should not be discouraged from expansion, further diversification of its economy toward services, trade, and high-skilled manufacturing jobs could enhance economic stability.

the U.S. average of 3.2 billion barrels (see Table 1). The number of oil wells in Alabama increased 49 percent from 1975 until 1986, when the state attained its record of 844 producing wells.[3]

Because many of Alabama's oil wells are tapping into recently discovered sources, daily average production per well is among the highest in the nation. Through the 1980s, average production per well has hovered near 70 barrels per day, which surpasses the levels even of Louisiana or Texas. Of course, the fact that those major oil-producing states have a large number of old wells that yield just a few barrels per day brings down their average figures. Alabama's crude oil reserves were estimated at 69 million barrels in 1985, compared with current U.S. oil reserves of approximately 28 billion barrels.

Natural Gas. Before the 1970s Alabama's natural gas industry was relatively insignificant, but shortly thereafter it underwent astonishing growth. The state's natural gas production for 1972 expanded dramatically, from roughly 300 million cubic feet to 3.6 billion cubic feet; by 1986 the level had soared to 146 billion cubic feet. Similarly, its count of producing wells jumped from 15 in 1972 to 489 ten years later. Even at its peak, though, Alabama accounted for less than 3 percent of the Southeast's natural gas wells, the great majority of which are in Louisiana.

Although Alabama currently holds only a minor position within the industry, the state's potential natural gas reserves strengthen the likelihood that this industry will continue to grow throughout this century.[4] Today, Alabama's estimated reserves stand at 951 billion cubic feet, only a tiny fraction of U.S. reserves. However, the state may claim a portion of the Gulf of Mexico's vast holdings, which are conservatively estimated at some 101 trillion cubic feet (tcf). Already, extensive gas reserves in the Mobile Bay area are about to be put into operation, with an expected yield of an additional billion cubic feet of natural gas by 1990. Further encouragement is offered by healthy prospects for increased gas demand in the 1990s, as this development probably will result in additional exploratory activity, both within the state and in the Gulf. Thus, the importance of this natural resource to Alabama's economy is likely to be on the upswing.

Table 1.
Crude Oil Production
(millions of barrels)

	Alabama	Louisiana	United States
1977	18.3	562.9	3,009.2
1978	19.8	532.7	3,178.2
1979	19.1	489.7	3,121.3
1980	21.9	467.0	3,146.4
1981	20.7	449.0	3,128.6
1982	20.0	458.0	3,156.7
1983	18.7	479.6	3,171.0
1984	19.8	515.3	3,249.7
1985	21.6	508.2	3,274.5
1986	21.1	512.1	3,168.2

Source: *Twentieth Century Petroleum Statistics, 1987,* (Dallas, Texas: DeGolyer and MacNaughton, 1987), pp. 20, 24.

Table 2.
Number of Farms in the Southeast
(thousands, 1900-84)

	1900	1920	1940	1960	1984
Alabama	223	257	232	116	54
Florida	40	54	62	45	40
Georgia	225	311	216	106	51
Louisiana	116	136	150	74	36
Mississippi	221	272	291	138	50
Tennessee	225	253	248	158	95

Source: U.S. Department of Agriculture, *Agricultural Statistics.* (Washington, D.C.: U.S. Government Printing Office, various issues).

Agriculture. In keeping with the national and regional pattern, the number of farms in Alabama has trended steadily downwards over the last 50 years, with an especially steep drop in the period since 1960 (see Table 2). From then until the present, more than half of Alabama's farms either ceased operation or were absorbed by other farms. Even the state's recent count of approximately 54,000 operating farms is somewhat of an overstatement, as a number of these are part-time. At the same time that the number of farms has dropped, the nominal value of land and buildings per farm has climbed, from $603 in 1900 to $128,000 in 1980. This change in value stems from farms' larger size and greatly improved technology, and from the fact that modern farm buildings reflect a generally higher standard of living than in the past, as well as from inflation.

In terms of production of major field crops, Alabama's farmers are slightly less competitive than their southeastern neighbors. Over the past ten years the state's yields of crops such as wheat, corn, cotton, and peanuts averaged below the region's. Alabama's average yields in cotton and wheat were only modestly lower, and in soybeans the state's farmers actually held a clear lead over other producers. In conjunction with yields, however, the relationship of costs to revenue determines the prosperity of the farm sector.

As a result of poor returns and government farm programs, crop plantings have generally plunged throughout U.S. agricultural areas since the early 1980s. Farmers have switched to crops with higher profit potential or have idled acreage in return for government payments, particularly in the case of wheat, soybeans, and corn. Total acreage planted to major crops in Alabama fell 58 percent from 1982 to 1987, more than it did nationwide. While this reduction has devastated farm suppliers, the idling of low-yielding land, along with the revenue earned from government payments and the higher prices from reduced production, has improved the profitability of crop production and thus benefited farmers.

Alabama's more extensive cuts in acreage compared with the region's and nation's point to the state's lower profitability for some crops. Because of this disparity, Alabama's farmers have for many years emphasized animal-related industries over field crops. Recently, revenues from the state's livestock and poultry industries have accounted for 60 percent of total cash farm receipts; in 1987, they generated roughly $1.4 billion in gross revenue. Over half of this amount is earned by farmers producing broilers for consumption, and much of the remainder derives from the cattle industry.

Forestry. Alabama's extensive forests, initially viewed as an obstacle to farming, began to be used as lumber for building materials as the state's population increased. By the start of the twentieth century, Alabama's forest products industry was characterized by large lumber mills, which shipped products out of state and provided income and employment for many rural residents. Unfortunately, the absence of conservation measures and rapid cutting quickly lowered the quality of Alabama's forests, such that by the 1930s most of the state's forestland had been extensively cut over and reduced to low quality. As Alabama's lumber industry declined in importance after World War II, though, pulp and paper production gained increasing prominence, surpassing lumber in importance by 1960. The fact that such mills could readily use smaller trees, together with continuing advances in the technology for processing high resin wood, soon pushed paper mills into prominence within Alabama's economy. By 1960, Alabama held second place among all pulpwood producing states.

In the United States only Oregon, California, and Georgia have more land in forests than Alabama. As two-thirds of the state's total land area, or 21.2 million acres, is covered by forests,

it should come as no surprise that wood processing and manufacturing are key industries in the state (see Chart 1). Alabama's pulpwood production, which is surpassed only by Georgia's, exceeds 9 million cords annually, providing a major source of supply for paper industries and for export.[5]

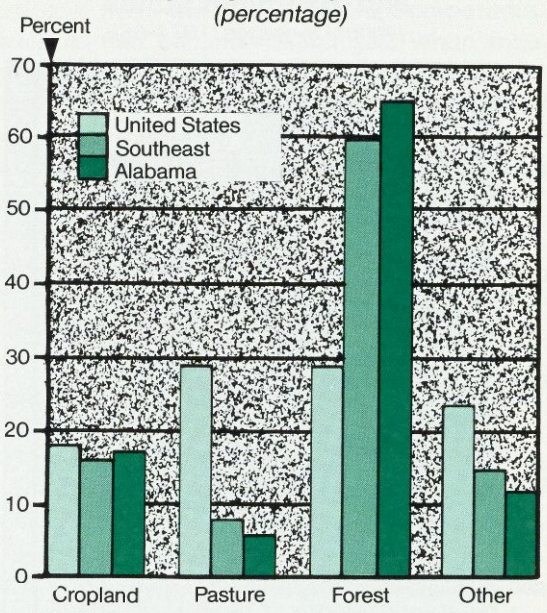
In summary, Alabama possesses a number of natural resources whose extraction or harvesting supports a wide array of industries. Indications are that these industries will continue to play a considerable role in the state and local economies. Because of the extensive reserves of coal and the widespread impact of forestry and agriculture, these three natural resources in particular may have the most to offer to Alabama's economy in coming years.

Natural Resources: Their Impact

At least three gauges are convenient for highlighting the impact of natural resources on the state's economy: employment levels, unemployment patterns, and sources of personal income. If one assessed the importance of primary industries to Alabama's economy solely on the basis of their direct employment, then clearly their role would seem small. Such employment accounts for only 5 percent of all jobs, or roughly 110,000 out of 1.6 million in the state. Whereas today over three-fourths of this employment is agriculture-related, the Bureau of Economic Analysis projects that, with continuing improvements in productivity, Alabama will lose about 8,000 farm workers by the end of the century. As for mining employment in Alabama, the level peaked in 1980 with roughly 17,000 workers, about three-fourths of whom were engaged in coal production. Only six years later, with the drop in crude oil prices and the attendant decline in demand for coal, the state's coal mines experienced cramped profitability and a number of closings. Between 1985 and 1987 alone, mining employment declined by over 30 percent, and does not show promise for more than a modest recovery.

Thus, it is clear that Alabama's primary sector is small and prospects for expansion are far from bright, especially in terms of employment opportunities. However, when one adds to the extraction of raw materials from nature the many

Chart 1.
Distribution of Land by Major Use, 1982
(percentage)



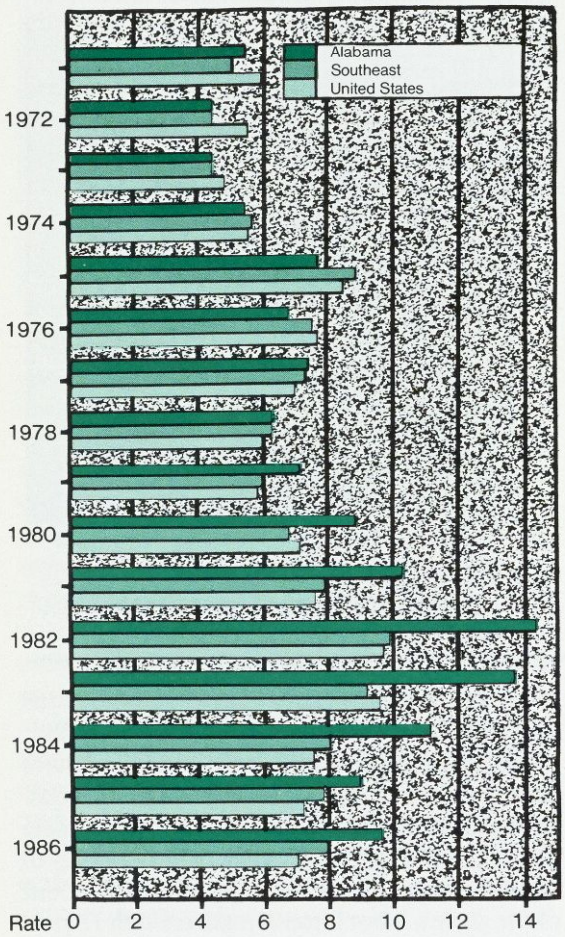
Source: U.S. Department of Agriculture, Economic Research Service, *Major Uses of Land in the United States, 1982*, Agriculture Economic Report No. 535.

businesses that process these commodities into higher value-added products like lumber, paper, and chemicals, the importance of natural resources in the state becomes more obvious. Overall, approximately 300,000 jobs are closely related to either production or processing of natural resources, making up about 20 percent of the state's labor force compared with 12 percent for the nation.

The impact of natural resource industries on Alabama's economy is evident also in the behavior of unemployment rates. In the 1970s, when inflation and a falling dollar rocked the economy nationwide, strong commodity prices and stable demand for processed goods kept relatively more workers on the job in Alabama. In fact, during the mid-seventies recession the state's unemployment rate was lower than either the region's or the nation's (see Chart 2). Beginning in late 1979, however, the situation reversed itself, and by the severe recession of 1981-82 Alabama's unemployment rate reached a peak of 16 percent, a level not seen since the 1930s and far worse than the nation's 10.8 percent jobless rate at that time. Throughout this

Chart 2.
Unemployment Rates in Alabama, the Southeast, and the United States

(annual averages, 1971-86)



Source: Alabama data supplied by Alabama Department of Industrial Relations, State Employment Service; Southeast data computed by the Federal Reserve Bank of Atlanta from data supplied by various state agencies; U.S. data supplied by U.S. Department of Labor, Bureau of Labor Statistics.

decade, Alabama has endured greater unemployment than the region or nation as resource prices generally fell, foreign competition surged, and export demand stagnated.

Much of Alabama's economic weakness lay in manufacturing, specifically resource processing.[6] For example, from the beginning of 1980 until the state's unemployment crested in early 1983, its jobs in lumber manufacturing fell by 4,300, or 14 percent, and in mining by 3,300, or 20 percent. Industries involved in processing natural resources often experienced similar cuts: primary metal industries lost 17,600 jobs (41 percent) and textiles 5,400 jobs (13 percent). In contrast, while trade industry jobs fell by 13,000 during the same period, this represented only a 5 percent loss. Moreover, services actually gained 14,000 jobs. By late 1987 conditions in resource industries had improved markedly, such that the gap between Alabama's and the nation's unemployment rates had closed significantly.

The differences between state and national unemployment rates during the 1980s point out a major weakness of economies with large resource sectors. The fact that demand for their products, whether primary or secondary, is highly dependent upon worldwide economic conditions renders cyclical economic fluctuations there more extreme. The vulnerability of commodities-dominated economies is abundantly clear in the case of various Third World nations. While Alabama's resource-related industries are not paramount, they are nonetheless of sufficient weight to burden the state's economy with an increased tendency toward fluctuation.

As for the third measure, comparing the source of personal income for the nation, region, and state reveals that primary industries directly contribute 3 percent of personal income at each level. It is at the stage of processing the primary industry production that distinct differences appear. While approximately 4 percent of U.S. personal income is derived from this area, the figure is 5 percent for the Southeast and 8 percent for Alabama. Although much of the earnings from natural resource production is concentrated within 14 of the state's 67 counties, combining the direct and indirect contributions of primary industries to personal income produces a rough total of 11 percent for Alabama as opposed to 8 percent for the Southeast and 7 percent for the nation. Computed as a proportion of personal income, Alabama's figure for primary industries has remained fairly stable for 25 years. A change that has occurred, however, is the increase in secondary sector businesses, that is, paper and lumber mills, food processing plants, and other facilities that process commodities.

In summary, the influence of the state's natural resources on the economy has been

mixed since primary industries have rendered it extremely sensitive to worldwide commodity price fluctuations, especially in agriculture. Though these industries were for many years a mainstay of the economy, today it is the service and trade industries that provide most new job opportunities. Still, resource industries will continue to play an important role in the state, and justly so considering their abundance.

A notable source of strength for Alabama's economy is the diversity of its natural resources. While almost every southeastern state possesses agricultural and forest industries, Alabama adds to these natural gas, oil, and coal production. In the aggregate, these resources complement each other well. When world oil prices fall, for example, dampening the state's energy sector, the simultaneous downturn in the cost of energy is a boon to agricultural and forest products industries. Furthermore, while agriculture and forestry are widespread in the region, Alabama claims some advantages there also. Since the majority of the state's farm cash receipts accrue from livestock, its farming sector is better insulated against the vagaries of weather and crop price swings. The state profits even when crop conditions are favorable, for this tends to lower feeding costs and thus to boost profits for animal farmers.

Another vital dimension to Alabama's emphasis on natural resources is that it has been a major factor in the development of trade through Mobile. In a typical year, roughly 10 percent of the nation's coal exports are shipped out of Mobile. Expanded port facilities and stepped-up foreign demand has lifted Mobile's coal export volume substantially. Over the period 1984-86, coal exports from Mobile surged to 25 million tons—as much coal as had been exported through the port in the eight preceding years.

Implications for the Future

The future health of resource producing or processing industries depends ultimately on the outlook for the resources themselves. Therefore, a brief survey of Alabama's natural resource prospects helpfully prefaces a discussion of the long-term outlook for overall economic development in Alabama.

Coal. Nearly three-quarters of Alabama's coal output is destined for electrical utilities in this country, the remainder being exported. U.S. demand for coal primarily revolves around the price of fuels that are its strong competitors, such as fuel oil and natural gas. When their prices fall substantially, as in 1986, utilities move toward these alternative fuels and domestic consumption of coal declines. Considering the state's abundant coal reserves, the nation's dwindling petroleum reserves, and the prospect for steeper petroleum prices in coming years, the outlook for coal in Alabama appears favorable. Furthermore, with additional technological advances in reducing the environmental degradation from burning coal, it would seem that this resource not only will remain a major domestic fuel source, but may attain even greater importance in the future.

As to foreign demand for coal, the dollar's value appears to be the determining factor. The dollar's substantial depreciation over the last three years has stimulated increased coal exports. Whether this trend will continue depends largely on Alabama's ability to compete with major foreign producers.

Natural Gas. Prices for natural gas began dropping gradually in 1982, in tandem with other energy prices, and then plunged in 1986. The average well-head price of gas fell 21 percent from the first half of that year to the same period in 1987. Despite moderate recovery in crude oil prices, natural gas prices remain low because of excess supply and weakened demand. Even in the face of depressed prices, natural gas consumption has fallen since 1980: the industrial sector, an important source of gas demand, has seen a 21 percent drop in consumption. Natural gas use in electric generation also has shrunk almost steadily in this decade as the result of intensified competition from coal and nuclear energy. Market share, too, has eroded in recent years, sliding from 24 percent in 1985 to an estimated 22.6 percent in 1987. Unfortunately, further inroads into the natural gas market share are thought possible through at least 1990.

Despite these negative trends, longer-term expectations are more optimistic. The current surplus is expected to be worked off in the next two or three years, meaning that the 1990s may well experience rising prices for natural gas. In

fact, many in the industry are basing their plans on those expectations. The American Gas Association projects that natural gas prices will resume real growth of about 10 percent per year in 1990. A further hopeful note is that the continuing nationwide decline in natural gas production, anticipated at least through 1990, will position reserve-laden areas like Alabama to reap some gain.

Agriculture. By the year 2000, Alabama's trend toward animal-related agriculture will likely have grown even more pronounced. Row crop agriculture will still occupy an important place in the farm economy, but its position no doubt will have weakened from recent years. Crops such as corn and wheat should provide a moderate portion of farm income, while that generated by soybeans, peanuts, and cotton will probably deteriorate. The meat industries will increasingly dominate Alabama's agricultural economy, and aquaculture (the cultivation of fish and seafood) will further develop to become a vital segment of the state's agriculture.

Forestry. Demand for forest products has been strong in recent years, and both immediate and long-term prospects look favorable for the pulpwood and lumber industries. Due to a transfer of land from forests to development and a decline in replanting, the future timber supply seems to be shrinking in much of the nation. Given this situation, real timber prices are expected to increase annually for the foreseeable future.

If there is any resource in which the South has a comparative advantage, then it must surely be its forests. As noted earlier, Alabama already is one of the leading states in supply of forest products, and since trees are a renewable resource, the state should be able to retain its position so long as it replenishes this resource and manages it well. Aside from ample supply, Alabama and other southeastern states offer the advantages of typically lower harvesting costs compared with competing regions. In addition, the southern climate promotes faster tree growth and thus a better per-acre return over time. Forest industries are lured to the South by generally lower property taxes and lower prices for timber sold by private citizens whose supplies are plentiful.

Petroleum. The relationship between demand and supply for petroleum is such that the future favors producers. Domestic petroleum reserves are clearly in decline, and the annual import of crude oil as a percentage of total supply seems to be rising inexorably. Consequently, real crude oil prices should begin to move upward in coming years; by the turn of the century, as foreign supplies also diminish, real crude oil prices should be substantially higher. Although Alabama possesses only small petroleum reserves, the lateness of its entry into oil production may mean that it continues tapping them into the era of high oil prices. Even so, crude oil production in Alabama will not foster substantial economic growth in the state.

Alabama's Outlook

The predominant economic structure of an area often has a far-reaching influence on its subsequent economic development. For example, a largely resource-based economy tends to have a less well-developed educational system than it might otherwise, as natural resource production industries have traditionally demanded low-skill labor. Of course, Alabama has generally fit this pattern for many years, and its educational attainment levels present a grim testament. Thus, the state's subsequent development may be slower than that which economic factors alone might promise.[7]

More broadly, Alabama's resource orientation over the years suggests that its economic development has been hampered for some time. In the past such industries could employ workers with few transferable skills and minimal education, and so the incentive or opportunity for expanding skills and education were lacking. As the overall economy evolved, both higher skill and educational levels became desirable work force characteristics. Like much of the South, Alabama could not quickly move ahead into the next stage of economic development. Gradually, however, as natural resource production also began to introduce advanced technology, it likewise prompted some upgrading of the state's labor force. Today, with substantial diversification in Alabama's economy and still more occurring, the uniform emphasis is on the goal of more and better education, including vocational training.

Beyond this critical indirect effect of Alabama's early reliance on primary industries, at

least two major direct effects are evident. The production and processing of natural resources are mature industries, which means that their rapid growth phases already have taken place. Increasingly, these industries are subject to formidable competition from Third World nations. Thus, while commodities' export demand may oscillate somewhat with the value of the dollar or vagaries of weather abroad, it is unlikely that an economy concentrated in primary industries can achieve fundamentally new growth. The second, related concern is that a resource-oriented economy is swiftly victimized by sharp fluctuations in demand resulting from economic conditions in the world or nation or from exchange rate variability.

In light of these indirect and direct effects, what role should resource-related industries play in Alabama's economy? Most of the state's resource industries seem to hold promise for the reasons that future consumption of their output should be maintained or even improved and most of Alabama's commodities remain in ample supply. Second, like that of the region and nation, Alabama's economy is increasingly composed of service, trade, and government sector jobs, which often are more recession-resistant than manufacturing, mining, or agriculture. The implication seems to be that no effort should be made to downplay resource-related industries or to ignore further development opportunities. Clearly, though, the goals of reducing unemployment, elevating wage levels, and tempering the business cycle can be achieved only if Alabama continues to diversify its economy and educate its work force.

Notes

[1]Tolson (1986): 76-77.
[2]U.S. Department of Energy (1987).
[3]*Twentieth Century Petroleum Statistics, 1987:* 26, 42.
[4]American Petroleum Institute (1985): Section 13, Table 9.
[5]American Pulpwood Association Inc. (1986).
[6]State of Alabama (1987).
[7]Wilson and Sullivan (1984): 24.

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Florida's Challenge: Managing Growth

William J. Kahley

Both in terms of economic performance over recent decades and long-term outlook, Florida compares favorably with the rest of the nation. For many years its population and employment have been growing more rapidly than in most states. Florida's unemployment rate registered only 5.2 percent at the close of 1987 as compared with the 5.8 percent U.S. figure (see Chart 1). Equally impressive, the state's per capita income and wealth have been moving upward for some time, such that its numbers now exceed those for the country. Even during this decade's nationwide recessions, Florida's diversified, service-based economic structure kept it from losing much ground. Continued better-than-national growth, fueled by an even stronger stream of tourists and new residents than had been forecast, characterized Florida's economy throughout 1987.

Looking ahead, forecasters widely agree that Florida's traditional driving forces—tourism, migration, and agriculture—are likely once again to push the state's economy onward faster than the U.S. average in 1988. However, as with the nation, the stock market crash of last October may dampen Florida's expansion this year. In addition, the state's growth advantage vis-a-vis the nation could narrow somewhat in 1988 because of shifting sectoral strengths in the U.S. economy. For example, while several manufacturing industries that have minimal impact on Florida's economy are rebounding markedly across the nation, construction, which is so important in the state, remains weak.

A more enduring threat to the health of Florida's economy is linked to the consequences of economic growth. Whereas Florida's past expansion undoubtedly has been a net plus for the state, these gains also have generated costs, some of which remain unpaid. There is evidence, too, that future expansion will result in rising costs for infrastructure (highways, schools, sewage treatment plants, and the like) even though the state's overall economic pace is expected to decelerate. Worse yet, Floridians seem not to agree on how to pay for the growth tab. This situation is especially problematic because so much of Florida's expansion is dependent on the availability of quality infrastructure.

Unlike that of most other states, the challenge Florida faces over the long run is more one of managing growth than of fostering it. In a nutshell, while the state's service-based economy is vigorous and both its working and retired populations are mushrooming, the state's infrastructure is being severely strained. This stress, in turn, jeopardizes the very economic and ecological environment that has promoted growth. Florida's major development hurdle is to adopt public policies that preserve and promote the state's quality of life while still meeting the increased infrastructure demands.

