

the Southwest ECONOMY

THE FEDERAL RESERVE BANK OF DALLAS

NOVEMBER 1988

The Future of the Southwest Economy

Strong economic growth. Some areas of the Southwest have it. Other areas once had it, and now want it back. Arizona and northern New Mexico have seen continued economic expansion while Louisiana, Oklahoma, Texas, and southern New Mexico are struggling to put declines in energy prices and construction behind.

Over the next decade, the economic growth in all five states will depend on the composition of industry in the states and the attractiveness of the states to business and labor. The presence of industries that are expanding rapidly contributes to strong economic growth in a state. The presence of industries that are growing slowly or contracting weakens a state's economic performance relative to the nation's.

Over the long run, however, industries need not remain in the same state. Capital and labor can move between states, taking industry and economic growth with them. For this reason, a state's attractiveness to these mobile resources also influences its economic performance.

This suggests three questions that must be answered to assess the future of the Southwest economy. What are the high-growth industries? What makes a

state attractive to capital and labor? And, how do each of the five states that make up the Southwest compare with the nation?¹

What are high-growth industries?

The U.S. industries most likely to show high growth over the next decade are those that intensively utilize the resources in which the United States is well endowed. Economists describe these industries as those in which the United States has a comparative advantage.

Changing trade patterns reveal that the United States is well endowed with a highly educated labor force — one that is able to conceive, develop and produce products on the cutting edge of technology. Industries that employ the most highly educated personnel are providing a growing part of U.S. exports. Increasingly, old-line manufacturing, characterized by high investment in plant and equipment, is joining (unskilled) labor-intensive industries by moving abroad to newly industrialized countries.

U.S. comparative advantage is evident in the trends seen in U.S. industrial growth over the past 25 years. Scientific instruments, electrical machinery, chemicals and allied products, nonelectrical machinery, rubber and plastic products, and printing and publishing have grown faster than U.S. industrial production (*See Table 1*). By and large, these industries employ a highly educated labor force. In addition, the service sector is rapidly growing and also

employs a highly educated work force.²

So, if past trends are a guide, the above-average presence of these industries in a state suggests above-average growth for that state during the next decade. In contrast, states with an above-average presence of other industries likely will experience below-average growth during the next decade.

Comparing the composition of industries in each of the five states with that of the nation yields the following conclusions: Industry composition

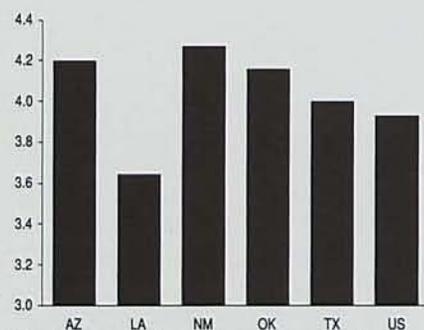
Table 1
Average Annual Growth Rates
in U.S. Manufacturing
(1963-1988)

Annual Industry Growth Rate (percent)

Rubber and Plastic Products	6.9
Scientific Instruments	6.1
Electrical Machinery	5