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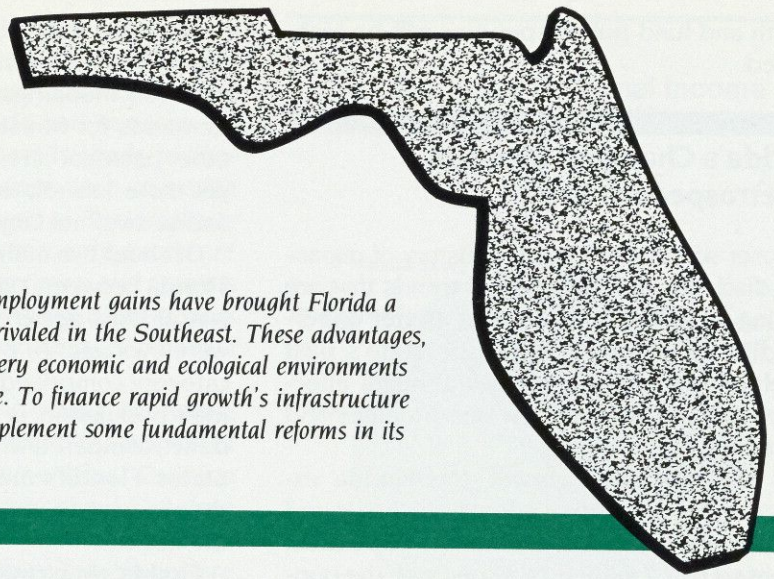
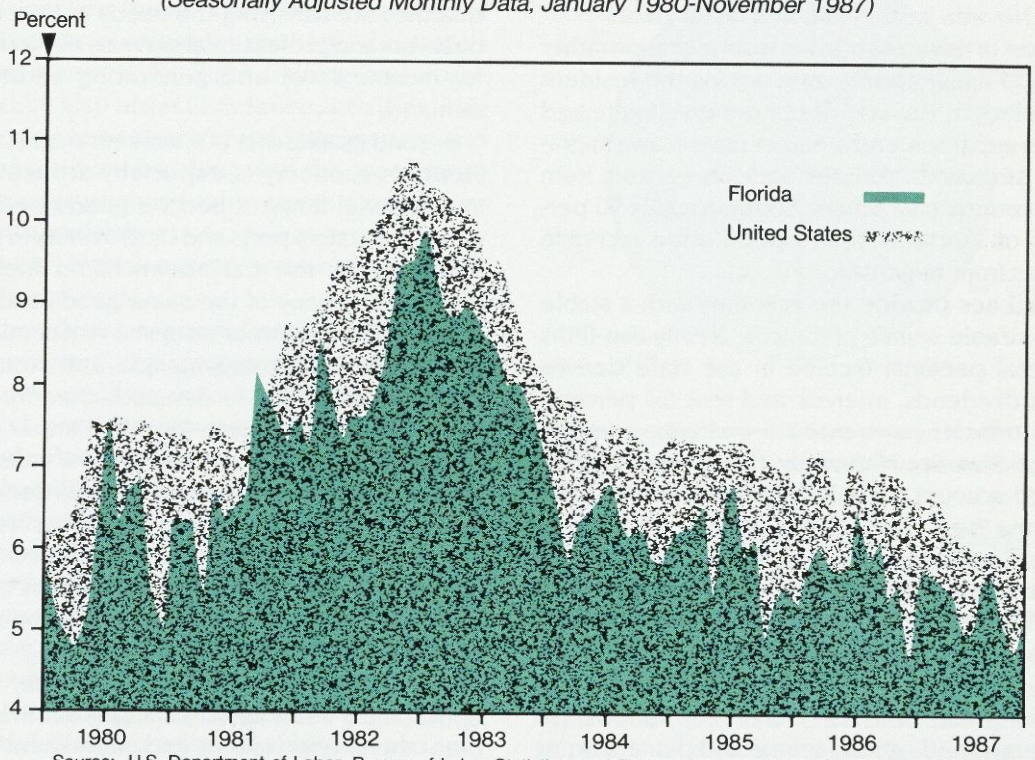


Recent rapid population and employment gains have brought Florida a level of economic prosperity unrivaled in the Southeast. These advantages, however, are jeopardizing the very economic and ecological environments that have made the state thrive. To finance rapid growth's infrastructure demands, the state needs to implement some fundamental reforms in its tax structure.

This article reviews Florida's economy, documents some of its important structural changes over the past few decades, and discusses the economic and environmental stresses that have accompanied these shifts as well as strategies for relieving them. The State Comprehensive Plan Committee's major proposals directed at helping Florida manage the dynamics of its

Chart 1.
Unemployment Rates, Florida and United States
(Seasonally Adjusted Monthly Data, January 1980-November 1987)



Source: U.S. Department of Labor, Bureau of Labor Statistics, and Florida Department of Labor and Security; data seasonally adjusted by the Federal Reserve Bank of Atlanta.

growth and fund public spending will be highlighted.

Florida's Changing Economy: A Retrospective Look

Closer scrutiny of Florida's history of expansion discloses the evolution of trends that are altering its growth environment. Better understanding of what propelled the state's past development may suggest how it might effectively respond to these new opportunities and constraints.

As for population growth, the Florida experience is nearly unprecedented in the United States. Over the 1950s, the state's population increased by 2.2 million, or 79 percent; the population grew by 1.8 million (37 percent) in the following decade and by 3 million (44 percent) during the 1970s. Florida's population already has advanced by 2.4 million, or 24 percent, in just the first seven years of the 1980s. Over the same time span, no states except California and Texas have experienced larger absolute increases in population, and only Alaska, Arizona, and Nevada have grown at a faster pace.

Most of this growth is due to in-migration rather than to a high fertility rate among the resident population. The state's temperate climate and other geographic advantages have drawn migration streams of retirees and job seekers from this country and others. Today, roughly 90 percent of Florida's yearly population increase stems from migration.

Retirees provide the economy with a stable and sizable source of income. Nearly two-fifths of total personal income in the state derives from dividends, interest, and rent (24 percent) plus transfer payments (15 percent), primarily Social Security. Nationally, these sources combined account for only 30 percent of personal income (see Chart 2). These fast-growing and reliable income sources, which are directly traceable to migrating retirees, give rise to much of Florida's robust economic growth and stability. The continuing flow of retirees into Florida has the same effect on its economy as an industry that produces mainly for out-of-state buyers. Florida gains income and demand from stable sources outside its boundaries, making it less vulnerable to cyclical downturns. Moreover, the retiree influx boosts local employment, especially in construction, trade, and services, as these industries expand to meet retirees' demands for housing, food, health care, and other personal care. The overall effect is to spur yet more job-related migration into the state and to swell its large service sector.

Of about two million people who migrated to Florida between 1980 and 1987, one out of five was at least age 65 and more than 40 percent were over age 55. By 1986, the age 65 and over category comprised almost 18 percent of Florida's population, or more than two million residents, compared with 12 percent for the United States. Florida's median age was 36—the highest of any state—as opposed to less than 32 for the nation.

Florida's huge migration gain and the age mix of its in-migrants assist the state in yet other ways. Many of the new residents who come seeking employment are equipped with college educations that were partly subsidized with public funds in their home states. These in-migrants, primarily "baby boomers" between 25 and 44 years of age, increasingly are finding high-paying professional positions, meaning that they are satisfying the needs of the state's business and professional services while raising its income level and generating additional demand.

Beyond its allure for U.S. workers and retirees, Florida's economy is especially attractive to international flows of people, goods, and services. The state's ports and its proximity to Latin America and the Caribbean Basin fuel the demand for many of the same goods and services required by Americans who visit or migrate to the state. Thus, tourism, trade, and even construction are linked to demands from foreigners, particularly in south Florida. Furthermore, Florida's "Latin" connection gives a considerable lift to transportation-related services. Reflecting that demand, the state boasts three major seaports—Jacksonville, Miami, and Tampa—and Miami's international airport is the nation's second most active in international passenger and cargo activity.

Florida's sunshine, sand, and water have traditionally been key advantages in attracting both short-term visitors and permanent residents and in shaping the pattern of employment growth. Tourism obviously strengthens the

construction sector, due to the demand for accommodations and attractions, and it provides additional employment opportunities for selling of a variety of goods and services. An older population, too, generally tends to consume more of certain services, such as health and personal care. In the case of Florida, these tourism- and age-related service demands are heightened further, as its retirees and tourists tend to possess relatively more discretionary income and to use it for increased personal consumption.

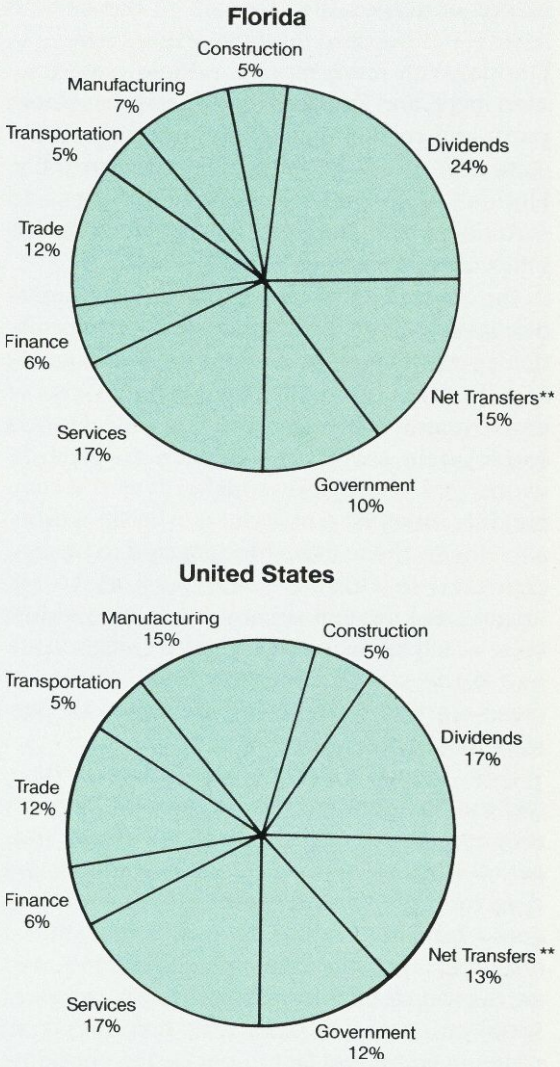
Over recent decades, distinct economic advantages have complemented the appeal of Florida's environmental amenities. Opinion polls reveal that Florida is perceived as a state with a strongly favorable business climate.[1] Moreover, per capita taxes are low, wages are competitive with those of many other states, and land is relatively cheap.

Florida's abundance of suitable land and its temperate climate not only explain the state's long-time importance in agriculture but also help account for its growing strength in some service industries and even in manufacturing. For example, while air and sea defense installations are clustered in Florida because of its strategic continental position, the state's appropriateness for flight training and space launches also attracts defense activities. The increasing importance of the state's space and defense industries, along with the ascendance of low ratio weight-to-value electronic items for defense and other uses, makes production in "far-away" Florida a more desirable alternative than in the past.

Although defense and defense-related manufacturing activities are significant among Florida's new employment opportunities, the many new jobs in business service professions are critical. These latter occupational demands have been created by major structural economic changes affecting the entire nation, such as manufacturing's relative decline as a source of employment.

The continuing U.S. employment shift from manufacturing to the service sector has directly and indirectly added vigor to Florida's economy. Escalating foreign competition in a variety of manufactured products for business and consumer use has constricted employment opportunities elsewhere. Meanwhile, the demand for service sector output has increased at an even faster pace than the U.S. economy has expanded. Transportation and communications improvements occasioned by the "information revolution" have made businesses more "footloose," enabling them to meet the nation's

Chart 2.
Distribution of Personal Income by Sector, 1987*



Due to rounding, percentages do not sum to 100.

***Includes transfer payments less contributions and personal income adjustments.*

Source: Calculated by the Federal Reserve Bank of Atlanta from data in U.S. Department of Commerce, Bureau of Economic Analysis, *Quarterly Personal Income*, 1987.

stepped-up service demands from comfortable locations like Florida.

Tourism is perhaps the best example of how structural change along with the growing affluence of the U.S. population—which to a large extent underlies the strength of the service sector—has boosted this type of employment in Florida. With more money, people have traveled more, and Florida's renowned amusement parks and recreational areas have helped the state capture a large share of the tourism dollar. Florida's lodging and recreation industries add stability to the state's economy much as the influx of retirees does.

The major economic structural developments discussed above are consistent with information on growth rates in various Florida industries and "location quotients" (or concentrations of employment) shown in Table 1. In 1987, Florida employment shares in construction, trade, finance, and services were higher than the comparable industry employment shares nationally. Hence, these industries are said to be concentrated in Florida; some, such as hotel/lodging and the amusement/recreation industries, which fall within the service category, are key to the state's economic base. Naturally, these are also fast-growing industries in Florida's burgeoning economy.

Even though Florida's population, income, and employment growth are enviable in many respects, this expansion has not been altogether positive. Among the costs it entails are deteriorated air and water quality; endangered beaches, wetlands, and other natural resources; loss of prime agricultural land; and an overburdened infrastructure. In terms of social indicators, Florida ranks first among all states in crime and last in per capita spending on basic human services. Clearly, the environmental, economic, and social trade-offs that inhere in growth will pose a challenge to Florida's future well-being.

Florida's Economy: Looking Ahead

While brighter than that for most states, Florida's longer term economic outlook is threatened by changes in some of the factors that spurred its expansion, such as rapid population growth and cheap land, labor, and energy. The state's population, employment, and income growth almost certainly will continue to outperform the nation's—Florida could become the third most populous state around the year 2000, behind only California and Texas—yet a slackening of population growth nationwide will also be reflected in the state. Slowdowns in natural increase and in-migration gain from other states may be offset somewhat by more immigration from abroad, but Florida's overall rate of population gain still is unlikely to exceed 2.5 percent per year, as compared with a 3 percent average in recent years.

Construction will bear the brunt of Florida's slower population increase. The impact should be softened, though, by structural changes in the state's important tourism industry, such as the expansion of attractions to broaden their appeal to older travelers. Not only will this development help sustain construction, but it should also give support to consumer spending, as will expected growth in Florida's convention business.

At the same time, other basic economic resources are becoming more expensive, converging toward or exceeding national norms. Meanwhile, although Florida continues to rank first among states in business formations, other southern states have maintained or improved their competitiveness with Florida for new, expanding, or relocating businesses. For product assembly and routine clerical operations, Caribbean island nations and other very low-wage countries pose a challenge to the state.

Florida's most important economic growth constraints are linked more to environmental and infrastructure issues, however, than to resource costs. Basically, adequate growth can continue even if resource costs increase; for example, higher wages earned by a better-trained work force employed in high-skilled jobs is more of a goal for state development than a constraint to expansion. Environment degradation, however, represents an erosion of the "sunshine" factors that have made Florida an attractive place to live and work. Without natural resource amenities and sufficient infrastructure, both the amount and quality of growth are threatened. Unfortunately, it is this very influx of businesses and people to Florida that inevitably burdens the state's physical environment and public infrastructure.

Table 1.
Growth and Importance of Florida's Employment Sectors

	Employment Distribution		Employment Change, 1972 - 87		Location Quotients*	
	1972	1987	Absolute (thousands)	Percent	1972	1987
Mining	0.3	0.2	1.1	12.5	40	27
Construction	9.7	7.1	93.4	36.8	180	142
Manufacturing	14.1	10.9	163.1	44.2	54	58
Nondurables	6.5	4.3	40.0	23.4	60	56
Food	1.8	1.0	1.9	4.0	78	64
Apparel	1.2	0.6	—	—	63	59
Paper	0.6	0.3	-1.7	-10.8	65	44
Printing	1.1	1.3	35.7	124.0	75	90
Chemicals	0.8	0.5	2.3	10.6	62	49
Durables	7.5	6.6	123.1	62.2	50	60
Lumber	1.0	0.6	1.7	6.5	100	79
Metals	1.3	0.9	9.4	28.1	34	39
Machinery and Electronic Equip.	2.0	2.4	65.0	121.0	40	60
Transportation Equipment	1.5	1.3	24.5	61.7	61	67
Stone, Clay, and Glass	0.8	0.5	4.1	18.6	91	94
Trade	25.6	27.5	674.3	100.2	118	117
Transportation, Communication, and Public Utilities	6.7	5.2	77.7	44.0	110	98
Finance, Insurance, and Real Estate	6.4	7.3	191.2	114.1	122	115
Services	19.8	26.4	770.3	147.9	120	112
Government	17.4	15.5	300.1	65.7	96	91
Total	100.0	100.0	2,271.3	86.5	100	100

**Concentration ratios, or "location quotients," are industrial employment shares for Florida as a percent of comparable shares for the nation.*

Source: Calculated by Federal Reserve Bank of Atlanta from U.S. and Florida Department of Labor data.

Whereas migrants to the state bring along a great deal of human and financial capital, they do not, of course, bring houses, schools, and office buildings or the roads and sewers that connect them. Nor does otherwise desirable economic growth automatically protect wetlands from a developer's bulldozer or guarantee that underground aquifers will be safeguarded against salt water intrusion.

Deciding who should bear the cost of the public sector investment necessary to support growth and maintain the state's physical environment has unveiled stubborn conflicts. Traditionally, Florida's farmers have been pitted against urban dwellers over rights to water and other issues. In today's debates over who should pay for these growth-generated needs the contending pairs are retirees and workers, long-time residents and newcomers, local businesses versus foreign producers, and even local producers of manufactured goods versus services. So far, the state's fast expansion and taxes

on tourism have supplied sufficient revenues to keep tensions down. However, business and political leaders are increasingly aware that crucial growth management issues must be resolved soon. The overriding question is how to pay the mushrooming bill for an infrastructure that has not kept pace with the times.

On paper, Florida has a strong growth management plan that details a comprehensive, integrated, and consistent process involving efforts at the local, regional, and state levels. For example, the State and Regional Planning Act of 1984 called for the development of a state strategic plan. Adopted by the state legislature in the following year, the state plan outlines growth objectives for a ten-year period. Also in 1985, an Omnibus Growth Management Act replaced an earlier, similar law. The new act's major thrust is to require that localities project infrastructure needs and then fund and construct those facilities concurrent with the general economic growth the facilities support. That same year, a special State Comprehensive Plan Committee was established to estimate the costs of the numerous specific goals to be achieved by 1995 (the 150th anniversary of Florida's statehood) and to recommend ways to pay for the costs.

Does Florida have an infrastructure problem? The State Comprehensive Plan Committee clearly answers that question in the affirmative (see accompanying box). Even so, one wonders whether Florida's glass is "half full" or "half empty." Clearly Florida falls short of its full potential, and it is beset by some considerable socioeconomic and environmental problems. On the other hand, Florida still possesses some strong advantages over other states, particularly when the "new keys to competition among states" are considered.[2]

The State Comprehensive Plan Committee estimated that achieving the goals it recommended will cost $52.9 billion. The ten-year cost of implementing the plan breaks down to $35 billion at the state level—the state's current fiscal year budget is $18.5 billion—and $17.9 billion at the local level. Nearly half of the plan's total cost relates to transportation, with $16 billion at the state level alone. For this price Florida expects to resurface or repair 6,000 lane miles of highway, or 18 percent of all highways in the state; to repair or replace more than 1,300 bridges, nearly one-quarter of the total; and to relieve congestion on another 9,000 miles of highway while constructing the new roads required to service future growth. The three other major spending categories in the plan (health and rehabilitative services, environmental regulation, and education) plus transportation account for 86 percent of the overall infrastructure bill.

The $9 billion education price tag for kindergarten through higher education will provide about 10,000 additional teachers annually to meet the demands created by a growing school-age population. Additionally, it will lift teachers' salaries to improve Florida's 32nd rank among the 50 states. Other goals in public education include raising student test scores at least to the national average, reducing the one out of eight first-grade student failure rate, and improving upon Florida's seventh-worst overall high school dropout rate in the nation. Money is also proposed to lessen functional illiteracy in the adult population, which currently runs at about a 25 percent rate overall and nearly 50 percent in some rural county populations.

Beyond the issue of which transportation, education, and other goals are appropriate is an important related question. Are Floridians able and willing to pay the growth tab? Given the price tag for implementing the State Comprehensive Plan, the relatively low tax burden, and the strong prospects for personal income growth, it is obvious that Florida has ample capacity to pay for more infrastructure. Florida's state and local tax revenue as a percentage of personal income in 1984 was 9.5 percent, or more than 2 percentage points (almost 20 percent) below the average for the nation. In the regional context, its tax burden fell 7 percent below the average for southeastern states (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, the Carolinas, Tennessee, Virginia, and West Virginia). Furthermore, Florida's total personal income, which last year exceeded $175 billion, is expected to rise substantially over the next several years.

The fundamental problem is not that the state lacks latitude for further taxing; instead, it needs agreement on *how* to pay for the goals enumerated in the state plan. To help carry the cost, the committee recommended that Florida "impose more local impact fees; create more

special taxing districts and impose more user fees; continue to tax tourists through gasoline, sales, and resort taxes; and make more local taxing options available to local governments."

Additional taxes are inevitable, but the state's current tax structure is ill-equipped to address the increased demands. This inadequacy suggests that fundamental tax reform also is needed.[3] Among the major sources of U.S. taxation—income, wealth, and transactions—the State of Florida relies for its revenues on a general sales tax and specific excise taxes such as those on cigarettes, beverages, and legalized gambling. Its constitution prohibits personal income levies and limits use of the property tax to local governments.

Several major problems inhere in this tax structure. First, the structure is inelastic: sales tax revenues, which account for over three-fourths of total state taxes, do not keep pace with growth in the economy because the (untaxed) service sector is advancing faster than the (taxed) goods sector. Second, since nondurable retail sales and tourist taxes constitute about half of the state's sales tax revenues, Florida's revenues are more sensitive to national business cycle conditions than to local conditions. Furthermore, during recessions, sales tax receipts drop more than personal income, which is maintained by unemployment compensation and other factors, because consumers postpone spending on durable goods such as cars and appliances. Besides being an unstable revenue source, sales taxes hit the poor hardest. Even though such taxes in Florida exclude food and medicine, the poor spend more of their income on taxed goods rather than untaxed services compared with the wealthy.

Report of the State Comprehensive Plan Committee

In early 1987, after 18 months of work, the State Comprehensive Plan Committee submitted its report to Florida's governor and legislature.[1] Its major conclusions were:

- Florida can no longer compete successfully by relying on cheap land, cheap labor, low taxes, and sunshine.
- New keys to competition among states and nations are:
  - a sound physical infrastructure
  - well-managed natural resources
  - an educated and motivated work force
  - quality universities
  - an attractive quality of life
  - a regulatory atmosphere that encourages enterprise
  - fiscal stability, with reasonable taxes and prudent public spending.
- Florida has jammed highways, polluted natural resources, struggling schools, poorly paid teachers, teeming jails, neglected children, needy senior citizens, inadequate health care, a shortage of affordable housing, and a declining quality of life.
- The total cost to state and local governments of implementing the goals of the State Comprehensive Plan to address these ills will be $52.9 billion up to 1995.

The Committee's *Final Report* summarizes Florida's needs this way:

> Each day, as our state grows, we need nearly two miles of new highways, almost two new classrooms, almost two new teachers, two additional police officers, one more local jail cell, and two more state prison beds.
>
> Each day, as our state grows, we need 111,108 additional gallons of water, produce 94,560 additional gallons of wastewater requiring treatment, and create 3,546 additional pounds of solid waste.
>
> Each day, as our state grows, we need services for fourteen children in subsidized day care, three children who are abused or emotionally disturbed, ten children who are developmentally disabled, nineteen applicants for Aid-to-Families-with-Dependent-Children, 38 recipients of Medicaid, thirteen people who are mentally ill, and 79 who need publicly-supported alcohol and drug abuse treatment.

Note

[1]State Comprehensive Plan Committee, *Keys to Florida's Future: Winning in a Competitive World,* vol. 1 (February 1987) and vol. 2 (June 1987).

While a significant portion of the sales tax is "exported" to tourists—Florida's 35 million tourists represent the equivalent of nearly 4 million residents in terms of transactions and state tax revenues—a major but little-known offset tends to nullify the effectiveness of this tax exportation policy. Since it levies no state income tax, Florida "imports" a substantial quantity of taxes through the federal tax structure. Individuals and corporations in Florida have no state income taxes to deduct to lessen their federal tax liability. At the same time, the federal tax rate is greater than it would otherwise be, owing to the deductions available to most other states. Together, these conditions mean that the state's effective federal tax rates are relatively higher.[4] An attempt to overcome this offset by raising tourism-related taxes might "kill the goose that lays the golden egg."

Florida's fiscal logjam has been exacerbated by cutbacks in federal Grants-in-Aid. The state's tax structure is relatively decentralized and local governments are responsible for providing much infrastructure. Over the years, these localities have come to depend heavily on federal revenue-sharing funds, and so the cutbacks will make it especially difficult for the state's economically poor localities even to maintain existing services. It is likely that strong pressures will develop to delay the enforcement provisions of Florida's 1985 Omnibus Growth Management Act.

The state's recent attempts to finance infrastructure additions by raising revenues have been resisted heartily. Two new taxes—the "unitary" tax and a sales tax on services—have generated vigorous protest, bad publicity for the state, and eventual repeal of the taxes. The state's unitary tax, passed in 1983, repealed Florida's exemption of foreign-source income from taxable corporate profits. Instead, it taxed profits under a worldwide, or unitary, apportionment formula based on the amount of a corporation's sales, payroll, and property in the state compared with amounts it held globally. Under a barrage of criticism from multinational corporations, the state repealed the unitary tax in 1985. Although this tax was in effect for only two years, the intensely adverse reaction to it seems to have created an erroneous impression of Florida as a "high tax" state.

The state's even shorter-lived 1987 sales tax on services was equally controversial. Passed in April 1987, the tax imposed a 5 percent charge on many services, including advertising and legal services. Just before Christmas, the Florida legislature repealed the tax in response to strong opposition. At the same time, it increased the sales tax on goods from 5 percent to 6 percent to make up the lost $1.2 billion tax revenue in 1988. Beginning February 1, the average household in Florida will pay about $170 more in sales taxes yearly. As in the case of the unitary tax, the media conveyed a negative impression of Florida as a place to do business.

When and in what way Florida ultimately will decide how to pay for infrastructure investment are matters of pure speculation. Certainly, it is difficult to imagine that sufficient momentum will soon develop for a state referendum on a personal income tax. Even if it did, supporters would have to muster a two-thirds majority vote to remove the prohibition against such a tax from Florida's constitution. On another front, businesses vigorously oppose a hike in the state's 5.5 percent corporate income tax, which is in the middle range among states. Similarly, homeowners form a potent coalition against statewide property taxes or elimination of the $25,000 homestead exemption, considered by many as a tax break for the poor.

In the short run, Florida will probably fund its growing revenue needs with stopgap measures such as higher gasoline taxes, user and impact fees, and more local tax options. Reliance on special taxing districts also is likely to increase. Currently, about 700 districts generate around 7 to 8 percent of the local government entity revenues from ad valorem taxes and special assessments. These special tax districts are heavy issuers of bonds to finance infrastructure projects such as water and fire control, housing, hospitals, libraries, parks and recreation facilities, ports, and so on. The Florida lottery, begun in January of this year to help provide funds for education, undoubtedly will expand as well in order to generate more revenue; currently, it is expected to provide $500 million per year by 1990.

To view Florida's fiscal position merely as a black cloud that will dissipate once sound fiscal policy and structural tax changes are implemented would be inappropriate. On the one

hand, reaching agreement over the critical issue of how to pay for growth promises to be a lengthy process. Retirees, for example, are understandably reluctant to pay for infrastructure that will outlast them by many years. In addition, significant standard of living disparities exist between those affluent urban and coastal communities located in the central and southern parts of the state and rural areas throughout Florida, as they do between poorly educated workers in low-paying service occupations and highly educated white-collar and professional workers.

Solving Florida's growth funding problem undoubtedly will require new and innovative public policies. In the same way, such policies are needed to meet the various infrastructure needs. More of the same kind of expansion that the state has experienced in recent decades will not shrink the growing pockets of urban and rural poverty. Moreover, the infrastructure deficit would continue to widen under these circumstances.

Currently, Florida is in an enviable growth position, with ample means to invest in the future. However, failure to act now, while the state's economy is on the upswing, could prove costly in the future. Though resistant, Florida's economy is not entirely immune to cycles. Moreover, neglecting maintenance of its attractions eventually would reduce the quality of Floridians' lives and choke off growth.

Conclusion

Florida has experienced headlong economic growth in recent decades. For too long, though, unmet infrastructure requirements have been expanding. What Florida needs now is fundamental tax reform and a stable source of revenue that will keep pace with the state's growing infrastructure demands. The state should address its growth management issues soon, for both its infrastructure needs and its fiscal ability to meet them are greater than ever.

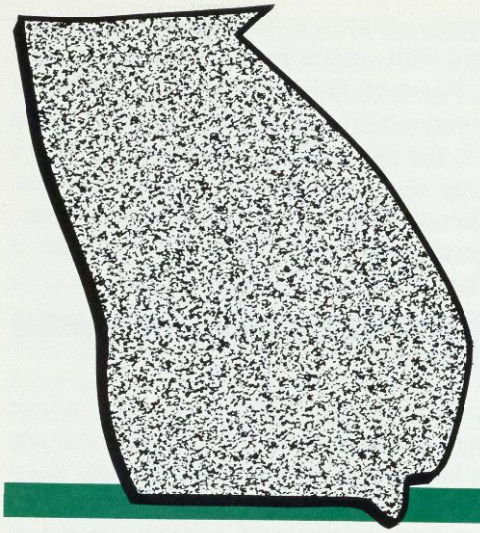
Notes

[1]See Grant Thornton, CPA's annual rankings, *General Manufacturing Climates of States*, or *Inc.* magazine (October 1987).

[2]State rankings of socioeconomic indicators should be discussed very cautiously, though, particularly because of the atypical age structure of Florida's population. For example, Florida ranks in the bottom quintile in terms of per capita spending for education but in the second quintile in terms of spending per pupil. The difference, of course, reflects the large share of elderly people in Florida's population.

[3]The State Comprehensive Plan Committee estimated that a one-cent increase in the rate of taxation on a broader-based sales tax would produce $1.36 billion in new revenue annually; a 1.5 percent business receipts tax would produce $4.35 billion in new revenue annually; and a flat tax of 1 percent of federal adjusted gross income would produce $1.16 billion annually.

[4]Mutti and Morgan estimated that net tax imports into Florida were over $1.4 billion in 1980 despite the extensive use of "tourist-type" taxes in the state. See John H. Mutti and William E. Morgan, "The Exportation of State and Local Taxes in a Multilateral Framework: The Case of Household Type Taxes," *National Tax Journal* 36 (December 1983): 459-75.



A Tale of Two Georgias

B. Frank King and David Avery

Since its introduction almost four years ago, the concept of "two Georgias" has stirred controversy among those who analyze and plan for the economy(ies) of the state. Using measures of economic well-being, one can find a clear, long-standing gap between Atlanta and the rest of the state. Whether that gap has widened in recent years, however, is difficult to determine.

A more elaborate and interesting form of the two-Georgias concept, which was originated by Professor Charles F. Floyd, deals with changes in economic welfare over time rather than with current levels. Some analysts, led by Floyd (1985, 1986) and supported by the Southern Growth Policies Board's (1985) general conclusions about the entire region, contend that various factors have permanently disrupted the closing of the economic gap between the Atlanta area and the rest of the state. According to their argument, Atlanta, which already accounts for 42 percent of the state's population and 49 percent of its income, is advancing faster than the rest of Georgia. It will continue to do so unless the state's governments fashion new policies to generate economic development in its smaller metropolitan and rural areas. Others, including Albert W. Niemi (1986) and James A. Pihera (1986), while not opposing policies aimed at economic growth outside Atlanta, are more optimistic. They maintain that most parts of Georgia's economy have expanded more rapidly than the economies of neighboring states and the nation in recent years. Furthermore, regarding the state's economy as an integrated whole, they see forces at work to bring economic improvements to both Atlanta and the remainder of the state.

Few would argue that the state functions as two or more economies. Of course, Georgia's various areas are joined through markets for output and input; its people move freely among parts of the state as travelers and as residents; and Georgians pay taxes to the same government and benefit from its spending and other policies. Despite the close links in the state's economy, differences exist in economic structure and welfare, and these are the focus of the two Georgias concept.

Some major issues emerge from disagreements about the two Georgias. Does the gap really exist, and does it merit public concern? Has non-Atlanta performance actually slacked off in recent years to the extent that the area is falling further behind the capital? Have the processes that once narrowed the Atlanta/rest-of-Georgia income gap been permanently reversed in this decade? Finally, can the Atlanta/rest-of-Georgia gap be reduced through government policies that are both workable and desirable?

The Existence of Two Georgias

Owing to slippery definitions of economic welfare and geographic boundaries, published

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The concept of "two Georgias," originated a few years ago, delineates the economic disparities between Atlanta and the rest of the state. The authors probe the nature of this dichotomy and discuss public policies which will help to expand high-skill, high-wage industries in rural Georgia and bring levels of economic well-being in the two Georgias closer together.

statistics on inter-area differences in economic well-being seldom can be taken at face value. No single measure serves as a successful proxy for economic welfare. One might use per capita personal income as a rough index if prices, taxes, and public and private amenities were the same across places. Not only are these characteristics not identical, but individual tastes also must be factored in. To some, Atlanta may represent the best of Georgia, to others the worst. While one person may enjoy a steady diet of rolling green fields, long-time neighbors, familiar surroundings, and small town proximity, another may prefer tall buildings and big-city excitement. Indeed, Eugene P. Odum (1986) argues for maintaining two Georgias in order to preserve diverse life-style opportunities.

In this essay, our approach to problems of determining economic welfare differences has been to examine a group of quantitative indicators. Despite its shortcomings, personal income is central to this group because it does give an estimate of the value of goods and services an area's residents can purchase and consume. Were cost of living indexes available for small geographic entities, we would like to deflate personal income to account for price differences in such things as groceries and housing. Unfortunately, these measures are not available even on a current, much less a historical basis. Lacking real income measures, we supplement per capita personal income with other indicators of welfare: the unemployment rate, availability of medical services and education, and amount of income composed of government transfer payments. Even with these gauges, no clear welfare distinctions can be discerned between areas where differences in measures are small. Large differences, however, indicate real gaps of the kind that bother policymakers.

When looking at changes in measures of welfare that develop over time, one is faced with the problem of using consistent and relevant definitions for the political subdivisions or metropolitan areas being examined. This definitional consideration is significant. Over the period since the mid-1960s, the U.S. Department of Commerce twice eased its criteria for a "metropolitan area," such that, by definition, metropolitan Atlanta encompassed a greater number of counties. Wishing to exclude these changes in definition from our consideration, we focus on postwar growth by consistently using the current 18-county definition of metropolitan Atlanta.

There is ample evidence of gaps in measures of economic welfare between Atlanta and the remainder of the state considered as a unit (see Table 1). As of 1984, the last year for which data by county are available, the Atlanta area's per capita personal income was almost 40 percent higher; two years later, its unemployment rate stood at about three-quarters that for the rest of the state, though both fell below the national rate. Over the past five years, in fact, the Atlanta area's unemployment rate has averaged 1.3 percentage points lower than the rest of the state's. Data indicative of health care availability, education, and dependence on government trans-

Table 1.
Measures of Economic Welfare

	Atlanta	Rest of Georgia
Per capita personal income (1984)	13,848	9,964
Unemployment rate (1986)	4.6	5.9
Percentage of high school graduates (1980)	66.7	48.5
Percentage of college graduates (1980)	20.2	9.6
Physicians per 100,000 residents (1982)	184	115
Transfer payments ($000) per capita (1983)	1.24	1.52

Source: Computed by the Federal Reserve Bank of Atlanta from data supplied by U.S. Department of Commerce, Bureau of Economic Analysis (income data); Georgia Department of Labor (unemployment); U.S. Department of Commerce, Bureau of the Census (education and transfer payments); American Medical Association (physicians).

fer payments also show a significant welfare gap in Atlanta's favor.

To an extent, as Niemi (1986) and Pihera (1986) point out, lumping a diverse set of sub-areas into only two Georgias hides a far more complex state economy. Nonetheless, evidence of the Atlanta/rest-of-Georgia gap remains even when one looks at yet smaller areas of the state. Per capita income, which varies a great deal within Georgia, is a strong token both of the state's economic complexity and of the gap's reality. Exclusive of the Atlanta metropolitan area, per capita income in the county with the lowest level was merely 55 percent of the county with the highest level in 1984. Yet the only 5 counties in all of Georgia with per capita incomes above the nation's lie within Atlanta's boundaries, as do 10 of the 14 counties whose per capita incomes surpass the state's average. Thus, 10 of the Atlanta area's 18 counties have per capita incomes above the state average, while only 4 of the state's remaining 141 counties do. Moreover, only one Atlanta-area county has per capita income below the state's median per capita income county. Similar disparities appear when unemployment rates and other indicators of welfare are analyzed for finer geographic divisions.

The gaps also emerge when the rest of the state is divided into metropolitan and non-metropolitan areas. Seven metropolitan statistical areas other than Atlanta are located wholly or partly in Georgia. Although per capita incomes in these other metropolitan areas average 20 percent above the non-metropolitan areas, none boasts per capita income even equal to the state average (see Table 2). In addition, the 1986 unemployment rate for each exceed the Atlanta area's. The latter's percentage of high school graduates is above both that of other metropolitan areas and of non-metropolitan Georgia; only Athens, a college town, claims a higher percentage of college graduates than the Atlanta area; and, as for doctors per 100,000 population, Atlanta takes second place only to Augusta, the site of the Medical College of Georgia. In each of the other seven metropolitan areas and in non-metropolitan Georgia, per capita transfer payments are higher.

The sizable gaps evidenced above are sufficient to show, if not two Georgias, at least marked differences in overall welfare between the Atlanta area and much of the rest of the state. Clearly, the concept of two Georgias does have validity; however, this conclusion is a beginning for analysis rather than an end.

Do the Gaps Matter?

The income gaps between Atlanta and the rest of the state concern many Georgians because, although the state is a single political entity, residents in one of its areas may enjoy considerably better economic health than those who live elsewhere in Georgia. A populace generally is rightly concerned when one of its segments suffers substantially lower incomes, more unemployment, less access to health care and education, and greater dependence on cyclical industry and government, whether the disadvantaged group is defined by place of resi-

dence, race, age, or other characteristics. At least some attention should be given to analyzing policies that might help to diminish such gaps in Georgia.

Still, lessening the welfare gaps does not necessarily mean making the rest of Georgia resemble its capital. Atlanta's traffic, tension, and crime distress both its residents and those of other parts of the state. Further, as Odum (1986) argues, the state surely needs the life support system which the rest of the state provides—open areas for agriculture, watersheds, and airsheds, its forests, and the diverse ways of living offered outside the capital.

Many Georgians who live outside Atlanta, as well as their political representatives, demonstrate a strong determination to reside where they are while attacking their economic problems. They reject the simple alternative of moving away from their problems and toward growing job opportunities in Atlanta and other places. This desire to bring solutions to their places of residence may be evidence of several phenomena that are not mutually exclusive. Aside from preferences for small town or country living, dislocation from home, family, and friends may be inhibiting factors. A further deterrent may be uncertain prospects of finding a job in more prosperous places where skills and experience developed in farming and traditional manufacturing may not be very marketable. Whatever the motivation, many Georgians clearly would prefer that economic problems be approached in a way that considers the broad development of the state's economy.

Both interests in general prosperity and in specific economic deficiencies have led to a variety of recommendations for fostering economic development in the rest of Georgia. These proposals bring up two related sets of questions: First, a basic conclusion of economic theory is that prices, wages, and incomes will tend to converge if there are interspatial differences and mobile resources. This thinking is based on assumptions that buyers will seek lower prices and producers lower wage costs for the same goods and labor skills, whereas labor and resources will seek higher wages and returns. These activities raise demand for the lower-priced goods and labor, simultaneously reducing demand for their more costly counterparts, thus leading to convergence of prices and wages. Those who accept this conclusion would tend to assume that gaps between Atlanta and the rest of Georgia will shrink naturally over time. If this assumption is correct, then public policies and use of taxpayers' money to effect this closure may be considered unnecessary or at least less urgent.

Table 2.
Per Capita Personal Income and Unemployment Rate Comparisons

	Per Capita Personal Income (1984)	Unemployment Rate (1986)
Georgia	11,548	5.9
Atlanta	13,848	4.6
Albany	10,050	10.9
Athens	10,851	5.1
Augusta	11,103	5.8
Chattanooga	10,783	6.3
Columbus	10,155	7.6
Macon	11,014	6.0
Savannah	11,415	6.5
Metropolitan Areas	12,552	5.2
Non-Atlanta Metropolitan Areas	10,838	6.7
Non-Metropolitan Areas	9,015	7.1

Sources: Income data supplied by U.S. Department of Commerce, Bureau of Economic Analysis; unemployment rates supplied by Georgia Department of Labor.

Regional analysts are certainly not unanimous in embracing this conclusion. Both Floyd (1985) and the Southern Growth Policies Board (1985) argue that growth of low-wage industries and the easy migration of displaced workers to urban areas with expanding job markets have fundamentally changed in the last decade. Previously, these were the two key forces that lifted per capita income in the region's small towns and rural areas, thus narrowing income differences between the rural and urban South. The Southern Growth Policies Board's study concludes that policies to promote new engines for economic development in the rural South are sorely needed. Much of the analysis in James O. Wheeler's (1986) work on Georgia employment implies the same necessity.

Choosing among the policies recommended to close Georgia's welfare gaps—or rejecting all of them—requires further analysis of how the

Table 3.
Georgia Growth Rates by Decade
(compound annual rates)

	1950-60	1960-70	1970-80
Per Capita Personal Income			
Atlanta	4.0	6.5	9.1
Rest of Georgia	4.1	7.8	9.2
Other Metro. Areas	3.1	7.1	9.0
Non-Metro. Georgia	4.4	8.5	9.5
Total Personal Income			
Atlanta	7.6	10.0	11.7
Rest of Georgia	4.3	8.8	10.7
Other Metro. Areas	5.3	8.6	10.3
Non-Metro. Georgia	2.9	9.1	11.2
Employment			
Atlanta	—	—	3.6
Rest of Georgia	—	—	1.9
Other Metro. Areas	—	—	1.6
Non-Metro. Georgia	—	—	2.4
Population			
Atlanta	3.5	3.3	2.4
Rest of Georgia	0.2	1.0	1.4
Other Metro. Areas	2.2	1.4	1.2
Non-Metro. Georgia	-1.4	0.5	1.5

Source: Rates computed by the Federal Reserve Bank of Atlanta from U.S. Department of Commerce, Bureau of Economic Analysis data.

gaps have been shaped by economic forces over time. This investigation should yield some clues as to the basic causes of the divergences and may point to their future path. In reporting this exercise, we present a rough set of reasons for the gaps and their behavior along with some broad expectations about future changes. This analysis is fodder for brief analysis of policy options and needs.

How Have the Gaps Changed?

1950 to 1980. Although the income gaps between the Atlanta area and the rest of Georgia have existed for many years, they have not, by any means, remained constant. Year-to-year changes have been small, but in the post-World War II era the rest of the state has gained on Atlanta. In 1950 Atlanta's per capita income was about 1.63 times that of the rest of the state; by 1980 the gap had dwindled to only 1.45 times. However, most of this shrinkage occurred in the 1960s, when population increases slackened considerably in the rest of Georgia, as its residents migrated to other areas, including Atlanta.

In each decade, Atlanta's population, employment, and income grew at a markedly faster rate than they did in the state's remaining areas, either metropolitan or non-metropolitan (see Table 3). Almost all of the rest of Georgia's per capita gain accrued to the state's non-metropolitan areas, chiefly due to productivity advances which prompted many farmers to leave their farms. From 30 percent of total employment in 1950, agriculture's share dropped to 14 percent by 1960, 7 percent by 1970, and 5 percent by 1980.

As agricultural employment waned during the postwar period, manufacturing emerged as the vital export-base industry for the state outside Atlanta (see charts, pp. 30-31). Production of nondurables like textiles, apparel, pulp, and paper continued to dominate the manufacturing sector, accounting for more than two-thirds of its employment at the end of each decade. Manufacturers expanded or moved into those areas where displaced farmers, with few industrial skills, provided a ready source of low-cost labor. While most new manufacturing industries tended to pay low wages, they typically produced higher incomes than did agriculture, or they allowed farmers to supplement their earnings with factory jobs, a practice still common in rural Georgia. Thus, even comparatively low-wage industries contributed to the relative income expansion in the rest of the state. Moreover, service sector employment grew smartly in the rest of Georgia during this period, boosting incomes yet further. In this case, unlike Atlanta's, most of the services were performed only for customers within the local area.

Other metropolitan areas, like Columbus and Augusta, gained per capita income relative to Atlanta only in the 1960s, when their population growth declined. In contrast to the non-metropolitan areas, these other cities entered the postwar period with a manufacturing-dominated industrial base already in place. The state's traditional industries—textiles, paper, lumber, and food products—accounted for the major share of manufacturing employment gains over the period. Furthermore, at mid-century per capita incomes and other welfare measures for the non-Atlanta metropolitan areas were gen-

erally higher than those for non-metropolitan Georgia. Their per capita income growth, however, generally lagged behind that of non-metropolitan Georgia between 1950 and 1980.

Atlanta, of course, did not join the rest of the state in an agricultural revolution during the postwar era. Already in 1950 the Atlanta area showed its characteristics as a growing distribution center whose employment concentration in construction and in the broadly defined service sector, including transportation, communications and public utilities, financial services, and trade, far surpassed the rest of Georgia's. In the fifties and sixties the city's manufacturing sector also accounted for a greater share of employment than it has during the rest of the postwar period. Once concentrated in nondurables much like the rest of the state, by the early 1960s Atlanta's manufacturing employment had shifted primarily into durables such as automobiles, airplanes, and electrical equipment. Production of these goods has accounted for the majority of Atlanta's manufacturing jobs through to the present.

Since 1950, the same set of broadly defined service producing industries has been foremost in Atlanta's economy. The city's largest sector employment gain took place in the narrowly defined service sector, which covers a wide variety of service jobs that are not embraced by the transportation, communications, and public utilities; finance, insurance, and real estate; and trade categories. Some examples of narrowly defined service jobs are doctors and lawyers and their employees, barbers, hospitality and entertainment workers, teachers, photo developers, building cleaners, and hospital employees. Narrowly defined services doubled their employment share in Atlanta between 1950 and 1980, a period when the rest of Georgia also experienced sizable growth. In Atlanta's case, however, this expansion included sizable additions in services such as accounting, consulting, and engineering, which deal with customers outside of the local area.

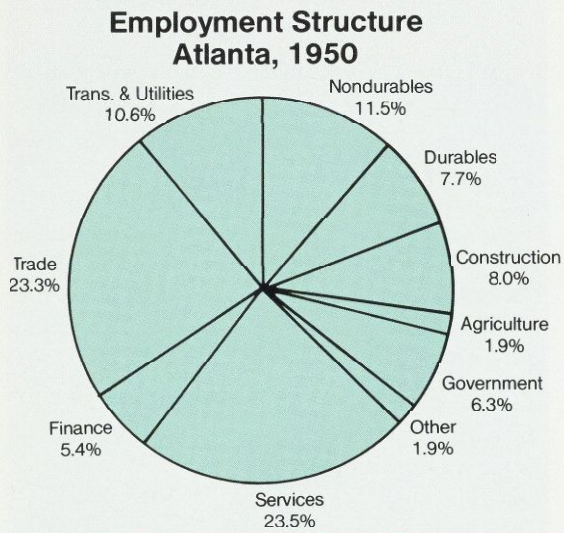
The 1980s. At the beginning of this decade one would have looked back at the rest of the state's prolonged but steady approach to Atlanta's income levels. This record extended through the 1970s, when Atlanta outpaced the rest of the state in employment and personal income growth by less than in the previous two decades, and fell slightly behind in its rate of per capita income expansion. Indeed, the still-important farm economies of non-metropolitan Georgia were continuing to enjoy an agricultural income boom based on strong worldwide demand growth and weak output in other nations. Given this lengthy history and economists' built-in bias toward expecting convergence, in 1980 it was fairly easy to project that the slow closing of the gap would persist.

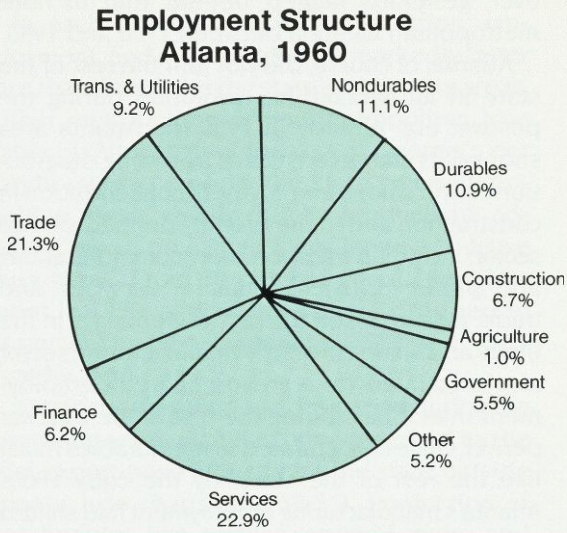
Following the changes in the gaps through the 1980s gives a different picture, however. While the rest of Georgia may more or less have held its own in per capita income, its population, employment, and total income growth faltered as Atlanta's strode ahead. Through the mid-1980s, Atlanta's population growth rate jumped to almost three times that of the rest of the state, from twice its rate in the 1970s (see Table 4). Its employment growth rate moved somewhat further ahead. Atlanta's margin increased as the decade progressed. In the 1982-84 period, personal and per capita personal income growth

Table 4.
Recent Georgia Growth Rates
(compound annual rates)

	1980-82	1982-84
Per Capita Personal Income		
Atlanta	8.4	9.6
Rest of Georgia	10.3	9.0
Other Metro. Areas	9.1	8.3
Non-Metro. Georgia	11.9	10.0
Total Personal Income		
Atlanta	10.9	12.8
Rest of Georgia	11.4	9.9
Other Metro. Areas	10.1	9.0
Non-Metro. Georgia	13.2	11.0
Employment		
Atlanta	2.4	6.7
Rest of Georgia	0.7	3.9
Other Metro. Areas	0.4	3.0
Non-Metro. Georgia	1.1	5.1
Population		
Atlanta	2.2	2.9
Rest of Georgia	1.0	0.8
Other Metro. Areas	0.9	0.7
Non-Metro. Georgia	1.1	0.9

Source: Rates computed by the Federal Reserve Bank of Atlanta from U.S. Department of Commerce, Bureau of Economic Analysis data.

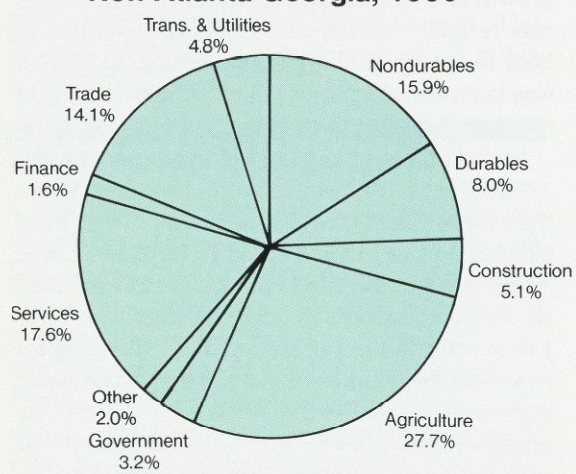


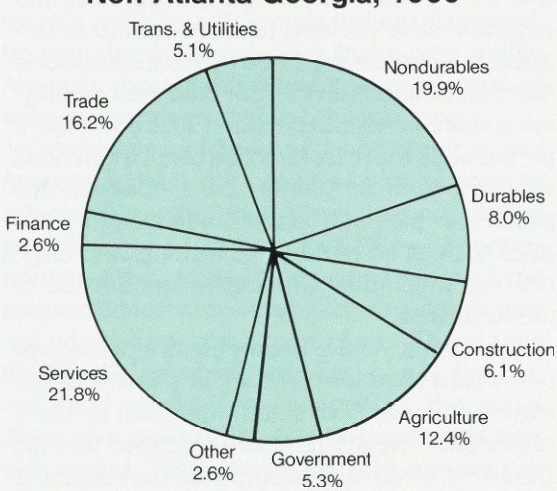


in Atlanta bounded ahead of the rest of the state after trailing in the 1980-82 period. These jumps occurred relative to both metropolitan and non-metropolitan areas.

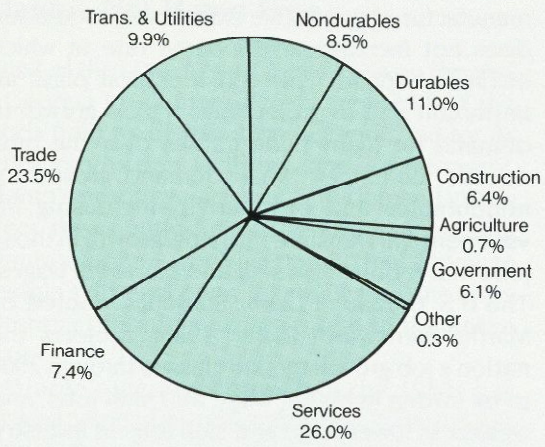
No quick, pronounced shift in economic structure can be called up to explain either Atlanta's breakout or the rest of the state's slowdown. Although Georgia's employment composition changed during the 1970s, the process was similar in both areas and parallel to that of the 1950s and 1960s. Agriculture and nondurables manufacturing remained important pursuits in non-metropolitan Georgia; manufacturing was king in the other metropolitan areas; and trade, services, transportation, and distribution continued to rule in Atlanta.

The slowdown in the rest of the state can be traced to changes in demand for its major export products. Non-metropolitan areas and cities outside Atlanta were subject to somewhat distinct influences because their economic structures differ in ways that are significant for explaining and predicting developments in the state's economy.

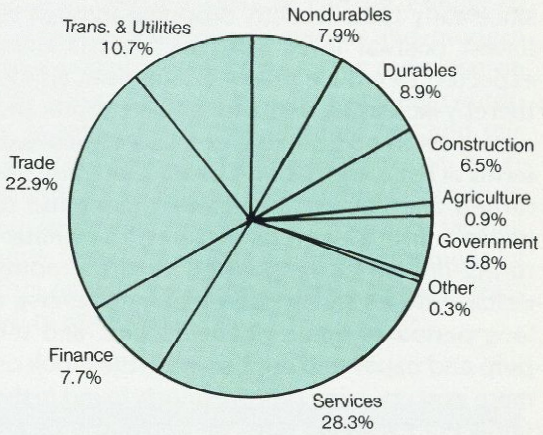




Employment Structure
Atlanta, 1970



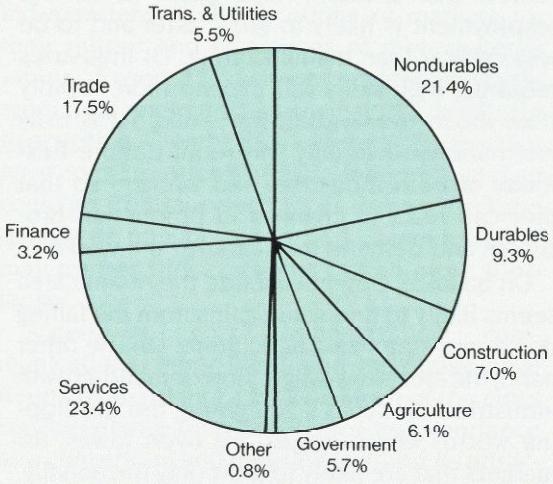
Employment Structure
Atlanta, 1980



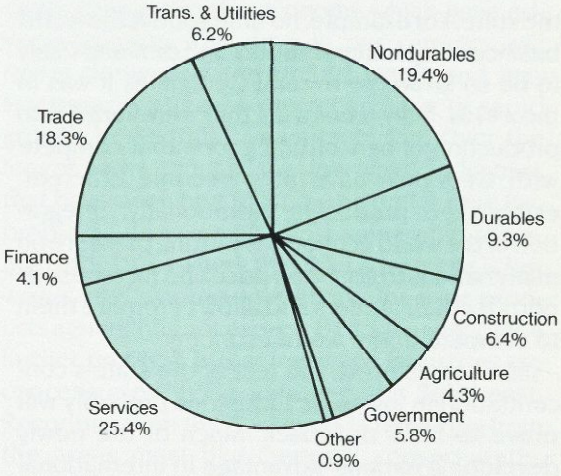
The agricultural relationship remains important for the state's non-metropolitan areas. Even much of the nonagricultural employment in trade and services in these areas is linked with farming through providing inputs or selling consumer goods to farm or farm-dependent purchasers. As for nonagricultural employment, manufacturing of nondurables is significant. Thus, Georgia's non-metropolitan areas were doubly affected, both by world agricultural overproduction and the rising dollar in the early 1980s. While the state's other metropolitan areas do not depend so heavily on agriculture, a relatively high proportion of their employment is in nondurables manufacturing. Consequently, these areas, too, suffered from the dollar's increasing value.

By contrast, Atlanta has a high concentration of services. This factor has helped the capital city escape the two main cyclical problems of the 1980s. Its strengths for the entire postwar period—distribution, transportation, and exportable services—have grown apace over this decade.

Employment Structure
Non-Atlanta Georgia, 1970



Employment Structure
Non-Atlanta Georgia, 1980



Source: Computed by the Federal Reserve Bank of Atlanta from data supplied by the U.S. Department of Commerce, Bureau of the Census.

Will Convergence Resume?

Some of the problems of recent years will certainly be transient. The dollar has been falling since early 1985, recently dropping through its lowest postwar level. This decline has been expected to reduce prices of American goods, thereby increasing demand for our exports and cutting our imports. In real, or inflation-adjusted, terms at least, the nation's balance of trade has turned and can be expected to continue to improve. In 1987, several of Georgia's manufacturing industries responded to the eroding dollar: textiles and apparel began to reverse a long period of employment decline, and the pulp and paper and lumber industries took on more workers. Long lags previously found in the impact of exchange rates on demand indicate that the dollar's fall will continue to have a positive effect on Georgia's economy for some time.

Recent promising trends also indicate that the worst may be over for U.S. and Georgia agriculture. World supply and demand for farm products seem to be coming more into balance, and this country has adopted policies designed to stimulate real exports. Furthermore, land values show signs of stabilizing.

Together, these developments will mitigate some of the problems facing Georgia's non-Atlanta metropolitan areas and its non-metropolitan areas. However, deeper structural changes in the economy interacting with the economic characteristics of those areas will further fuel some of the problems of the rest of the state. For example, no time soon is the world balance of agricultural supply and demand likely to be so favorable to rural Georgia as it was in the 1970s. Many countries that were lured into production of agricultural goods that compete with Georgia's have now become efficient, established producers. Additionally, integration of the world economy is putting pressure on many nations to abandon price and income supports for their farmers and allow or require them to compete in the world economy.

In manufacturing, the rest of the state's concentration in low-wage industries probably will prove to be a drawback. Much of the newly developing nations' advantage in international trade is based on their relatively low wage rates. Consequently, such nations can best compete with those U.S. industries that also pay low wages. Since the rest of Georgia depends on such industries as a major part of its export base, the area is highly vulnerable.

Furthermore, demand for many nondurable manufactured goods like clothes and food often does not increase at the same rate at which incomes expand. This consideration plays an important role in projections of slow growth in demand for many nondurables over the next decade, or longer. Weak demand growth for nondurables and productivity-increasing investment will translate into slow growth in those jobs that require less skill and pay lower wages. The U.S. Bureau of Labor Statistics, quoted by Martha Farnsworth Riche (1988), projects the nation's job growth by skill classes through 2000 to be strong in higher wage and skill jobs, and weaker in lower wage and skill jobs in industry, agriculture, forestry, and fishing. For instance, these projections have jobs for managerial and professional workers, technicians, and sales and service workers growing at rates greater than 25 percent through 2000. Jobs for operators, fabricators, and laborers, on the other hand, are projected to grow by 2.6 percent; even precision, craft, and repair workers' jobs are projected to grow at only 12 percent.

The factors that militate against automatically renewed convergence between the economies of Atlanta and the rest of the state, especially its non-metropolitan areas, can be summarized as follows. (1) There are simply not enough farm workers who can shift to other pursuits and achieve substantial income gains. (2) Service employment is likely to grow faster and to be less cyclical than manufacturing. (3) Industries requiring high skills will expand more rapidly than those demanding low skills. (4) A truly international economy will require more flexibility of both industries and workers so that they can react to changes in production processes and demand from all over the world.

On balance, Georgia outside the Atlanta area seems likely to find some gains from the falling dollar and stabilizing agriculture. On the other hand, the area's low-wage, slow demand-growth industries condemn it to fighting the developing world, where wages are even lower, for markets that are likely to grow only fractionally. Whether it resumes its slow closing of the gap with Atlanta is difficult to predict, but any

narrowing effected by expansion in the rest of Georgia is likely to be minimal unless Georgians attend to their development problems.

Atlanta—Not Home Free

Just as the state's capital depends on the rest of Georgia for demand for its services and the goods from its distribution network, and for its farms, production facilities, and environment, Atlanta's products, services, and demand vitally affect the remainder of the state. A sagging Atlanta economy would certainly deal a blow to Georgia's other economies; therefore, the city's potential problems pose a threat to the entire state.

Atlanta's vigorous growth in the 1980s has masked some of its vulnerabilities. Its boom has been fostered by a thriving service economy that sells business, convention, transportation, and consulting services to all parts of the world, by the relocation or establishment of headquarters offices of many companies, and by developing high-technology industries. With this base the city has been able to expand at a much faster rate than Georgia, the Southeast, or the nation, attracting new industries and workers from outside the area and exporting their products.

Its advantages in drawing in new industries, promoting growth in existing activities, and in exporting services also make Atlanta vulnerable. The area depends heavily on activities that regional economists call "footloose," that is, activities whose location choice is mostly independent of the locations of markets for their output and of sources of their material inputs. Exportable services, overall management, and communication all fit the footloose description. Clearly, many of the activities that have come to Atlanta remain footloose, and so could go. Continued advances in the speed and quality of transportation and communication may render these activities even more footloose.

Access to good transportation, communications, labor force, and amenities have been key to Atlanta's growth. Much of the city's service/distribution dominance, its importance as a convention and meeting city, and its attractiveness as a headquarters and regional office location is explained by this access. Yet these features are not in any way permanently exclusive to Atlanta. Other cities in the Southeast—Charlotte, Nashville, and Memphis—have become hubs for major airlines. Suitable convention and hotel facilities, such as those of Orlando, already exist or can be enhanced elsewhere. With transportation and modern communications, other locations can close on Atlanta's advantages as a management center; for instance, Dallas has certainly reached this status. On the other hand, Atlanta can fritter away its advantages if overcrowding of its airport and transportation system, pollution, lagging public education, and underdevelopment of other amenities reduce its attractiveness relative to other cities.

Will Public Policies Help?

In the past, the rest of Georgia's economic development has been dominated by entry and expansion of relatively low-wage industries employing displaced farmers and, later, factory workers. As the structure of world demand has changed and foreign competition for Georgia's low-wage industries has evolved, the state's former development pattern has held less promise of producing the desired results. The postwar growth engines for the rest of Georgia have slowed, and they are unlikely to be energized by a return to long-term expansion in demand.

Chances are that even the dollar's fall and agricultural stabilization cannot redress all of these changes in the economy which have adverse impacts. The drop in our currency will revive demand in the United States and may temporarily suggest the recurrence of rapid growth in Georgia's manufacturing. Over the longer term, though, the low-wage industries that have been hurt most by the dollar have two problems: they remain most vulnerable to foreign industries where the chief advantage is low wages, and worldwide demand for their products generally is not expected to grow speedily. A further problem is that low-wage industries are concentrated in Georgia and the Southeast. Recruiting from the Southeast is recruiting from the areas most like Georgia; consequently, Georgia's advantages would seem less striking by comparison.

If industry growth on the basis of low wages is becoming less feasible, what should the state and local organizations do to promote economic development? While there are no surefire answers, some general directions are clear. If keys to future development include promotion of top-quality, flexible, highly productive industries rather than low-wage industries—as we believe they are—then policies that promote labor force productivity and flexibility and allow for the expression of entrepreneurship seem most reasonable. Other proposals for rural areas, such as enterprise zones and improved highways, require a quality labor force and local enterprise to be effective.

First among requirements for production of high-quality goods and services is a well-educated, well-trained pool of workers. Improved education and training at all ages and levels will be necessary to lift the quality of Georgia's labor force. The state's Quality Basic Education Act recognizes the needs in the primary and secondary schools and colleges. Its emphasis should continue to be on flexible as well as sufficiently trained individuals. In addition, future education must address training and retraining adults. Not only will the supply of younger people who now supply most of our entry-level workers decline over the next several years, but shifts in the world economy also will prompt rapid and frequent changes in demand for products that Georgians can offer. These phenomena will require more adults to respond to new and evolving industry demands for skills. Enhancing existing programs to train workers for specific jobs desired by entering and expanding industries as well as general skills training programs should help Georgia develop new industry, new firms, and plant expansion. At the same time, literacy training and remedial education will improve the pool of entry-level workers.

Entrepreneurship, too, is critical for the state's development. We are not so bold as to suggest policies to foster a little-understood trait. Probably the best that governments can do is to educate their people and, as much as possible, stay out of the way of those who are entrepreneurial. Since government red tape can be a major impediment to starting or expanding a business, the processes of getting permits and licenses and of complying with regulations should be made as efficient as possible consistent with the state's interests.

Summary

In many ways Atlanta and the rest of Georgia are interdependent. Neither can prosper without the other. Policies to promote economic development in any part of Georgia should recognize this relationship. Currently, Atlanta's economic problems are those that curse the rich and growing. The rest of the state generally faces the tasks of fostering development that will raise incomes yet not ruin life-styles. In either event, continued progress depends on making Georgia attractive for new employment in industries that require substantial skills and high productivity, a process in which education will be the key.

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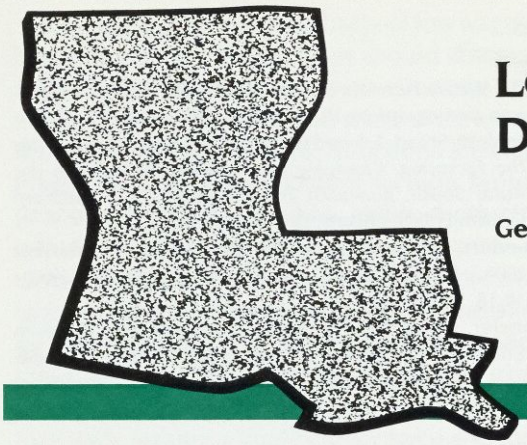

Louisiana: Prospects for a Diversified Economy

Gene D. Sullivan

Louisiana has hit upon exceedingly hard times. During the early years of this decade, when much of the nation was in recession, robust oil markets spurred the state's rapid expansion, making Louisiana the leader in southeastern economic growth. The oil price collapse of 1985-86, however, reversed the state's stance. Louisiana's total employment essentially stopped growing in 1985 and declined the following year, while annual employment growth for the Southeast as a whole averaged well above 3 percent. Over a portion of those two years, the state's unemployment rate, which had hovered in the 6 to 7 percent range for most of the 1970s, soared to over 14 percent. The unemployment rate for the region reached its zenith at slightly above 11 percent during 1983. By the time Louisiana's unemployment peaked in late 1986, the regional figure had dropped under 8 percent.

Lack of Diversification

Louisiana's economy is so tied to the energy industry that the downturn in oil prices either arrested or turned back growth in nearly all its sectors. Even the nonmanufacturing sector, which normally supports economic growth when manufacturing declines, lost around 100,000 jobs from the peak level in 1984—roughly twice as many as it normally adds each year. With this economic reversal, Louisiana's population ceased to grow and the work force actually shrank. Whereas in the 1970s Louisiana rapidly drew in out-of-state workers for oil-related jobs, in 1986 a swelling tide of adults began leaving the state to look elsewhere for employment. Even though employment opportunities improved somewhat during 1987, at year's end the state's labor force still had risen only slightly from its December 1986 level.

Can Louisiana's economy regain a healthy growth rate? Unfortunately, a return to the brisk pace of the 1970s seems improbable any time soon. Oil production is unlikely to achieve the exuberant level it had reached after the Organization of Petroleum-Exporting Countries (OPEC) first began to restrict worldwide supplies. Thus, if Louisiana's economy is to move forward, the state will have to diversify into other forms of activity.

Evidence from within the region suggests that such diversification is possible. Several southeastern states whose resource bases are similar to Louisiana's, except for the presence of rich oil deposits, have registered favorable growth during the period when Louisiana's economy has suffered its greatest setback. Aside from a higher concentration of employment in mining (oil and gas extraction), what distinguishes Louisiana from other states within the Sixth Federal Reserve District are the relative proportions of manufacturing and nonmanufacturing employment. (The Sixth District comprises Alabama, Florida, Georgia, and parts of Louisiana, Mississippi, and Tennessee; see Chart 1.) In 1986, for example, Louisiana's nonmanufacturing jobs accounted for nearly 79 percent of its total employment—5 percent more than the southeastern average—and its 10 percent figure for manufacturing fell 5 percent short of the region's average. (Total employment also en-

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Louisiana's economy, long dependent on oil, gas, and petrochemical industries, was devastated by the collapse of oil prices in 1985-86. This article details the cultural, political, and environmental characteristics that have led to this one-sided economy. Long-range stability for Louisiana, according to the author, will be built on economic diversification, which can be achieved by maximizing the state's natural and human resources as well as instituting tax reforms that will render revenues less dependent on cyclical primary industries.

compasses farm and other self-employment.) By contrast, in both Georgia and Alabama manufacturing accounts for over 20 percent of total state employment.

Even what little manufacturing is present reflects Louisiana's lack of diversification. The state's employment share in the chemical industry exceeds the region's average by two-thirds and is twice Georgia's and Alabama's individual shares of chemical employment. Unfortunately, along with the energy sector, chemical manufacturing has suffered during the past two years from weakened domestic demand and reduced competitiveness against foreign producers. In those manufactured goods, such as transportation equipment, that have helped the rest of the region maintain reasonable economic growth in this decade, Louisiana tallies up considerably lower shares of activity than most of the other states.

Although employment in trade and services is proportionate with that of neighboring states, government employment claims a markedly higher share in Louisiana. Generally, government employment helps bolster an economy when adversity strikes particular sectors. However, in the case of Louisiana, where severance taxes closely link state and local government financing to oil and gas production, the decline in all energy-related activity has forced nonfederal government employment to shrink as well. By relying on a single industry as a specialized revenue source, the state has placed its economy in double jeopardy. Thus, the contraction in its relatively large government sector has only compounded Louisiana's economic problems and rendered policy responses especially difficult during the economic downturn.

Further evidence of the state's economic homogeneity is seen in mining. Despite a 40 percent contraction from 1981, when mining accounted for 6 percent of Louisiana's employment, the 1986 share of less than 4 percent was more than five times the average figure for the Southeast.

Aside from chemical manufacturing, government, and mining, the only other sector for which Louisiana's employment share surpasses the region's average is transportation and public utilities. This disparity is primarily due to water transport along the Mississippi River, numerous oil pipelines, and the broad expanse of the intercoastal canal that traverses southern Louisiana. In addition, the heavy use of rail transportation in moving commodities to Louisiana's ports significantly strengthens transportation sector employment, whose present level is 6 percent.

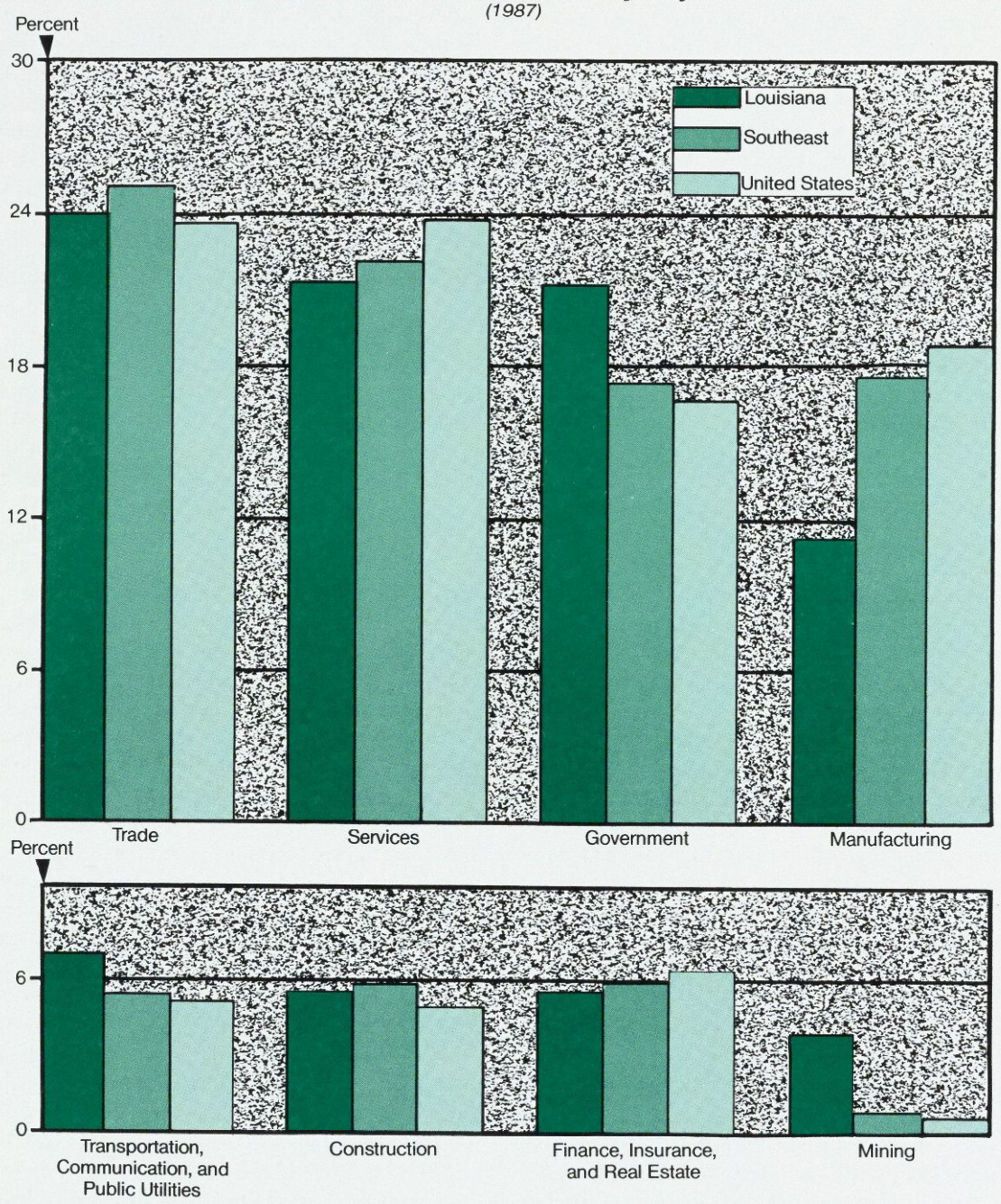
Characteristics of the Economy

Louisiana's particular mix of resources and special features, including its cultural and historical background, have contributed to its undiversified structure. Examining the major aspects of the state's structure and contrasting its economy with that of other states can reveal the chief causes of Louisiana's current problems and suggest some fruitful remedies. Clearly, any future restructuring of the state's economy will depend heavily on how Louisiana manages its present inventory of resources.

Population Characteristics. Perhaps the most important resource in shaping the state's economic structure, past and future alike, is its

Chart 1.
Distribution of Employment in Louisiana by Major Economic Sector

(1987)



Sources: U.S. Department of Commerce, Bureau of the Census, and reports from state employment office.

population. No doubt, Louisiana's unusual cultural and historical backgrounds have wielded a major influence in the development of the state's economy. Even today, evidence of Louisiana's early French and Spanish settlers is plainly evident in the architecture, language, and religion of a relatively broad swath of its southern area. Throughout the state, local

government divisions are called parishes rather than counties, a unique holdover from the French and Spanish system of dividing the region into ecclesiastical districts.

The Cajuns or Acadians, descendants of Roman Catholic French-Canadian settlers, account for around one-third of Louisiana's population. They are located primarily in parishes within the south-central and southwestern portions of the state. Until mid-century, many residents of these parishes spoke only Cajun French; today, some Cajun children still learn to speak French before English.

Historically Cajuns have held relatively liberal social values that contrast starkly with the conservative views that characterize much of the remainder of the state's population. Especially in Louisiana's northern portion, prevailing values are far more similar to those of the rural populations of neighboring states. Consequently, Louisiana residents tend to divide sharply on most political issues. Aside from the southern French-Catholic and northern Anglo-Saxon division, political cleavages exist between rural and urban residents and between blacks and whites. In nearly every realm of development, these three major population differences have had an impact on the state.

The rapid growth of Louisiana's population since the 1930s has influenced recent economic developments as well. The state's population growth typically had outpaced the nation's average until 1984, the onset of the economic downturn. From a twentieth century peak of 2.1 percent per year during the 1950s, Louisiana's population growth has dwindled to practically zero since 1983. By comparison, the U.S. figure moved from 1.9 percent per year in the 1950s to a nearly steady annual rate of 1.0 percent since 1975.

As net migration into the state was negative until the 1970s, when the oil boom began to attract large numbers of workers, Louisiana's rapid population growth was attributable predominantly to natural increase. During the 1950s, Louisiana's birth rate reached its highest level of this century at 28.4 per thousand of the population—20 percent higher than the comparable national rate. Although rates have declined since, the state's figure remains about 15 percent higher than the U.S. average. Consequently, Louisiana has maintained a relatively high ratio of dependents to adult workers. For example, since 1970 Louisiana's population aged 5 to 17 years, the prime school-aged group, has exceeded the U.S. counterpart by about 2 percentage points. Such a dependency ratio translates into a substantially greater burden for educational expenses than is shouldered by most other states. This responsibility in turn compounds the problems of reductions in state and local government revenue brought on by the oil industry downturn.

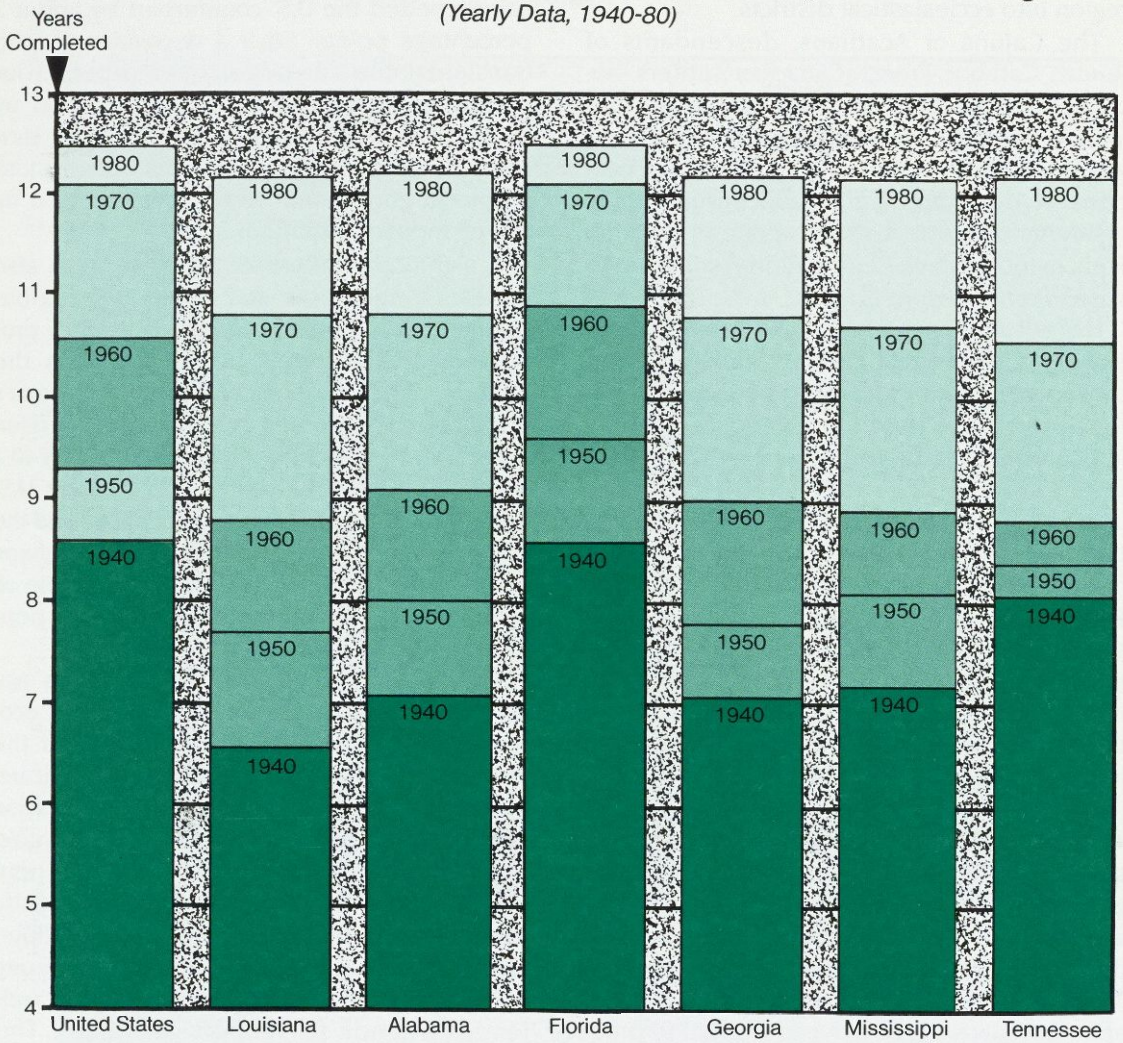
A significant difference in population also appears at the upper end of the age distribution, in that the elderly constitute a lower proportion of the state's population than the nation's. While the percentage of Louisiana's population aged 65 and over has gradually risen in recent years, by 1986 it had attained only 10.1 percent, still well below the 12.1 percent U.S. level. In fact, the gap between Louisiana and the nation has actually widened since 1970, perhaps because the in-migration occasioned by the oil boom raised the proportions of younger population groups relative to the elderly.

The twofold irregularity in Louisiana's age distribution helps account for the state's economic problems. Funds for support of the elderly, such as Social Security and Medicare, flow from federal sources; funds for education are generated primarily by state tax revenues. Since Louisiana's proportion of the elderly population is low, it receives only limited outside assistance. At the same time, its disproportionate share of the 18-and-under age group subjects Louisiana to above-average demands for state funds to support education. This anomaly has accentuated the budget difficulties for the state during its recent serious recession.

Aside from its cultural composition and age distribution, Louisiana's population is also marked by low educational levels. Owing to the state's past concentration in agriculture, the general need for education was long perceived to be slight. Thus, Louisiana still has one of the lowest levels of education within the southern region. Despite progress in raising median education levels (see Chart 2), by 1980 the percentage of the population that had completed four years of high school was 58 in Louisiana, nearly 20 percent below the comparable figure for the nation as a whole. In fact, this

Chart 2.
Median Years of School Completed Among the Total Population over Age 25

(Yearly Data, 1940-80)



Source: U.S. Department of Commerce, Bureau of the Census, *U.S. Census of Population,* 1950, 1960, 1970, 1980.

figure was even lower than that for the rest of the South as well as for the West, where 75 percent of the population has finished at least four years of high school.

On a *per capita* basis, the state's expenditures for education have averaged within 90 to 100 percent of the nation's average since 1975. On a *per pupil* basis, the state's expenditures have lagged behind the national average. To close its educational gap, Louisiana must somehow raise the priority given education as well as devote more of its resources to financing the education process. Of course, accomplishing the latter has been made doubly difficult by the state's heavy dependence on the oil and gas extraction industry for revenue.

Another area in which Louisiana's population falls below the national average is labor force participation. This may be related to the relatively high proportion of its people with low skill levels, which render them less employable. In fact, a relatively high percentage of the state's population is encompassed within the poverty-level income category. From 1960 to 1980, the

proportion of the population in poverty dropped from 40 percent to 19 percent; even so, the latter figure was still about 50 percent above the nation's. Two traditionally low-income groups, the rural and black components of the population, both exceed the average U.S. proportions for those groups by considerable margins. The state's least advanced educational and skill levels, which tend to correlate with poorer prospects for employability, are found in these low-income population groups.

The rate of female participation in Louisiana's labor force has traditionally fallen short of the nation's average, although the gap has been narrowing in recent years. The demands for child care associated with above-average family sizes, as well as low educational levels and limited opportunities for women in the predominant oil and gas extraction, agricultural, and transportation industries, have been deterrents to increased participation. Around 50 percent of Louisiana's females were active in the labor force in 1985 as compared with about 55 percent nationally. As educational levels rise and as job opportunities broaden beyond agriculture and energy-related enterprises, Louisiana's women can be expected to step up their rate of participation in the state's job force.

Land and Related Natural Resources. After people, land resources have been the next most important influence on Louisiana's development. In earlier periods, agricultural activity was the predominant shaper of the state's economy, and that activity in turn was governed by the quality and availability of land resources. More recently, the discovery and development of mineral resources has been the chief determinant of the state's economic activity. Nonetheless, land and related resources will continue to play an important role in Louisiana's future. It is useful, therefore, to examine the characteristics of that important resource and its impact on the state's economic structure.

Louisiana comprises a total area of about 31 million acres, about 20 percent of which is covered by water, including lakes, streams, and marshlands in regions adjacent to the Gulf of Mexico. Most of the state's soils were formed as submarine deposits laid down relatively recently in geological time. Louisiana's uplands, the oldest soil formations, consist of low, rolling pine-covered hills located in the north-central part of the state, in the southeastern area north of Lake Pontchartrain, and to the west of the Red River on the Texas boundary. Typically, the upland areas are low in fertility, and thus require heavy fertilization. Timber production, along with some livestock, is the current major use of the uplands.

The second most important land category is the alluvial regions within the flood plains of rivers, principally the Mississippi, Ouachita, Red, and Atchafalaya. Earlier in this century, frequent flooding and drainage problems kept the river deltas from intensive agricultural use. Today, with levees and drainage facilities in place, most of Louisiana's field crop production occurs in these alluvial plains, which contain some of the highest known levels of natural fertility.

The coastal prairies and marshlands, located in southern and southwestern Louisiana, constitute the third major category of agricultural land. These lands are underlaid with the state's richest deposits of minerals, including salt, sulphur, oil, and gas. Major agricultural products in the southwestern portion are rice, soybeans, and cattle, while closer to the Mississippi River and nearer the Gulf, rice and sugarcane predominate. The marshes also are important for producing fish, seafood, fur-bearing animals, and many species of waterfowl. A significant new industry involving commercial production of fish and seafood species is emerging in these lowland areas, where necessary water, both fresh and salt, is abundantly available.

Overview of Major Industries

The historical development of Louisiana's major industries has in large part dictated its current economic activity. A look at the growth of agriculture, mining, manufacturing, and transportation and how they have changed over the years can help chart the future course for the state's economy.

Agriculture. As indicated above, the availability of land resources dictated the development of agriculture, Louisiana's first major industry. The state's climate—semi-tropical with relatively abundant rainfall—has rendered some aspects of its agricultural production distinctive. For example, until the recent growth of the

sugarcane industry in Florida, Louisiana typically accounted for the majority of U.S. sugarcane production since the early nineteenth century. The south-central area of the state meets the crop's demanding temperature and soil requirements. Strict import quotas and price supports have maintained the sugarcane enterprise as one of the state's most profitable crops, responsible for from 7 to 10 percent of total farm cash receipts. As long as sugarcane remains protected, it will continue to be a vital element in Louisiana's agriculture.

Cotton is another historically important crop dating back to the earliest days of the state's existence. Much of the rural economy depended almost solely on expenditures for labor and materials used in cotton production and on the income received from the marketed crop. Likewise, the population of rural areas was determined by the needs for hand labor to produce and harvest cotton. Although cotton acreage has shrunk to less than one-third its previous size, it still leads Louisiana's farm cash receipts, with approximately 15 percent of the total.

Rice, a relative latecomer to the state's agricultural scene, plays a key role nonetheless. Rice is adapted to the soils of southwestern Louisiana where an impervious subsoil holds water in the surface layers and aids irrigated production. The planted area, which had hovered around 500,000 acres since 1940, dropped nearer to 400,000 acres in this decade as the U.S. share of international markets began to shrink. In more normal times, about 60 percent of Louisiana's total rice crop moves into the world market, yielding cash receipts that account for about 10 percent of the farm total.

Mining. Louisiana's mining industry, which has come to dominate its economic activity, dates only from the discovery of the state's substantial mineral resources in the early 1900s. Oil was first discovered in southwestern and south-central Louisiana in 1901, and in 1916 natural gas was found in the north-central area of the state. Since then, underground petroleum deposits have been detected in almost every parish. Deposits are most highly concentrated in a relatively narrow belt across southern Louisiana and extending beneath the Gulf of Mexico. Including these off-shore areas, Louisiana holds a considerable share of U.S. reserves of natural gas and petroleum.

Sizable deposits of salt and sulphur have been located in conjunction with petroleum reserves in the southern coastal areas. Before the oil industry began its rapid expansion in the late 1940s and early 1950s, employment in nonpetroleum mining activities, principally salt and sulphur recovery, composed around 15 percent of the total mining work force. Since then, nonpetroleum mining employment has held relatively stable while oil and gas industry employment skyrocketed, particularly in the late 1970s. Even though sulphur and salt mining account for less than 5 percent of mining employment, Louisiana leads the salt-producing states and ranks second only to Texas in sulphur production.

Louisiana also holds second place nationally in the value of total mineral production. About one-fifth of the state's gross product derives from mining activity, including chiefly petroleum and natural gas. The large volume of output from the oil and natural gas wells in Louisiana's southern region has broadly influenced most other types of economic activity in the state as well.

"The large volume of output from the oil and natural gas wells in Louisiana's southern region has broadly influenced most other types of economic activity in the state as well."

Manufacturing. Of all the state's sectors, manufacturing has perhaps felt the greatest impact from the oil and gas extraction industries. Once strongly oriented to the agricultural and forestry industries, manufacturing now depends on chemicals and petroleum as the bases for the state's prime industrial products. Chemical manufacturing, which ranked as Louisiana's foremost industry in terms of employment, value added, and new capital expenditures throughout the 1970s, has been especially important to the economies of Lake

Charles, New Orleans, and Baton Rouge. Bested in its competition with foreign producers during the 1980s, the state's chemicals industry shrank markedly in terms of employment. However, with the decline of the dollar and restructuring of the industry to reduce labor intensity, Louisiana's chemical manufacturing sector has at last begun a recovery.

Petroleum refining, Louisiana's second most vital industry, centers, of course, where crude petroleum is available. Baton Rouge, Lake Charles, and New Orleans all have large refineries that wield major influence over their economies. Though not as widely dispersed as other types of manufacturing, petroleum refining ranks next to chemicals manufacturing as a source of the state's total value added by manufacturing activity.

"The simultaneous downturn in the agriculture, transportation, and chemical manufacturing sectors, along with the collapse in the energy sector, led to a greater reversal than the state's other sectors could overcome."

Third in importance among Louisiana's industries is food processing. The state's relatively large rice and sugarcane crops account for the majority of the processing, but livestock, fish and seafood, and dairy products also provide significant sources for the state's industry. As mechanization has reduced the number of workers needed to handle a relatively stable volume of food products, Louisiana's food processing industry has lost between 1,200 and 1,500 workers annually since 1970. More recently, though, there have been some indications of modest gains in employment, possibly due to the expanding role of fish and seafood production in the state's food sector.

Historically, forest products, the fourth major manufacturing industry, have played a significant part in Louisiana's economy. Before the major river systems' flood plains were cleared and drained for field crop production, the timber in these vast areas was harvested for lumber and building products. The advent of technology to mass process wood pulp into paper rendered Louisiana's forests even more valuable as a source for pulpwood production. Employment in the forest products industry, including paper, has declined rapidly since the early 1970s with the rapid adoption of mechanization and labor-saving techniques. Even though total pulpwood production is from four to five times greater than it was in the 1950s, employment has dropped about 30 percent since around 1973.

Transportation. While not as large as Louisiana's other industries, transportation is of long-standing importance in the state's economy. Well before statehood was achieved, the shipping of goods and people along the waterways of the region constituted a major economic activity: boats carried the explorers and the settlers into the territory and the furs and agricultural goods out to markets, largely through the port of New Orleans.

At the same time that the rivers were a boon to Louisiana, they also posed a massive obstacle to its early development. Until the first bridges were built in the 1930s, overland transportation was made extremely difficult by wide river expanses which had to be traversed by ferries. The great width of the Mississippi River dramatically increased the cost of bridging it, and so east-to-west transportation in the state was severely hindered. Not until the second half of this century did a sufficient number of bridges become available. Possibly owing to its dependence on the river systems, Louisiana still suffers from a lack of major north-south highways. Various proposals have been forwarded for an intrastate north-south roadway that would link up with the national interstate highway system.

Metropolitan Response to Recession

Overall, Louisiana's economy is tied too closely to a few major industries that are subject to radical cyclical swings. The simultaneous downturn in the agriculture, transportation, and chemical manufacturing sectors, along with the collapse in the energy sector, led to a greater reversal than the state's other sectors could overcome.

Table 1.
Louisiana's Population and Employment by Area

Area	Population 1986 (thousands)	Percentage of State Population	Total Employment 1987* (thousands)	Annual Employment Change (percent) 1984	1985	1986	1987*
Alexandria	140	3	55	2.9	0.7	4.2	2.6
Baton Rouge	575	12	238	3.3	2.7	0.6	1.5
Lafayette	241	5	88	7.5	-3.6	-8.3	-5.7
Lake Charles	175	4	66	18.7	-0.5	-0.3	1.7
Monroe	149	3	63	4.0	4.1	1.5	0.0
New Orleans	1,385	30	539	2.4	-0.8	-0.5	-0.5
Shreveport	372	8	147	4.5	1.8	-3.6	-1.5
State	4,501	—	1,764	3.6	0.6	-1.8	-0.4

**Preliminary*

Sources: U.S. Department of Commerce, Bureau of the Census, and reports from state employment office.

The need for diversification is made yet more clear when the performance of Louisiana's leading metropolitan areas is compared. As expected, those cities whose employment base was least homogeneous were best able to weather the state's recession (see Table 1).

Lafayette, Shreveport, New Orleans, and Lake Charles, cities which experienced the most serious employment declines, all have a relatively high proportion of total employment in mining. The figure for Lafayette is 20 percent, while in the other areas mining ranges between 4.0 percent and 5.2 percent of total employment. Although the proportions for Shreveport, New Orleans, and Lake Charles do not seem inordinately high, so many of the other employment categories in these cities are mining-related that the decline in that sector pulled down virtually all the rest. By contrast, in the three metropolitan areas whose employment growth has merely slowed since 1984—namely Baton Rouge, Alexandria, and Monroe—mining accounts for under 1.5 percent of total employment. Thus, it is clear that the degree of concentration in mining or energy production strongly influenced how much hardship the energy price collapse inflicted on a metropolitan area.

Other differences between the worst-hit areas and those whose employment growth persisted during the recession lay in their types and amounts of manufacturing employment. Both Lafayette and Shreveport, for example, had low overall levels of manufacturing compared with the other cities, and both suffered serious employment losses. Furthermore, areas with higher concentrations of manufacturing employment in nondurable goods industries fared better than those, such as Shreveport, where durable goods dominated the manufacturing sector. Lake Charles appears to be the only exception: it posted an employment loss yet had the greatest concentration in nondurables employment. This irregularity is explained, however, by the fact that chemical products made up nearly all of nondurables employment in Lake Charles, as well as most of its total manufacturing employment. As mentioned earlier, chemicals' loss of its competitive position both in domestic and international markets coincided with the downturn in the petroleum sector. Baton Rouge, the only other metropolitan area with relatively large chemical manufacturing employment, had enough other types of manufacturing activity to ward off the plight suffered by the Lake Charles economy.

High concentrations of employment in the transportation industry also marked those cities that performed most poorly during the recent economic contraction. New Orleans leads the state with nearly 10 percent of its employment

in transportation, particularly water transportation. The nation's loss of markets abroad, especially for agricultural commodities, which are unusually important to New Orleans, led to contraction of shipping exports through the port. Combined with the reversal in the oil industry, this shrinkage dealt the city's transportation sector an especially hard blow. The decline in agricultural, oil, and petrochemical transportation also shook the economies of Lafayette, Lake Charles, and Shreveport, Louisiana cities with the next highest concentrations in transportation jobs.

Two other sectors that appeared to be related to metropolitan differences in economic performance were government and finance, insurance, and real estate. The government sector, although faltering itself, also acted as a buffer in those areas that were hardest hit. This was especially true where federal employees made up larger shares of the total, for their jobs, hinging less directly on local economic activity, typically continue even when the nongovernment sectors are in recession. In the Alexandria economy, for instance, government employment, boosted by a military installation, composes 29 percent of the total, the highest of any in the state and far above Louisiana's 18 percent average. With its heavy ratio of federal government employment, Alexandria withstood the economic setback relatively well. Although Baton Rouge's and Monroe's 20 percent government employment is concentrated more in state than in federal government jobs, those two cities also fared reasonably well. In Lafayette, by contrast, government jobs make up only 11 percent of the total; for Lake Charles, New Orleans, and Shreveport the figures are between 16 and 17 percent.

A concentration of employment in the financial sector is another characteristic of those regions that have performed relatively well. For example, Monroe, the city that was least affected by the downturn in Louisiana's economy, had the state's highest concentration in financial employment. At 7.4 percent, Monroe's figure was more than double Lafayette's proportion of only 3.6 percent. Alexandria's and Baton Rouge's employment in financial industries surpasses the levels for all the remaining cities except New Orleans. Even though that city is the traditional financial center for the state, its excessive oil- and shipping-related debt burden worked against this advantage. Nevertheless, the financial sector kept the New Orleans economy from slumping as much as it would have otherwise.

Long-Run Prospects for Louisiana's Economy

With Louisiana finally beginning to recover from the longest and deepest recession since state data first were kept, many questions are being asked concerning its economic future. Today, it is widely recognized that the state's economy has been far too dependent upon the oil and gas extraction industries and that the basic economic structure must change before there can be hope for its renewed vitality. The state now has to determine which types of economic activity can replace oil and how best to achieve its goal of diversification. As reorganization efforts get under way, it should not be overlooked that, just as basic economic forces have shaped the structure of Louisiana's economy in the past, its future form will depend largely on the state's comparative economic advantages.

Despite the attention currently being focused on diversification, oil and gas extraction surely will remain an important economic activity. In addition to existing oil and gas reserves, new reserves are likely to be found, especially in the off-shore area, as exploration picks up again with an oil price rebound to profitable levels. It is unlikely that exploration activity will proceed at the heady pace that prevailed prior to the industry's collapse; nonetheless, it will move ahead as the promise of returns from new discoveries encourages those ventures. The return of oil prices to the vicinity of $20 per barrel in 1987 was sufficient to activate a number of rigs that were idled in 1986 when oil prices dropped as low as $10 per barrel. Some expect that prices could reach as high as $26 per barrel early in the 1990s, as rising consumption begins to press against declining oil availability. This prospect argues strongly for the revival of Louisiana's oil and gas extraction industry and its probable healthy state into the next century. Resources generated during the next profitable period could be channeled toward diversifying the economy through development of secondary

and tertiary industries as spin-offs from the energy sector.

Louisiana's long-standing agricultural enterprises owe their existence to the special economic advantages afforded by the state's climate and soil conditions. For example, the high yields obtained in the fertile river valleys have permitted Louisiana to maintain cotton production during periods of low cotton prices, and they are likely to continue doing so in the years ahead. Similarly, the warm climate, abundant rainfall, and fertile soils in south-central Louisiana have provided the state a comparative advantage in the production of sugarcane. Although it is doubtful whether much of the industry would survive without its current government protections, it is equally unlikely that those protections will be abruptly withdrawn. Thus, Louisiana should continue to be an important sugar producer, and the industry's attendant processing and refining activities will remain a part of the state's economic activity.

Over the past, the special advantages of soil composition, flat terrain, and readily available water supplies have given Louisiana the edge in rice production. Apparently, the rice industry will persist in the state as long as the crop is produced anywhere in the nation. The industry will require continuing access to foreign markets, for a large share of the crop has traditionally been exported and prospects are dim for expanded domestic consumption. The substantial decline of the dollar over the last three years against many foreign currencies bodes favorably for an increase in foreign marketing of rice.

Beef cattle will remain an important enterprise since the state has large areas of marginal land for which forage production is the highest potential economic use. The extensive marshy areas that cannot be brought under crop cultivation, the hilly areas subject to serious erosion, and the idle crop lands in rotation systems provide a sufficient base for Louisiana to retain a substantial cattle production enterprise in the future.

Forest resources will offer another growing source of economic activity in the years ahead. The 40 percent of Louisiana's total land area now in tree production represents a sizable potential for increased output. Advances in tree-producing technology, which speed up growth and yield from forest areas, give Louisiana an opportunity to expand manufacturing activity in all facets of wood products. Pulpwood production for use in paper manufacturing, traditionally a significant state industry, probably will advance in coming decades. Forest products manufacturing provides an additional opportunity for the state to diversify away from its current concentration in durable goods manufacturing activities that are heavily dependent on the oil and gas industry.

Expansion in the nondurable areas other than chemicals may be another avenue for further economic diversification. Food products manufacturing, for example, is prime for stepped-up development in the state, and the aquaculture industry, in particular, is exceptionally promising for Louisiana. In the past, the state's fish and seafood industries have been oriented largely toward harvesting the natural production that occurs in the native aquatic habitat. However, technological developments have made possible the commercial production of several species of aquatic life forms that are especially adaptable to the marshy environment of south Louisiana. The burgeoning national and international markets for fish and seafood products seem to promise a lucrative future for products in which Louisiana has special advantages. The aquaculture industry and attendant food manufacturing activities may well lead Louisiana's growth industries in the years ahead.

The state's river systems and canals offer opportunities for further gain in water transportation and related businesses. Again, Louisiana's location astride the opening of the Mississippi River into the Gulf of Mexico grants it access to far more shipping and port activities than are available to neighboring states. Handling river freight has long been an important business in Louisiana, particularly in New Orleans, whose port handles both import and export trade. Since many of the products passing through the port are processed either after reaching their destinations or prior to their arrival in the state, Louisiana may reap future rewards if it can secure a larger share of this processing. Moreover, additional secondary and tertiary industries could then arise to support the primary shipping and secondary processing activities.

One example of business generated by water transportation and port activity is the financing

of international trade. Louisiana is in an advantageous position to play an expanding role in international trade activities, particularly with Central and South America. The past availability of profitable oil-related business meant that financial institutions had no pressing need to develop business in the international arena. However, because those cities with the largest proportions of financial employment tended to resist the economic downturn somewhat better, increased involvement in financing international trade may be another promising way of augmenting the breadth of Louisiana's economy.

As Louisiana enlarges its role in the international business arena, foreign visitors should become a stronger factor in the state's tourism industry. The unique ethnic and cultural mix of Louisiana's population and the old world flavor of New Orleans architecture offer a tourist attraction unrivaled in southern states. In the past the state has evinced a certain complacency about its tourism; consequently, Louisiana has not promoted its attractions, either here or abroad, to maximize its tourism potential. Sustained efforts to attract a continuous flow of visitors to Louisiana probably would reap superior gains to a major one-time push, such as the recent promotional effort for the New Orleans World's Fair.

Policy Demands. The thrust of state governmental policy should be to help residents position themselves to seize economic opportunities. To achieve long-lasting gains in economic growth and development, Louisiana must intensify its efforts to upgrade the education and skill levels of its population. Otherwise, the state cannot hope to compete with other areas of the country in attracting badly needed businesses. Not only do such businesses seek an educated resident work force, but the personnel who relocate with a company demand quality educational opportunities for their children.

Unfortunately, in recent years budget deficits have led to cuts in assistance to education. Therefore, the already formidable task of making resources available to upgrade the state's educational level to that of the nation—not to mention the levels of the country's foremost regions—has been made more daunting still. Accomplishing that task means that residents must be willing to vote for increased taxes on individuals rather than on businesses, and to look to broader sources of revenue than the oil and gas extraction severance taxes.

Businesses are taxed more heavily in Louisiana than in other southern states. Such taxes make up 22 percent of the state's total taxes less mineral revenues, a substantially higher figure than Tennessee's 16.5 percent and almost triple North Carolina's 7.9 percent. Disproportionate business taxes can obviously pose a considerable obstacle to economic development. For this reason businesses must either absorb these higher taxes or somehow pass them on to others, perhaps through higher prices, lower wages, or lower rents or bid prices.

Another problem of Louisiana's tax structure is the cyclicality that exaggerates the economy's positive and negative swings. While it probably is not possible or even desirable to eliminate cyclicality, finding ways to moderate the swings would be helpful. One possible approach would be to focus business taxes on the value added by business rather than on sales taxes on business purchases—the most cyclical of all the business tax bases—and on corporate income. A lack of economic diversification also aggravates cyclicality in tax revenue. When an economy rests on a broader spectrum of businesses, it is less likely that all will be affected simultaneously by the same economic factors. Obviously, Louisiana's imbalanced dependence on the oil industry has exposed it to the vagaries of the special set of circumstances that bear on the energy economy.

The collapse in the energy sector so curtailed government revenue that money was not available to meet all of Louisiana's highest priority expenditures. Hence, the devastating cut in funds for education, along with many other worthwhile programs, ensued. Although Louisiana ranks 36th nationally in taxes paid per capita, about the same as its ranking in personal income per capita, its taxes on real estate are inordinately low. The property tax is a clear candidate for raising some desperately needed revenue for state and local governments. Such taxes would be less volatile sources of funds than the severance taxes on natural resources or even the personal income tax. That sort of improvement in the balance of public finance revenues should characterize Louisiana's economy of the future.

Conclusion

As difficult as they have been for Louisiana's economy, the hardships ushered in by the plunge in oil prices may provide the long-needed incentive to diversify and strike a better balance in sources of revenue for government. The oil industry will continue to play a key role in Louisiana's future, but other sectors will rise in importance as entrepreneurs search out less volatile, and in the long run more profitable, alternatives. This shift will give additional impetus to the development of those human resources that are needed both to attract and to further alternative economic activities.

The future structure of Louisiana's economy will more closely resemble that of its sister southern states that have managed to rebound from the national recessions of the early 1980s. At the same time that the state gives greater emphasis to traditional enterprises whose economic advantages have not been fully realized, it will foster new enterprises that can harness the economic advantages emerging from new technologies. The next decade should see a decided shift in the mix of Louisiana's economy toward a more balanced, recession-resistant structure. At least by the close of the century, Louisiana should be well along the road toward upgrading its labor force entrants so that the state can compete with greater success.

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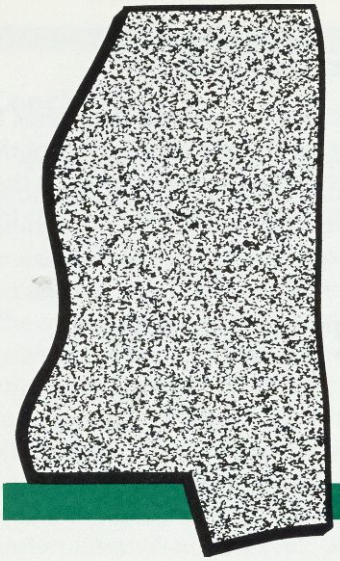

Mississippi: A Dual Economy

Aruna Srinivasan

During the past two decades, the economic performance of the Southeast as a whole has been superior to the nation's. Most of the region grew rapidly during the 1970s and did not suffer as much as the rest of the country in the early 1980s recession. Not all states and areas in the region, however, have benefited from this expansion. Explosive urban growth has masked the encroaching difficulties of the rural South, which has been burdened by the simultaneous decline of its mainstays, agriculture and manufacturing. When the southeastern economy began to recover from the 1982 recession, it soon became apparent that the rural sector was not reviving in step. Indeed, the doldrums of the rural South point to some severe negative trends with long-term implications. For Mississippi, these assertions have particular significance: the state, with nearly 72 percent of its population living in non-metropolitan areas, is the most rural in the Southeast.

The trend of Mississippi's economy over the past ten years from rapid toward much slower growth can be attributed primarily to the nature and pattern of structural evolution and to the impact of national and international events. Specifically, falling energy and agricultural prices, the shift of economic strength back to urban areas, and deterioration in the foreign trade balance have stunted Mississippi's economic expansion during most of the 1980s.

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More recent developments, though, particularly the lower dollar and the upturn in energy and farm prices, should nudge the state's economy slightly ahead in 1988 and 1989. On the other hand, the probable winding down of growth in national defense spending may partly offset this positive trend, at least in the Gulf Coast area, where defense-related industries are concentrated. A more threatening cloud on Mississippi's horizon is the likelihood of continued out-migration from the state's rural areas.

Beyond these short-run influences, however, are several factors that will color Mississippi's longer term economic prospects. These elements indicate that the state's economy is developing a dual nature along rural-urban lines. One illustration of this duality appears in Mississippi's demographic trends, which contrast markedly to those elsewhere in the United States. Mississippi was one of only a few states where rural population growth lagged behind urban increases in the 1970s. Indeed, counties in the Mississippi Delta typically have lost between 5 and 20 percent of their population since 1970.[1] Between 1979 and 1983 the state's metropolitan areas grew at four times the rate of its non-metropolitan areas. This disparity is also evidenced in income. Per capita income growth rates for Mississippi's metropolitan and non-metropolitan areas were about the same in the seventies, but from 1979 to 1983, urban counties grew 15 percent faster in this regard than did rural counties.

The author contends that Mississippi's economy has been fundamentally restructured during the 1980s. While metropolitan areas have benefited from a shift toward service employment, non-metropolitan areas have remained stagnant because of their heavy dependence on low-wage, low-skill manufacturing. Mississippi's urban areas should remain healthy, but to brighten its long-run prospects the state must develop strategies to reduce its dependence on now shrinking federal revenues and enhance the education of its labor force.

A second factor affecting Mississippi's long-term outlook is its industrial growth pattern. The state's success in attracting manufacturing branch plants has created a heavily industrialized economic base, especially in rural areas.[2] Because so many of these industries are labor-intensive and have low skill requirements, they are particularly vulnerable to increased competition from developing countries, where labor is cheaper and more abundant. This vulnerability is demonstrated by the fact that, in 1984, rural unemployment rates were 28 percent higher than metropolitan rates.

The waning strength of Mississippi's agricultural sector is another trend that bodes ill for the state's economic future. Agriculture and manufacturing are unusually interdependent in Mississippi, where many farms are small and farmers often rely on off-farm income. In 1982, nearly one-half of Mississippi's farmers worked off the farm for more than 100 days, and the percentage of farms with sales of over $40,000 was only 64 percent of the national average. When manufacturing industries were thriving, this link decreased farm families' financial risk as their income did not depend exclusively on farm production.[3] As manufacturing industries have ebbed, some farmers who had come to rely on this supplemental income have lost their farms.

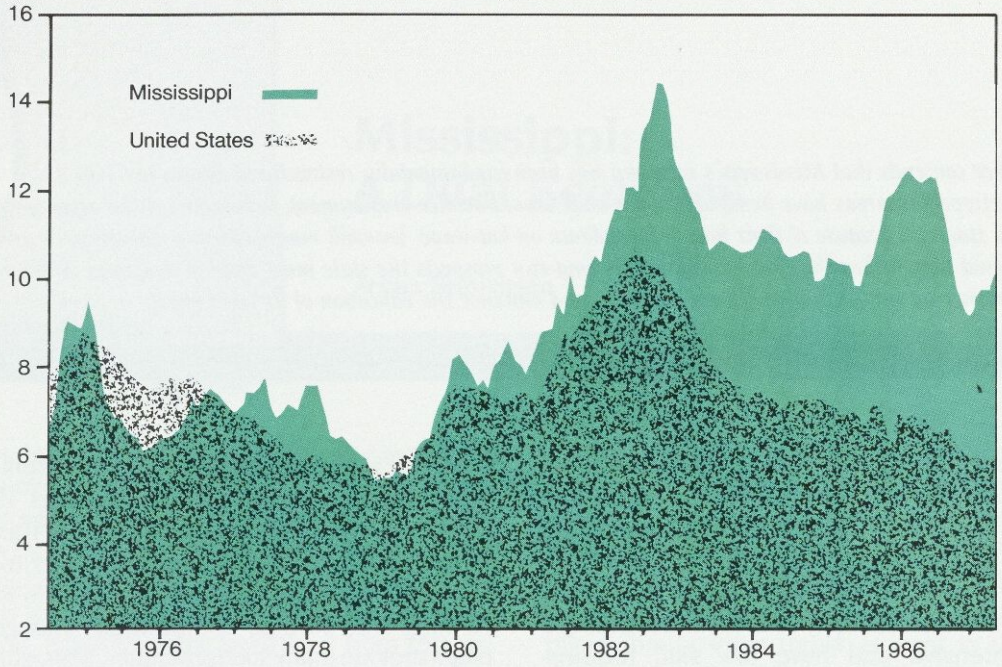
A further consideration that will shape Mississippi's economy in the years ahead will be the presence (or absence) of incentives to attract new growth industries to the state. Emerging industries that are choosing location sites will look for highly educated workers and good schools and transportation systems. These factors will become increasingly important to Mississippi's more traditional industries, too, as they are pushed to modernize to remain in the running with foreign competition. Though its cities provide many such amenities, Mississippi's rural areas are still sorely deficient on these counts.

Finally, the shrinking role of federal government has implications for rural Mississippi over the long run. Federal antipoverty and economic development programs, which once helped prepare rural workers for traditional industries, have been cut back and are not likely to be restored to provide the same level of assistance for new growth industries.

In sum, while long-term trends suggest Mississippi's urban economies will remain stable and probably show moderate growth, the state's rural areas—where primary industries and manufacturing dominate—will remain in the doldrums. Nonetheless, in 1988 Mississippi's economy should grow faster than it has in the past six years.

This article's assessment of the Mississippi economy is framed around two major questions: (1) Is long-term restructuring of the state's economy actually occurring, or are observed changes merely the short-term consequences of the 1982 recession and the subsequent recovery? (2) How do conditions in urban Mississippi differ from those in its rural areas, and how will these conditions shape future growth?

Chart 1.
Unemployment Rate, Mississippi vs. the United States
(Monthly data, January 1975-November 1987)



Sources: U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings*, various issues, and Mississippi Labor Market Information Department, Employment Security Commission.

The Mississippi Economy in Perspective

A decade ago Mississippi's economy was quite vigorous, but since 1980 it has consistently underperformed the U.S. economy. This turnaround over the past ten years points to fundamental changes in the state's economic foundations.

Between 1975 and 1980, paced by an expanding manufacturing sector, increasing agricultural prices, and a booming oil and gas industry, personal income in the Magnolia State, adjusted for inflation, rose at a 2.6 percent annual rate. This rate, though below the robust southeastern average, surpassed the nation's 2.3 percent annual increase. During the same period, Mississippi's per capita income edged closer to the national average, from 68 percent of the U.S. average in 1975 to 70 percent in 1980.

Dramatically different national and international economic forces have forged Mississippi's economy in the 1980s. Worldwide agriculture and energy market surpluses have caused prices to fall, and a deteriorating foreign trade balance has severely retarded growth in manufacturing industries. Adjusting to the resulting lower inflation environment has proven difficult for the Mississippi economy. The adverse effects of this transition are reflected in Mississippians' lagging personal incomes, which from 1980 to 1986 grew at a 1.4 percent annual rate, compared with 3.1 percent for the Southeast and 2.5 percent for the nation. What's more, the state's per capita income slipped from 70 percent of the national average in 1980 to 66 percent in 1986.

Employment growth in Mississippi has endured similar setbacks. Total employment in the state rose 12.6 percent from 1975 to 1980, compared with 15.7 percent for the nation. The recession of the early 1980s brought national job growth down to 7.9 percent in 1980-86, but Mississippi's total employment gains in 1986 were a mere 2.3 percent above their 1980 level.

This decade's slower job growth, coupled with an expanding labor force, elevated Mis-

sissippi's unemployment rate above the national average (see Chart 1). Following the 1973-75 recession the state unemployment rate stood at 6.6 percent, 1.1 percent below the national average. The recession of 1981-82, however, had a greater impact on the Mississippi economy, forcing the state's jobless rate above that of the nation. Since 1982, in fact, Mississippi's average annual unemployment rate has remained above 10 percent; only recently (since April 1987) has it crept down to 9.5 percent. On balance, despite national and international trends that appear to augur more favorably for Mississippi's economy, its structural problems remain. Increasing structural unemployment, with less clear-cut solutions than short-run joblessness, has become a new concern for state policymakers.

The evidence suggests that long-term restructuring of the state's economy, both industrial and geographical, is indeed occurring. Jobs are shifting not only from manufacturing to services, but also from non-metropolitan to metropolitan areas. The structural relations involved in this development process can be identified and studied by examining the dualistic nature of Mississippi's economy—that is, a thriving urban Mississippi that is creating new jobs and a depressed rural Mississippi that is losing jobs and people.

The state's current economic organization, relying strongly on primary industries, is the logical descendant of its agrarian past. In its formative years, Mississippi's industrial sector was heavily influenced by the economic legacy of the plantation, whose cornerstone was an abundant, low-skilled labor supply.[4] After World War II, Mississippi marketed its plentiful labor, low operating costs, and favorable business climate to capture an increasing share of the nation's manufacturing jobs. Thus, with help from federal and state governments, rural Mississippi was transformed from an agriculture-based to a manufacturing-based economy.[5]

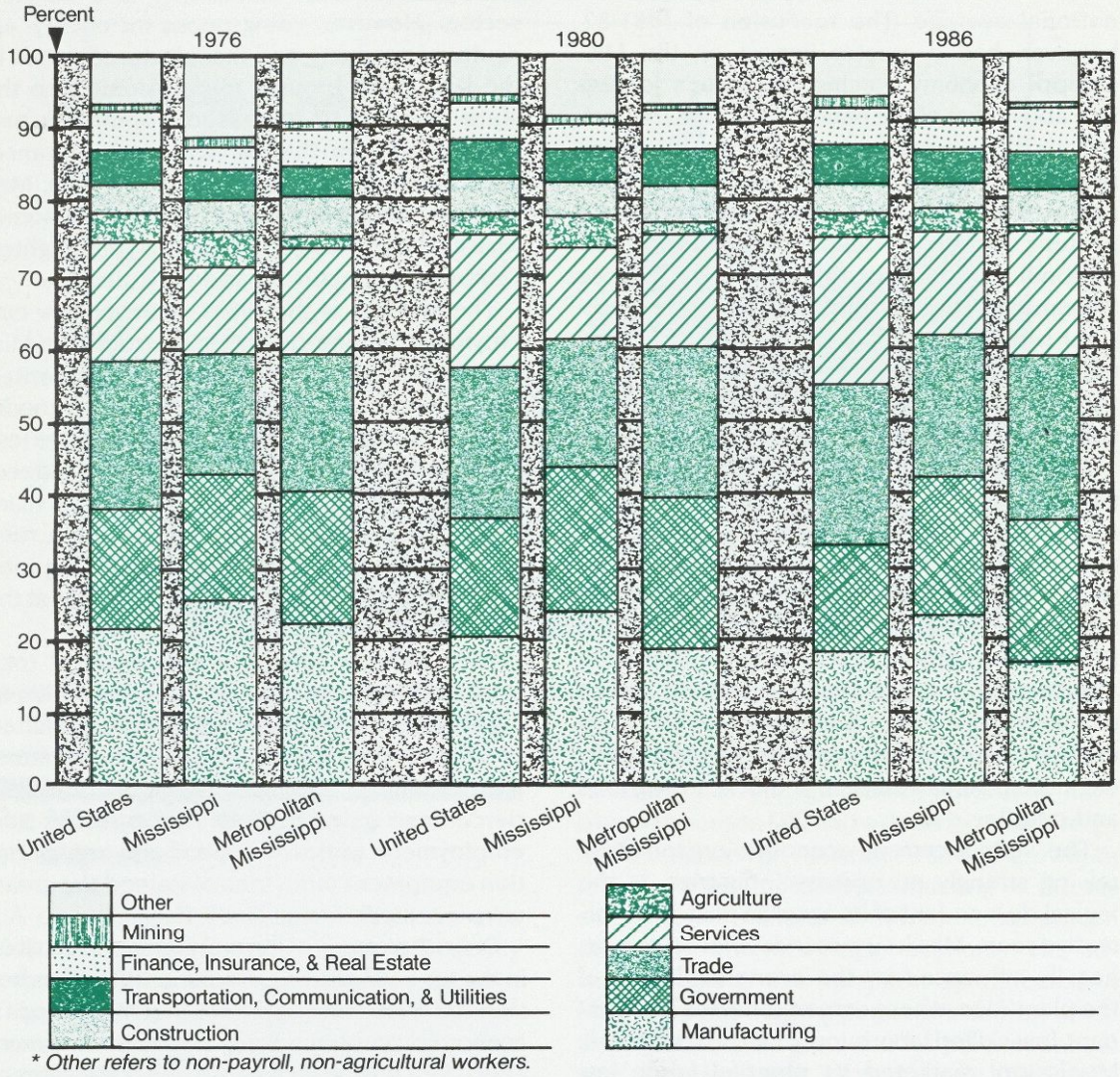
The economic cyclicality inherent in Mississippi's reliance on manufacturing can be explained by the structure of employment in the state over the past dozen years. In 1976, the shares of Mississippi's work force—both for metropolitan areas and the state as a whole—engaged in agriculture, manufacturing, and construction were larger than those for the United States (see Chart 2). Conversely, the state's labor force included a smaller proportion in the service, trade, finance, and regulated (transportation, communication, and utilities) sectors. However, rising prices for energy, agricultural products, and manufactured goods in the late 1970s brought more income into the state and led to increased population and employment in the service, trade, finance, government, and utility sectors. By 1980, Mississippi's employment mix had moved somewhat closer to the nation's but was still weighted toward manufacturing and agriculture.

The first half of the 1980s, however, saw employment nationwide and in metropolitan Mississippi becoming considerably more oriented toward services and less dependent on goods-producing jobs. Unfortunately, this shift was less pronounced in the state's rural areas. Indeed, despite the slump in many of the state's manufacturing industries during these years, rural Mississippi's reliance on manufacturing jobs remained nearly as strong in 1986 as it was at the start of the decade.

Even though manufacturing's share of total state employment changed little from 1976 to 1986, within the sector several industries shifted in relative importance. The metals, furniture, and machinery industries chalked up the largest percentage gains in both real earnings and employment, while the apparel and transportation equipment industries sustained the greatest percentage losses (Table 1).[6]

Only when many of its rural areas failed to join in the national recovery from the 1981-82 recession did it become apparent that Mississippi's economic problems were not the temporary effects of a business cycle but rather the signs of major structural changes. The state's economic restructuring is pointed out by several important trends. First, traditional manufacturing industries have lost employment, while services and certain emerging manufacturing industries have gained workers. Additionally, employment in virtually all industry sectors grew faster in metropolitan areas than in rural areas between 1970 and 1986. In fact, employment in some of Mississippi's key industries, such as electrical machinery and apparel, climbed in urban counties, even as it declined in non-metropolitan counties. On balance, Mississippi's urban, rather than rural, areas will be the centers of future

Chart 2.
United States, Mississippi, and Metropolitan Mississippi
Employment by Sector



* *Other refers to non-payroll, non-agricultural workers.*

Source: Mississippi Employment Security Commission, *Annual Averages,* various issues.

growth. Statistics indicate that urban areas not only are attracting new jobs, but are also, because of their more developed infrastructures and skilled labor force, luring manufacturing and other jobs away from rural areas.

Sources of Capital Formation: Human and Financial

Mississippi's ability to rebound from structural changes in the economy is hampered by its shortage of wealth and its underdeveloped human resources. Education, according to the Southern Growth Policies Board, is the most important ingredient influencing the future of southern states.[7] Mississippi's educational system, deficient in both quantity and quality, has produced a less-educated labor force concentrated in low-wage, low-skill industries. In 1980, the median number of years of school for the state's adults was 12.2 compared with 12.5 years nationally; its graduation rates were also well below the national average. Mississippi's average

Table 1.
Patterns of Manufacturing Employment in Mississippi
(thousands of employees)

	1976	Share	1986	Share	Absolute Change	Percent Change
Manufacturing	218.9	100.0	222.9	100.0	4.0	1.8
Metals	11.8	5.4	16.0	7.2	4.2	35.6
Transportation Equipment	29.6	13.5	21.4	9.6	-8.2	-27.7
Apparel	41.6	19.0	36.5	16.4	-5.1	-12.3
Chemicals	6.4	2.9	6.5	2.9	0.1	1.6
Electrical & Electronic Equipment	17.9	8.2	21.5	9.6	3.6	20.1
Non-Electrical Machinery	10.3	4.7	12.4	5.6	2.1	20.4
Food	19.6	9.0	22.2	10.0	2.6	13.3
Furniture	16.8	7.7	20.4	9.2	3.6	21.4
Lumber	23.0	10.5	22.6	10.1	-0.4	-1.7
Paper	6.8	3.1	7.8	3.5	1.0	14.7
Other	35.1	16.0	35.6	15.9	0.5	1.4

Source: Mississippi Employment Security Commission, *Annual Averages*, various issues.

score from the American College Testing (ACT) Program indicates that the average high school graduate in the state is not as well-educated as the average U.S. counterpart.

The demographic structure of the state exacerbates its education problems. Of southeastern states, Mississippi has the lowest percentage of total population in the primary work-age group and the largest percentage in the 0-19 age group; it also has a higher birth rate than its neighboring states. This disproportion of young people in the population puts extra burdens on the educational system and on the relatively smaller labor force that supports it.

The below-average amount and quality of educational training in the state has prepared many of its workers merely for low-skill jobs. The labor-intensive industries that employ such workers have predominated in Mississippi, pulling the state's productivity consistently below the U.S. average. Mississippi's value added per worker reached a peak of 87.7 percent of the national average in 1982, but slid to 79.7 percent in 1984, the year for which the latest data are available.[8]

Efforts to improve Mississippi's educational system have been frustrated by the state's high unemployment and poverty. In 1982, Mississippi's Education Reform Act—mandating public kindergartens, instituting compulsory school attendance, and imposing higher standards throughout the system—was heralded as a model of progressive legislation. However, continuing sluggish growth since that time has made it difficult for the state to raise enough revenue to fulfill the act's promise. What's more, since fiscal year 1981-82, Mississippi's state universities have experienced five years of budget cuts and restraints. Clearly, the state's attempts to enhance the quality of education will continue to fall short until policymakers begin to treat education development programs as investments rather than expenditures that may be increased or reduced as fiscal conditions dictate.

Mississippi is held back not only by its paucity of well-educated workers but also by its dearth of financial capital. The economic problems of rural Mississippi have reduced the local tax base, so the state has had to seek funds elsewhere. Mississippi ranks second in the nation in dependence upon transfer payments, which have provided an average of 20 percent of the state's income during the past decade. Government transfer payments come to the state primarily in the form of old-age pensions, poverty programs, and farm price subsidies. Though beneficial to the state's economy, these income sources give fewer lasting benefits than do such economic spurs as job creation in the private sector. Moreover, transfer payments are also somewhat vulnerable to budget-reduction programs and recession-induced declines in government revenue.

Prospects for the Future

Historically, the dependence of Mississippi's largely rural economy on traditional, labor-intensive manufacturing has dampened the state's economic performance. Over the long run, it probably will continue to keep the state's growth below the U.S. average. Several factors, however, should boost Mississippi's economic performance above that recorded over the past six years. The lower dollar is expected to stimulate manufacturing by reducing import competition and spurring export growth. Higher prices for the state's commodities, especially oil and cotton, will provide additional income to their producers and to the supporting service industries.

After wide swings for the past two years, the state's unemployment rate is projected to edge down in 1988. Net job growth should take place primarily in manufacturing, trade, finance, and services, and mining employment is expected to rebound modestly from a 1986-87 slump. In general, the state's employment situation should stabilize somewhat, aided by such events as rising commodity prices, which will stimulate agriculture and mining. However, continued high unemployment in the rural areas, owing to such factors as weakness in nondurable manufacturing, will contribute to Mississippi's long-run, but shrinking, labor surplus.

Despite the expected upturn in Mississippi's long-term growth rate, its unemployment rate is likely to remain above the national average. One major reason for this anticipated differential is the mismatch that will occur between the rising number of service sector job openings in cities and the availability of low-skilled labor in rural areas. Another reason that Mississippi's employment gains are expected to be below-average is that the state's large manufacturing sector has undergone fundamental change. Although manufacturing output will likely rebound from the difficulties of recent years, job openings in the sector may dwindle as sophisticated equipment is substituted for labor in order to reduce costs and thereby maintain competitiveness in international markets.

Establishing an economic development strategy is crucial for Mississippi's economic health in the years ahead. The state's past cost-minimization tactics—for example, property tax abatements, business tax rate reductions, recruiting businesses that use low-wage labor, and attempts to discourage unionization—have attracted nondurable manufacturing and other industries that have suffered most in recent years.[9] An alternative, human capital strategy that focuses on the quality of a local economy's labor pool, could help push Mississippi's economy closer to the regional and national averages. Mississippi Research and Development Center studies have shown that the policies associated with the human capital strategy were more influential than cost-minimization measures in encouraging economic growth from 1977 to 1984.[10] By improving the quality of its public infrastructure, particularly education, and tapping the wealth of natural and human resources in its rural areas, Mississippi could attract new industries and enhance its citizens' quality of life.

Conclusion

The key argument of this article is that the economic changes observed in Mississippi are affecting urban and rural locations differently. Metropolitan areas have grown much faster and sustained healthier economies than non-metropolitan areas, and this trend will probably continue. However, evidence suggests that long-term restructuring of the Mississippi economy is indeed occurring as jobs shift from non-metropolitan to metropolitan areas, from manufacturing to services, and, within manufacturing, from traditional to emerging industries. Rural Mississippi's lack of wealth and its low levels of educational attainment will continue to tie it to traditional, low-skill manufacturing industries.

For the near future, the state's thriving metropolitan areas should keep the overall economy on a fairly even keel. To boost the state's economy over the longer term, though, state policymakers must implement and support programs, such as education enhancement, that will foster the development of Mississippi's abundant human resources.

Notes

[1]Wilson and Sullivan (1986): 69-77.
[2]Lyson and Falk (1986): 158-65.
[3]For further discussion see Rosenfeld, Bergman, and Rubin (1985).
[4]Winter (1986): 1-5.
[5]Williams (1987): 20-21.
[6]Warner (1987): 6-7.
[7]Rosenfeld, Bergman, and Rubin (1985).
[8]Warner (1987): 6-7.
[9]Gilmer and Pulsipher (1986): 110-18.
[10]Deposit Guaranty National Bank (1987).

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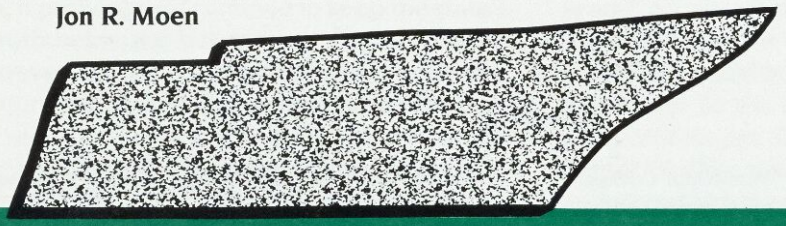
Diversity and Balanced Growth: Tennessee Stays on Track

Jon R. Moen



Throughout the Northeast and Midwest, many communities are now just beginning to recover from years of recession in manufacturing. The media have made the public well aware of the plight of towns devastated by the closing of a local plant, whose workers have bleak prospects for re-employment. Yet, in the Southeast, one state with long-established ties to manufacturing has rarely provided the backdrop for such stories. Despite the continued preponderance of industrial production over services in Tennessee, the state has enjoyed fairly steady economic growth and a relatively low unemployment rate compared with its southeastern neighbors. This article explores the secrets of the state's success in meeting the challenges of global competitiveness that have taken such a toll on industrialized regions elsewhere in the country.

For most of this decade Tennessee's economy has been shifting away from basic manufacturing toward a diversified mix of services, transportation and distribution, and more efficient, technologically advanced manufacturing. Though manufacturing remains an important source of income and employment in Tennessee, no single industry, such as steel or automobiles, predominates. The state's manufacturing sector encompasses a wide array of industries, ranging from consumer durables to machinery, while primary commodities make up only a small part of its industrial output. Furthermore, the renewed vigor of transportation and distribution complements the strength of the state's manufacturing industries.

The slow growth in Tennessee's manufacturing employment since 1970 has not created persistent problems for the state's economy. In textiles and many other industries where employment has fallen, technological improvements have buoyed output and earnings. Employment gains—both absolute and relative—in services, retail and wholesale trade, and transportation have helped to absorb job losses from manufacturing and agriculture and have further diversified Tennessee's economy.

By maintaining a well-balanced manufacturing base, Tennessee has avoided chronic unemployment and other problems of declining industries. In addition, the state has invested in further expansion by making the most of its transportation and distribution industries, which have been revitalized as a result of renewed economic growth nationwide. Variety, flexibility, and the reallocation of resources between expanding and shrinking industries should sustain Tennessee's economic growth in the foreseeable future.

Historical Considerations

Manufacturing has traditionally played a more vital role in Tennessee's economy than in other southeastern states. In 1970, 35 percent of Tennessee's nonfarm workers were employed in manufacturing, and 14 percent were employed in services (narrowly defined as excluding wholesale and retail trade, finance, transportation,

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Despite the historical predominance of manufacturing in Tennessee, the state has, over the last decade, sidestepped the problems that have plagued other manufacturing-dependent parts of the nation. The recipe for ongoing balance in Tennessee's economic growth includes such ingredients as furthering the shift from basic manufacturing toward a mix of services and more technologically-advanced manufacturing, maintaining its highly competitive transportation and distribution network, and continuing to foster its flexible labor force.

communication, and utilities). This gap has steadily narrowed to the point where service industries now employ 20 percent of the labor force as compared with manufacturing's 25 percent. Most of the relative decline in manufacturing employment has occurred in nondurable goods like textiles and apparel, while the share of employment in durable goods production has held steady for the past ten years (see Table 1). The importance of manufacturing as an employer in Tennessee contrasts to its status nationwide, where it accounted for 23 percent of nonfarm workers in 1970 and currently claims only 17 percent.

As a source of earnings (defined as the sum of wages, salaries, other labor income, and proprietors' income) manufacturing has proved even more crucial than it has as an employer. In 1970, 33 percent of earnings in Tennessee came from manufacturing, while 14 percent derived from services. For the United States these shares were 27 percent and 15 percent. Earnings in the two sectors have converged since 1970: today manufacturing accounts for 28 percent in Tennessee and 23 percent in the United States, while services contribute 19 percent of the state's earnings and 21 percent of the nation's. Furthermore, earnings per employee in Tennes-

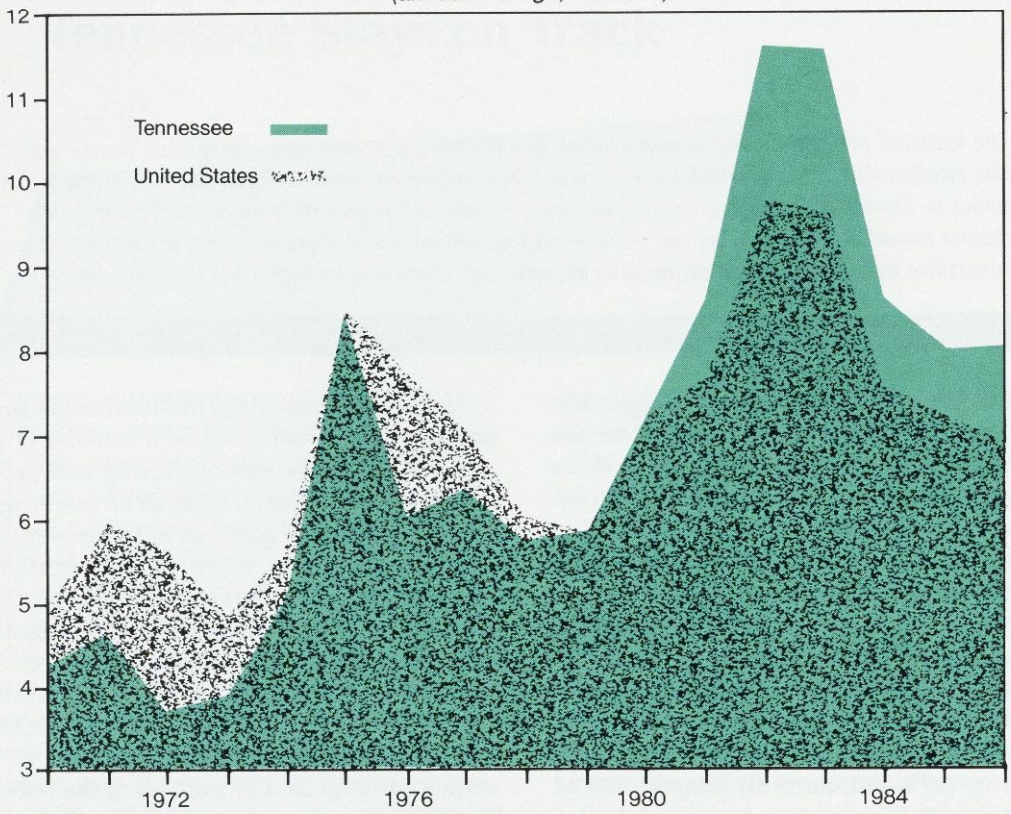
Table 1.
Distribution of Nonfarm Employment in Tennessee
(annual average percentage of total nonfarm employment)

	1970	1975	1980	1985	1987*
Manufacturing	35.0	30.5	28.7	26.3	24.8
Durables	14.4	12.9	12.8	12.8	12.1
Nondurables	20.6	17.6	15.9	13.5	12.7
Trade	19.4	21.3	21.7	23.5	23.6
Services	13.9	15.2	16.7	19.3	20.4
Government	17.0	18.0	18.2	16.4	16.2
Finance	4.3	4.6	4.5	4.8	4.8
Construction	4.9	5.1	4.7	4.4	4.9
Other	5.5	5.3	5.6	5.3	5.3

**January through October only.*

Source: Computed by the Federal Reserve Bank of Atlanta from statistics provided by the U.S. Department of Labor, Bureau of Labor Statistics, and the Tennessee Department of Employment Security.

Chart 1a.
Unemployment Rate in Tennessee and the United States
(annual average, 1970-86)



Sources: U.S. Department of Labor, Bureau of Labor Statistics, and Tennessee Department of Employment Security, Research and Statistics Division.

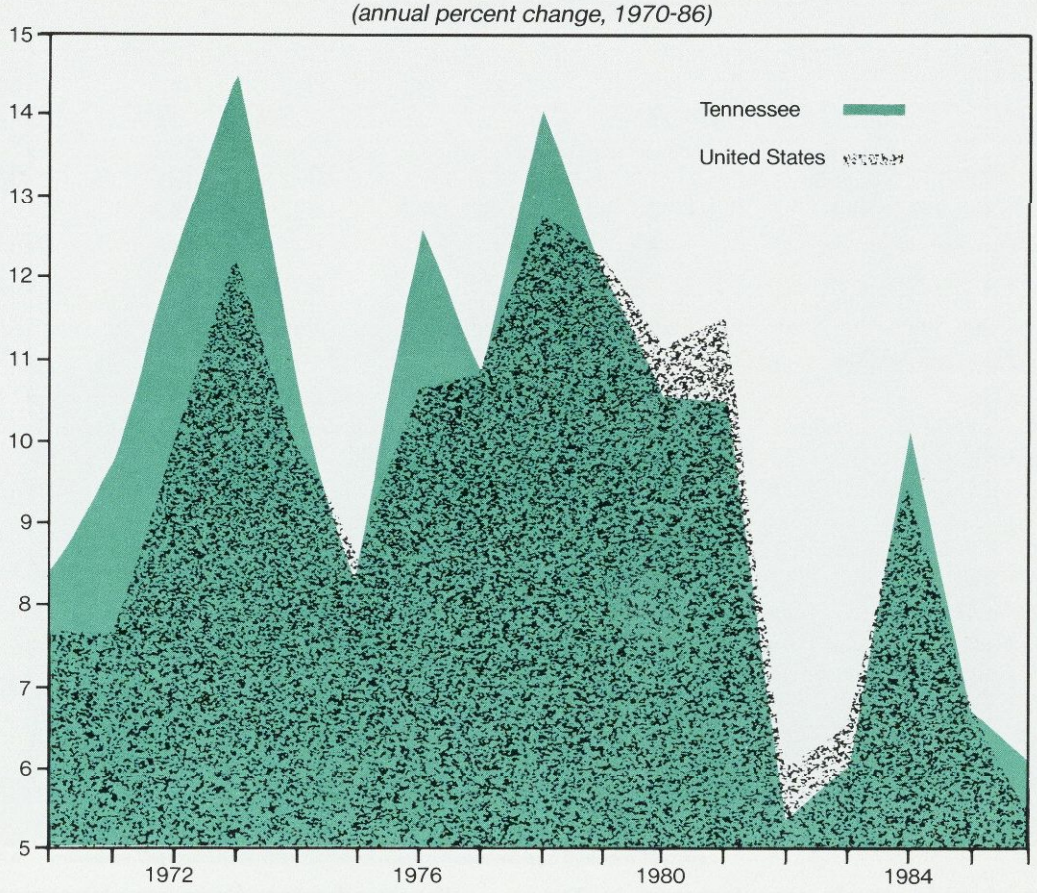
see's manufacturing sector have risen 17 percent since 1970; over the same period, services earnings on a per worker basis have improved by 12 percent and overall earnings by 9 percent. The decided upward trend in earnings per manufacturing employee has resulted partly from technological improvements, increased capital intensity, and the closure of marginally productive plants. This steady strengthening indicates that manufacturing will remain an important source of income in Tennessee.

While manufacturing has bolstered Tennessee's employment and income on average, it has also rendered the state more sensitive to the business cycle. Employment and output in manufacturing tend to be more volatile across the business cycle than they are in other sectors such as services. Thus, Tennessee's large manufacturing sector has in the past magnified changes in employment and income in comparison with national fluctuations. The state's higher volatility may diminish as services, trade, and transportation grow in importance relative to manufacturing (see Charts 1a and 1b). This shift exemplifies Tennessee's historical proclivity to rebound from economic setbacks and to take advantage of new developments in the nation. Although it has typically suffered more than the nation during recessions, in recent years Tennessee's economy has achieved balanced growth by mirroring the changes wrought in the structure of the U.S. economy.

Manufacturing's Signal Role

Aside from providing historically large shares of employment and income, manufacturing is essential to the health of Tennessee's economy

Chart 1b.
Personal Income in Tennessee and the United States
(annual percent change, 1970-86)



Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

for additional reasons. First, the broad spectrum of manufacturing industries, which are evenly divided between durable and nondurable goods, contributes diversity to the state's economy (see Table 2). Few of Tennessee's factories produce the basic commodities like steel, whose decline is so evident in the Northeast and Midwest. Aluminum production, the salient primary industry in Tennessee, accounts for a small share of the labor force. Moreover, the decline in output and employment occasioned by the shift of basic aluminum production overseas, where raw materials, electrical power, and labor often are cheaper, has been offset by a shift toward fabricating aluminum products such as window blinds and other consumer products.

Tennessee's manufacturing sector undergirds the state's economy not only because it encompasses a wide variety of industries but also because it virtually excludes primary commodity production. Furthermore, only a small fraction of the state's labor force is devoted to natural resource extraction. Heavy industries such as steel making and mining typically have been prone to sharp swings in output and employment over the course of the business cycle.

Rather than concentrating in heavy industry, Tennessee produces transportation equipment, electrical machinery, and consumer appliances and electronics. The fact that these products are particularly sensitive to foreign competition has in the past aggravated Tennessee's already above-average volatility in overall employment associated with the greater cyclicality of manufacturing (see Chart 2). How-

Table 2.
Employment in Tennessee's Durable and Nondurable Manufacturing
(percent share)

	1970	1975	1980	1985	1987*
Durables					
Machinery	11.5	12.9	15.0	15.3	14.5
Trans. Equipment	3.7	3.8	4.6	6.4	6.7
Lumber and Wood	8.6	8.4	8.0	8.8	9.5
Primary Metals	4.1	3.8	3.8	3.5	3.3
Stone, Clay, and Glass	3.0	3.4	2.9	2.9	2.9
Fabricated Metals	6.1	6.8	6.7	7.9	7.9
Other	12.5	12.0	12.0	11.7	11.6
Nondurables					
Apparel	14.3	14.4	13.8	13.1	13.1
Food Processing	7.8	3.4	7.8	7.8	8.0
Chemicals	13.1	12.0	11.3	8.2	7.8
Textiles	7.8	5.9	5.2	4.6	6.4
Printing and Publishing	4.5	4.9	5.4	6.3	6.4
Paper	3.1	3.3	3.5	3.7	3.7

**January through October only.*

Source: Computed by the Federal Reserve Bank of Atlanta from statistics provided by the U.S. Department of Labor, Bureau of Labor Statistics.

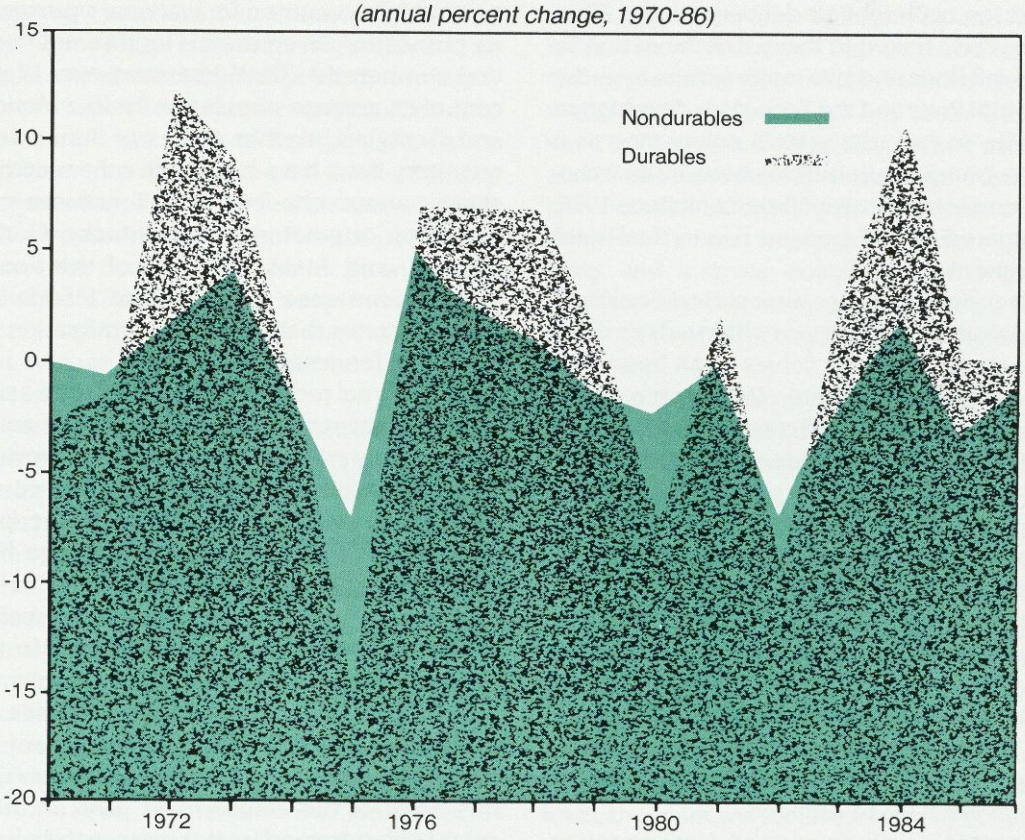
ever, durable goods manufacturers in Tennessee have been implementing more efficient, technologically advanced production technologies, which render them more competitive with foreign producers. Foreign direct investment in automobile and electronics plants in the state should also diminish unemployment and output variations engendered by competition from overseas producers.

Nondurable manufacturing in Tennessee comprises textiles and apparel, chemicals, paper, printing and publishing, leather goods, and rubber and plastics. While a few nondurable industries, like printing and publishing, have actually gained workers, employment in most others has fallen relative to durables. Even so, nondurable output has not waned proportionately. Over the past few years, textile and chemical producers, for instance, have been particularly successful at enhancing productivity by adopting new technology to replace less skilled labor.

The introduction of innovative labor organization and management techniques into some of Tennessee's traditional industries may foreshadow the more widespread adoption of such methods. For example, the Nissan auto plant, near Nashville, gives workers partial control in operating decisions, as will General Motors' Saturn plant when it comes on line in 1990. Production is organized more around teams of workers instead of the usual assembly line. Both holding costs and forgone interest have been minimized by keeping low inventories of components and parts. A few suppliers and components producers have opened facilities near Nissan to meet the needs of just-in-time assembly, and a similar supply hub could develop near the Saturn plant. The state's good transportation and communications network helps prevent production delays and bottlenecks.

Much of Tennessee's industrial plant is new and technologically advanced or recently up-

Chart 2.
Tennessee Manufacturing Employment: Durables and Nondurables
(annual percent change, 1970-86)



Source: Tennessee Department of Employment Security, Research and Statistics Division.

graded. This is especially true in the textile industry, whose modernized plants now require fewer unskilled workers than formerly, and in electronics and transportation equipment manufacturing, where direct foreign investment has ushered in new technology and organizational methods.

In effect, Tennessee has bypassed the large-scale industrial decline that has caused unemployment and massive out-migration in many northern states. By relying on communication and trade, both throughout the nation and with overseas markets, the state has entered into the next stage of industrial development founded on diversified manufacturing. This base will continue to be supported by an expanding service and distribution sector, which should also add stability to employment and income. If domestic goods can be substituted for foreign goods, Tennessee's position as a distribution center will help to insulate its economy from shifts in overseas trade.

Distribution and Services

While manufacturing stands as the state's most important sector, its conjunction with a well-developed and centrally located transportation network has made Tennessee attractive to foreign as well as domestic investment. This combination of production and distribution should continue to bolster the state's economy in the future. Every significant type of transportation is available in Tennessee. Nashville, one of four U.S. cities where three major interstate highways intersect, is a hub for American Airlines, which has in the past few years almost

doubled overall capacity there. Northwest Airlines recently has stepped up its operations in Memphis, the headquarters city for Federal Express, an overnight air delivery service. Tennessee is also linked to the rest of the nation by several rail lines and two major waterways—the Mississippi River and the Tennessee-Tombigbee Waterway. In fact, the state's emergence as a hub has pumped up employment in its transportation sector by over 50 percent since 1970, as compared to a 37 percent rise in total state employment.

Furthermore, because almost three-quarters of the nation's population is within a day's drive of Tennessee, the state serves as an important regional distribution center. Despite the recent decline in residential and commercial construction, Nashville area builders have been sustained by strong demand for warehouses. Another indicator of Tennessee's central distribution position has been the rising importance of wholesale and retail trade. The state's retail trade employment rose 69 percent between 1970 and 1987, while employment in wholesale trade grew at the state average. Although retail capacity in the Nashville area has advanced substantially, some observers believe that the city has been lacking in retail space and has only recently begun to catch up to demand.

Tennessee's well-developed transportation system also feeds its strong travel and tourism industry. Tourist attractions in the state benefit directly from the state's travel network and channel tourists' dollars to hotels, restaurants, and other retail and service establishments. The state government has been active in promoting tourism in the past few years and has made a commitment to maintain and improve the state's highway system. Such measures should keep Tennessee in the running with other states in attracting new business to the region.

Population and Migration

Moderate population gains and in-migration have spared Tennessee many problems that occur in rapid-growth areas. The state's population has risen 23 percent since 1970, compared with the nation's 19 percent and Florida's 73 percent increase. Migration to Tennessee from other states has been relatively light in comparison with other southeastern states like Georgia and Florida. Between 1980 and 1986 Tennessee had a net migration of 56,000 persons, which accounted for just over 1 percent of its population. In contrast, Florida's net migration numbered 1,709,000 persons, over 17 percent of its average population. Unlike Florida's and Georgia's, sizable shares of Tennessee's migratory flows have been with other southern states; about one-fourth of Tennessee's in-migration originates from Kentucky, Florida, Georgia, and Texas. One-fifth of the people leaving Tennessee have gone to Florida and Georgia, states that are running a migration surplus with Tennessee.

The internal redistribution of the state's population from rural, central Tennessee to the more rapidly growing urban areas has provided workers for the state's expanding service and transportation industries. Although the populations of Memphis and Chattanooga have grown rather slowly, Nashville and Knoxville have expanded more quickly than the rest of the state. Not surprisingly, the greatest gains in nonagricultural jobs have occurred in the counties surrounding the latter two cities. Nashville has seen a surge in manufacturing employment, but it has shared this growth with several rural counties. Most of the employment gains in urban areas have stemmed from the rise in the service sector, whose businesses typically require the fairly dense population and concentration of customers found in cities.

Although rapid population growth has been a boon to the economies of Georgia and Florida, Tennessee's slower population gains have not been a disadvantage because of the geographic mobility of its labor force. Workers have been willing to move from declining to expanding sectors even though for many this change has entailed relocation within the state. In some respects more moderate population growth has actually been an advantage in that the state and local governments have faced fewer pressures to expand public services like roads, schools, and utilities.

Policy Issues

Despite its good record to date, faced with waning industrial employment and growth in

service jobs, the labor force will continue to present Tennessee with fresh challenges. Fortunately, these challenges should not require massive new programs, notwithstanding the large size of Tennessee's manufacturing sector and its sluggish expansion in recent years. One mitigating factor is that Tennessee's nonmanufacturing employment, as defined by the U.S. Labor Department's payroll series, has been climbing apace over the past year. Indeed, in many months it has surpassed the rate in Florida, often considered the Southeast's premier growth state. Furthermore, industries such as textiles, which are expanding output while cutting employment, release workers who may be demanded by newer, growing industries.

A key issue facing Tennessee's state and local governments will be how to train people just entering the labor force and retrain displaced workers who are unable to find employment similar to their previous job or at comparable levels of pay. As Tennessee's economy becomes increasingly service-based and less dependent on unskilled labor, an emphasis on general education at the primary and secondary levels, rather than vocational training, will be critical in developing the state's labor force. Both manufacturing and services will rely more and more on information and communication and will therefore require well-educated, adaptable workers.

In the past Tennessee has ranked low in expenditure per elementary and secondary pupil and in average years of schooling completed. However, the state's Better Schools Program, launched in 1984 and focused on basic education and faculty improvement, should serve to upgrade Tennessee's schools. In fact, the high quality of the state's educational system has been cited as one reason General Motors made the decision to locate Saturn in Tennessee.[1] If Tennessee continues to leave job training mostly to the private sector, it will free more of its limited resources for providing adequate general education. Another contribution the state could make toward reducing frictions in the movement between occupations during periods of economic change would be to collect and distribute information on a broad scale about jobs that are in demand.

Competition among states for new industries raises the issue of what role state governments should play in recruiting firms to relocate or establish new plants. Tennessee's premier case study is the General Motors Saturn plant, located near Nashville. William Fox and Warren Neel at the University of Tennessee believe that tax incentives and publicly financed developments were probably not key factors in GM's choice. They cite, instead, Tennessee's location and climate and its well-developed transportation network as primary determinants of GM's decision.[2] Lower wages, high worker productivity, and a strong economy were secondary reasons. In short, many of the deciding factors were ones over which a state government has little control.

Fox and Neel warn that, in the contest to attract major industrial investments, states may give away too much. They do not deny that some state investment in roads and other public infrastructure is economically justifiable in cases where several firms will use such facilities that one firm could not afford to construct on its own. In the case of the Saturn plant, though, the $30 million Tennessee will pay to train new employees, along with another $30 million earmarked for the Saturn Parkway to connect the plant with the interstate highway system, represent benefits specific to Saturn. At the county level, the plant will receive a subsidy in the form of a property tax break. Given the size of the Saturn investment, some sort of tax reduction may be appropriate.

As an alternative to chasing individual projects with tax and other financial incentives, Fox and Neel suggest a state policy of maintaining and distributing a list of possible development sites and their characteristics. Such a list would facilitate potential investors' decision-making. Given Tennessee's favorable business environment, this kind of advertising should continue to attract new firms to the state.

1988 and Beyond

The Southeast has enjoyed rapid economic growth for most of this decade. While Tennessee has participated in the expansion, the state's modest population gains have fended off the infrastructure assaults experienced by a number of its neighbors.

The mix of industry in Tennessee has energized the state's economic resurgence. Though manufacturing has always been vital to Tennessee, during this decade the state has experienced a shift away from extractive industries and primary commodities toward manufacturing that draws on more skilled labor and advanced technology. This movement should result in a population and labor force with higher levels of income and education. Service industries, which are becoming more prominent, will help to check swings in employment and output in Tennessee's economy. The vigor in both manufacturing and service industries has been nurtured by the state's well-developed transportation industry.

Tennessee's moderate birth and in-migration rates have smoothed the transition of its labor force from rural to urban areas. Because the state has not had to absorb a large influx of job seekers, its own new or displaced workers have faced less competition for available jobs. Equally important, state and local governments have been spared the burden of having to expand services inordinately.

The education of a highly adaptable, well-informed labor force will be vital to Tennessee's continued economic well-being. As more and more jobs—even those that have traditionally used unskilled labor—become technologically advanced or oriented toward services, employers will be looking for workers who learn quickly and communicate well. If Tennessee encourages its industries to provide their own technical or job-specific training to new workers or those making the transition from unskilled to skilled labor, the state will be able to concentrate resources on more general education, which gives its people a strong foundation on which to build specific job skills.

Notes

[1]William Fox and Warren Neel, "Saturn: The Tennessee Lessons," *Forum*, no. 1 (Spring 1987): 12.
[2]Ibid.: 7-16.

Federal Reserve Bank of Atlanta 1987 Annual Report

The Atlanta Fed's 1987 Annual Report is now available. It features President Robert P. Forrestal's 1988 economic outlook for the United States and the Southeast, along with his discussion of the nation's current challenge to become more competitive in world markets. The report also includes highlights of the Bank's 1987 activities as well as consolidated financial statements and a summary of operations for the head office and its branches.

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To users of savings and loan and credit union data

With this issue we will cease publishing data on deposit growth at savings and loan associations and credit unions. Several trends have combined during the past few years to reduce the confidence we have in the accuracy of these data. Since no end to these trends is in sight, we feel that continuing to publish the data would be a disservice to *Economic Review readers.*

Deposit data used in the financial table are reported by depository financial institutions above a specified size level on a weekly average basis. Institutions report from their headquarters even if they have branches in several states. Thus a savings and loan association or savings bank with headquarters in California reports all deposits from its home office even if it has branches in several southeastern states. This, in fact, happens in our savings and loan sample. Further complicating the estimation of accurate thrift institution deposits and deposit growth is the fact that branches are occasionally sold from a thrift with a home office in one state to a thrift headquartered in another. Such a sale can move reported deposits from state to state and at times significantly misstate actual changes in state deposits.

Expansion and mergers of institutions make reporting growth accurately even more difficult. Only financial institutions with at least $28.6 million in deposits and over $2.9 million in required reserves report the deposit data we have used for this table. Mergers of small, non-reporting institutions into larger reporters raise stated deposits by the total of deposits in the smaller institutions. Such mergers, which have occurred frequently in the thrift industry over recent years, have resulted in reports of high deposit growth that reflects mergers rather than actual deposit gains. Internal growth and mergers among credit unions have also substantially raised the small sample size of reporting credit unions.

Commercial banks per se operate only in one state and have undergone relatively few of the types of mergers that would affect deposit estimates. Interstate bank holding company subsidiaries remain separate reporting entities. Hence our deposit estimates for commerical banks are not subject to the significant questions that undercut reports of savings and loan and credit union deposits. We will therefore continue to report commercial bank deposit and deposit growth estimates.

We apologize for any inconvenience that the elimination of reports on thrift institutions and credit unions may cause, but we believe there is a high probability that such data would be misleading. Should the problems that have affected the data subside, we will resume our reporting.

B. Frank King
Vice President and
Associate Director of Research

FINANCE

$ millions	JAN.(p) 1988	DEC. 1987	NOV. 1987	JAN. 1987	DEC. 1986	NOV. 1986	ANN. % CHG.(*)
UNITED STATES							
Commercial Bank Deposits	1,785,510	1,755,943	1,740,805	1,715,740	1,647,747	1,634,272	+ 4
Demand	390,967	363,188	368,595	429,594	367,426	356,233	- 9
NOW	166,457	163,815	158,577	153,580	142,938	138,656	+ 8
Savings	508,682	510,431	509,086	509,211	499,073	497,335	- 0
Time	761,110	754,160	746,410	678,121	674,036	679,837	+12
SOUTHEAST							
Commercial Bank Deposits	213,767	211,681	208,413	199,885	193,621	191,985	+ 7
Demand	43,396	41,927	40,117	45,676	41,283	39,779	- 5
NOW	23,328	22,887	22,075	21,395	19,651	18,963	+ 9
Savings	57,229	57,353	57,167	56,861	55,747	54,968	+ 1
Time	94,689	94,009	93,153	82,140	81,329	82,189	+15
ALABAMA							
Commercial Bank Deposits	21,471	21,332	21,277	20,062	19,402	19,340	+ 7
Demand	4,268	4,145	4,096	4,559	4,217	4,174	- 6
NOW	2,380	2,333	2,289	2,106	1,935	1,856	+13
Savings	4,701	4,725	4,681	4,275	4,231	4,199	+10
Time	10,619	10,579	10,657	9,720	9,450	9,541	+ 9
FLORIDA							
Commercial Bank Deposits	84,431	83,761	81,689	77,868	74,539	73,376	+ 8
Demand	16,727	16,378	15,189	17,727	16,079	15,179	- 6
NOW	10,507	10,406	9,928	9,562	8,744	8,383	+10
Savings	27,014	27,116	27,067	26,622	25,853	25,377	+ 1
Time	32,125	31,695	31,081	26,721	25,800	26,092	+20
GEORGIA							
Commercial Bank Deposits	34,760	34,262	33,874	32,086	30,799	30,602	+ 8
Demand	9,235	8,757	8,597	9,536	8,477	8,246	- 3
NOW	3,315	3,257	3,167	3,085	2,787	2,705	+ 7
Savings	8,939	8,922	8,839	9,134	8,894	8,875	- 2
Time	14,916	14,881	14,777	12,058	12,023	12,143	+24
LOUISIANA							
Commercial Bank Deposits	28,247	27,895	27,631	27,841	27,872	27,732	+ 1
Demand	5,272	5,079	4,902	5,582	5,129	4,981	- 6
NOW	2,502	2,309	2,220	2,243	2,047	1,989	+12
Savings	7,949	7,929	7,916	7,771	7,866	7,719	+ 2
Time	13,047	13,006	12,980	12,854	13,237	13,404	+ 2
MISSISSIPPI							
Commercial Bank Deposits	14,560	14,465	14,321	13,703	13,509	13,551	+ 6
Demand	2,454	2,377	2,299	2,620	2,368	2,373	- 6
NOW	1,434	1,421	1,415	1,342	1,226	1,209	+ 7
Savings	2,867	2,872	2,869	3,025	3,017	2,991	- 5
Time	8,082	8,034	7,969	7,082	7,158	7,206	+14
TENNESSEE							
Commercial Bank Deposits	30,298	29,966	29,621	28,325	27,520	27,384	+ 7
Demand	5,440	5,191	5,034	5,652	5,013	4,826	- 4
NOW	3,190	3,161	3,056	3,057	2,882	2,821	+ 4
Savings	5,759	5,789	5,795	6,014	5,886	5,807	- 4
Time	15,900	15,814	15,689	13,705	13,661	13,803	+16

Notes:

All deposit data are extracted from the Federal Reserve Report of Transaction Accounts, other Deposits and Vault Cash (FR2900), and are reported for the average of the week ending the 1st Monday of the month. Most recent data, reported by institutions with over $28.6 million in deposits and $2.9 million of reserve requirements as of June 1987, represents 95% of deposits in the six state area. The major differences between this report and the "call report" are size, the treatment of interbank deposits, and the treatment of float. The total deposit data generated from the Report of Transaction Accounts eliminates interbank deposits by reporting the net of deposits "due to" and "due from" other depository institutions. The Report of Transaction Accounts subtracts cash in process of collection from demand deposits, while the call report does not. The Southeast data represent the total of the six states. Subcategories were chosen on a selective basis and do not add to total.

p - preliminary

* - Most recent month vs. year-ago month.

EMPLOYMENT

	DEC 1987	NOV 1987	DEC 1986	ANN. % CHG		DEC 1987	NOV 1987	DEC 1986	ANN. % CHG
UNITED STATES									
Civilian Labor Force - thous.	120,206	120,611	118,049	+ 2	Nonfarm Employment - thous.	104,333	104,093	101,289	+ 3
Total Employed - thous.	113,679	113,809	110,58	+ 3	Manufacturing	19,384	19,402	18,974	+ 2
Total Unemployed - thous.	6,526	6,802	7,461	-13	Construction	5,055	5,209	4,861	+ 4
Unemployment Rate - % SA	5.8	5.9	6.7		Trade	24,924	24,568	24,345	+ 2
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	17,545	17,552	17,186	+ 2
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	24,517	24,472	23,438	+ 5
Mfg. Avg. Wkly. Hours	41.9	41.4	41.5	+ 1	Fin., Ins. & Real Est.	6,646	6,634	6,437	+ 3
Mfg. Avg. Wkly. Earn. - $	422	414	409	+ 3	Trans., Com. & Pub. Util.	5,495	5,490	5,320	+ 3
SOUTHEAST									
Civilian Labor Force - thous.	16,465	16,434	16,128	+ 2	Nonfarm Employment - thous.	13,685	13,625	13,299	+ 3
Total Employed - thous.	15,399	15,370	14,915	+ 8	Manufacturing	2,377	2,375	2,322	+ 2
Total Unemployed - thous.	1,067	1,065	1,192	+10	Construction	796	806	788	+ 1
Unemployment Rate - % SA	6.6	6.8	7.6		Trade	3,476	3,425	3,381	+ 3
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	2,390	2,386	2,327	+ 3
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	2,987	2,985	2,871	+ 4
Mfg. Avg. Wkly. Hours	42.1	41.6	41.9	+ 0	Fin., Ins. & Real Est.	798	797	782	+ 2
Mfg. Avg. Wkly. Earn. - $	371	365	365	+ 2	Trans., Com. & Pub. Util.	744	744	732	+ 2
ALABAMA									
Civilian Labor Force - thous.	1,905	1,915	1,876	+ 2	Nonfarm Employment - thous.	1,507	1,503	1,454	+ 4
Total Employed - thous.	1,770	1,782	1,696	+ 4	Manufacturing	364	364	352	+ 3
Total Unemployed - thous.	134	180	180	-26	Construction	76	76	73	+ 4
Unemployment Rate - % SA	6.7	7.2	9.3		Trade	341	336	325	+ 5
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	302	303	302	0
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	271	271	249	+ 9
Mfg. Avg. Wkly. Hours	41.7	41.6	41.9	- 0	Fin., Ins. & Real Est.	70	70	70	0
Mfg. Avg. Wkly. Earn. - $	371	369	364	+ 2	Trans., Com. & Pub. Util.	71	71	71	0
FLORIDA									
Civilian Labor Force - thous.	5,998	5,929	5,722	+ 5	Nonfarm Employment - thous.	4,953	4,903	4,739	+ 4
Total Employed - thous.	5,701	5,626	5,458	+ 4	Manufacturing	535	532	523	+ 2
Total Unemployed - thous.	297	303	264	+15	Construction	347	347	342	+ 1
Unemployment Rate - % SA	5.2	5.2	4.8		Trade	1,379	1,348	1,303	+ 6
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	762	758	721	+ 6
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	1,305	1,294	1,241	+ 5
Mfg. Avg. Wkly. Hours	41.4	41.0	42.1	- 2	Fin., Ins. & Real Est.	360	359	349	+ 4
Mfg. Avg. Wkly. Earn. - $	341	339	342	- 0	Trans., Com. & Pub. Util.	255	254	250	+ 2
GEORGIA									
Civilian Labor Force - thous.	3,070	3,069	3,051	+ 1	Nonfarm Employment - thous.	2,784	2,779	2,746	+ 1
Total Employed - thous.	2,905	2,902	2,878	+ 1	Manufacturing	577	575	568	+ 2
Total Unemployed - thous.	165	167	173	- 5	Construction	151	160	162	- 7
Unemployment Rate - % SA	5.5	5.7	5.7		Trade	707	701	707	0
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	472	472	461	+ 2
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	538	540	522	+ 3
Mfg. Avg. Wkly. Hours	42.8	42.0	41.6	+ 3	Fin., Ins. & Real Est.	150	150	149	+ 1
Mfg. Avg. Wkly. Earn. - $	363	355	350	+ 4	Trans., Com. & Pub. Util.	172	172	172	0
LOUISIANA									
Civilian Labor Force - thous.	1,952	1,976	1,981	- 1	Nonfarm Employment - thous.	1,512	1,511	1,509	+ 0
Total Employed - thous.	1,740	1,766	1,698	+ 2	Manufacturing	171	172	166	+ 3
Total Unemployed - thous.	213	210	262	-19	Construction	85	85	86	- 1
Unemployment Rate - % SA	11.2	11.5	14.0		Trade	365	362	370	- 1
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	319	319	323	- 1
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	320	323	316	+ 1
Mfg. Avg. Wkly. Hours	42.6	42.3	42.9	- 1	Fin., Ins. & Real Est.	83	83	85	- 2
Mfg. Avg. Wkly. Earn. - $	457	448	457	0	Trans., Com. & Pub. Util.	106	107	106	0
MISSISSIPPI									
Civilian Labor Force - thous.	1,162	1,169	1,155	+ 1	Nonfarm Employment - thous.	880	879	860	+ 2
Total Employed - thous.	1,049	1,158	1,020	+ 3	Manufacturing	227	228	222	+ 2
Total Unemployed - thous.	113	111	135	-17	Construction	35	36	35	0
Unemployment Rate - % SA	10.2	10.2	12.3		Trade	193	191	189	+ 2
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	199	199	194	+ 3
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	140	140	136	+ 3
Mfg. Avg. Wkly. Hours	41.3	40.8	40.8	+ 1	Fin., Ins. & Real Est.	39	39	38	+ 3
Mfg. Avg. Wkly. Earn. - $	318	312	309	+ 3	Trans., Com. & Pub. Util.	40	40	40	0
TENNESSEE									
Civilian Labor Force - thous.	2,378	2,377	2,343	+ 1	Nonfarm Employment - thous.	2,049	2,050	1,991	+ 3
Total Employed - thous.	2,234	2,235	2,165	+ 3	Manufacturing	503	504	491	+ 2
Total Unemployed - thous.	144	142	178	-20	Construction	102	102	90	+13
Unemployment Rate - % SA	6.0	6.4	7.5		Trade	491	487	487	+ 1
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	336	335	326	+ 3
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	413	417	407	+ 1
Mfg. Avg. Wkly. Hours	43.1	42.2	42.1	+ 2	Fin., Ins. & Real Est.	96	96	91	+ 5
Mfg. Avg. Wkly. Earn. - $	378	370	370	+ 2	Trans., Com. & Pub. Util.	100	100	93	+ 8

NOTES: All labor force data are from Bureau of Labor Statistics reports supplied by state agencies.
Only the unemployment rate data are seasonally adjusted.
The Southeast data represent the total of the six states.
N.A. = Not Available.

GENERAL

	LATEST DATA	CURR. PERIOD	PREV. PERIOD	YEAR AGO	ANN. % CHG.		JAN 1988	DEC(R) 1987	JAN 1987	ANN. % CHG.
UNITED STATES										
Personal Income						Agriculture				
($ bil. - SAAR)	Q3	3,757.7	3,705.2	3,548.3	+ 6	Prices Rec'd by Farmers				
Taxable Sales - $ bil.		N.A.	N.A.	N.A.		Index (1977=100)	130	127	121	+ 7
Plane Pass. Arr. (thous.)		N.A.	N.A.	N.A.		Broiler Placements (thous.)	91,520	91,460	86,556	+ 6
Petroleum Prod. (thous.)	DEC	8,236.0	8,296.0	8,334.9	- 1	Calf Prices ($ per cwt.)	86.20	83.00	65.10	+32
Consumer Price Index						Broiler Prices (¢ per lb.)	27.10	24.60	31.10	-13
1967=100	DEC	345.7	345.8	331.1	+ 4	Soybean Prices ($ per bu.)	5.90	5.57	4.69	+26
Kilowatt Hours - mils.	OCT	196.6	216.4	192.6	+ 2	Broiler Feed Cost ($ per ton)	(Q1)195	(Q4)193	(Q1)174	+12
SOUTHEAST										
Personal Income						Agriculture				
($ bil. - SAAR)	Q3	461.8	455.2	435.6	+ 6	Prices Rec'd by Farmers				
Taxable Sales - $ bil.		N.A.	N.A.	N.A.		Index (1977=100)	120	121	111	+ 8
Plane Pass. Arr. (thous.)	DEC	N.A.	5,479.1	5,621.1	N.A.	Broiler Placements (thous.)	38,852	38,697	35,797	+ 9
Petroleum Prod. (thous.)	DEC	1,352.0	1,360.7	1,438.0	- 6	Calf Prices ($ per cwt.)	84.67	79.02	61.43	+38
Consumer Price Index						Broiler Prices (¢ per lb.)	24.86	22.68	30.09	-17
1967=100		N.A.	N.A.	N.A.		Soybean Prices ($ per bu.)	6.08	5.72	4.80	+27
Kilowatt Hours - mils.	OCT	32.6	39.0	34.2	- 5	Broiler Feed Cost ($ per ton)	(Q1)190	(Q4)187	(Q1)168	+13
ALABAMA										
Personal Income						Agriculture				
($ bil. - SAAR)	Q3	48.8	48.0	46.3	+ 5	Farm Cash Receipts - $ mil.				
Taxable Sales - $ bil.		N.A.	N.A.	N.A.		Dates: SEPT., SEPT.	1,309		1,345	- 3
Plane Pass. Arr. (thous.)	DEC	158.0	161.8	137.6	+15	Broiler Placements (thous.)	13,933	13,867	12,648	-10
Petroleum Prod. (thous.)	DEC	55.0	58.0	54.0	+ 2	Calf Prices ($ per cwt.)	82.10	76.30	61.60	+33
Consumer Price Index						Broiler Prices (¢ per lb.)	24.00	21.90	29.00	-17
1967=100		N.A.	N.A.	N.A.		Soybean Prices ($ per bu.)	6.04	5.64	4.69	+29
Kilowatt Hours - mils.	OCT	4.3	5.0	4.6	- 7	Broiler Feed Cost ($ per ton)	194	189	175	-11
FLORIDA										
Personal Income						Agriculture				
($ bil. - SAAR)	Q3	185.6	182.7	172.6	+ 8	Farm Cash Receipts - $ mil.				
Taxable Sales - $ bil.						Dates: SEPT., SEPT	4,085		3,727	+10
Plane Pass. Arr. (thous.)	DEC	N.A.	2,644.0	2,907.1	N.A.	Broiler Placements (thous.)	2,539	2,540	2,289	+11
Petroleum Prod. (thous.)	DEC	22.0	21.0	25.0	-12	Calf Prices ($ per cwt.)	91.70	86.50	63.00	+46
Consumer Price Index		**NOV**	**SEPT**	**NOV**		Broiler Prices (¢ per lb.)	25.10	23.00	30.33	-17
1977=100 MIAMI		183.4	181.3	175.8	+ 4	Soybean Prices ($ per bu.)	6.04	5.64	4.69	+29
Kilowatt Hours - mils.	OCT	10.5	12.7	10.8	- 3	Broiler Feed Cost ($ per ton)	194	189	175	+11
GEORGIA										
Personal Income						Agriculture				
($ bil. - SAAR)	Q3	87.8	86.8	82.7	+ 6	Farm Cash Receipts - $ mil.				
Taxable Sales - $ bil.		N.A.	N.A.	N.A.		Dates: SEPT., SEPT.	1,795		2,174	-17
Plane Pass. Arr. (thous.)	DEC	1,933.8	1,970.8	1,931.5	+ 0	Broiler Placements (thous.)	15,162	15,209	14,143	+ 7
Petroleum Prod. (thous.)		N.A.	N.A.	N.A.		Calf Prices ($ per cwt.)	81.60	74.60	59.10	+38
Consumer Price Index						Broiler Prices (¢ per lb.)	24.50	22.00	29.50	-17
1967=100		N.A.	N.A.	N.A.		Soybean Prices ($ per bu.)	5.92	5.69	4.82	+23
Kilowatt Hours - mils.	OCT	5.2	6.1	5.5	- 5	Broiler Feed Cost ($ per ton)	194	189	175	+11
LOUISIANA										
Personal Income						Agriculture				
($ bil. - SAAR)	Q3	51.1	50.2	50.2	+ 2	Farm Cash Receipts - $ mil.				
Taxable Sales - $ bil.		N.A.	N.A.	N.A.		Dates: SEPT., SEPT.	670		698	- 4
Plane Pass. Arr. (thous.)	DEC	273.9	334.1	306.2	-11	Broiler Placements (thous.)	N.A.	N.A.	N.A.	
Petroleum Prod. (thous.)	DEC	1,200.0	1,206.7	1,280.0	- 6	Calf Prices ($ per cwt.)	87.00	78.00	60.00	+45
Consumer Price Index						Broiler Prices (¢ per lb.)	25.10	23.00	30.33	-17
1967=100		N.A.	N.A.	N.A.		Soybean Prices ($ per bu.)	6.06	5.71	4.62	+31
Kilowatt Hours - mils.	OCT	4.9	5.9	5.4	- 9	Broiler Feed Cost ($ per ton)	175	178	147	+19
MISSISSIPPI										
Personal Income						Agriculture				
($ bil. - SAAR)	Q3	26.6	26.4	25.6	+ 4	Farm Cash Receipts - $ mil.				
Taxable Sales - $ bil.		N.A.	N.A.	N.A.		Dates: SEPT., SEPT.	896		966	- 7
Plane Pass. Arr. (thous.)	DEC	38.7	39.2	40.5	- 4	Broiler Placements (thous.)	7,217	7,082	6,717	+ 7
Petroleum Prod. (thous.)	DEC	75.0	75.0	79.0	- 5	Calf Prices ($ per cwt.)	85.50	80.70	61.20	+40
Consumer Price Index						Broiler Prices (¢ per lb.)	26.80	25.00	32.50	-18
1967=100		N.A.	N.A.	N.A.		Soybean Prices ($ per bu.)	6.12	5.73	4.81	+27
Kilowatt Hours - mils.	OCT	2.3	2.8	2.4	- 4	Broiler Feed Cost ($ per ton)	175	178	147	+19
TENNESSEE										
Personal Income						Agriculture				
($ bil. - SAAR)	Q3	61.9	61.1	58.2	+ 6	Farm Cash Receipts - $ mil.				
Taxable Sales - $ bil.		N.A.	N.A.	N.A.		Dates: SEPT., SEPT.	1,197		1,128	+ 6
Plane Pass. Arr. (thous.)	DEC	304.8	329.2	298.2	+ 2	Broiler Placements (thous.)	N.A.	N.A.	N.A.	
Petroleum Prod. (thous.)		N.A.	N.A.	N.A.		Calf Prices ($ per cwt.)	80.20	76.50	59.80	+34
Consumer Price Index						Broiler Prices (¢ per lb.)	25.10	23.00	30.33	-17
1967=100		N.A.	N.A.	N.A.		Soybean Prices ($ per bu.)	6.18	5.80	4.84	+28
Kilowatt Hours - mils.	OCT	5.4	6.5	5.5	- 2	Broiler Feed Cost ($ per ton)	224	202	187	+20

NOTES: Personal Income data supplied by U. S. Department of Commerce. Taxable Sales are reported as a 12-month cumulative total. Plane Passenger Arrivals are collected from 26 airports. Petroleum Production data supplied by U. S. Bureau of Mines. Consumer Price Index data supplied by Bureau of Labor Statistics. Agriculture data supplied by U. S. Department of Agriculture. Farm Cash Receipts data are reported as cumulative for the calendar year through the month shown. Broiler placements are an average weekly rate. The Southeast data represent the total of the six states. N. A. = not available. The annual percent change calculation is based on most recent data over prior year. R = revised.

Federal Reserve Bank of Atlanta
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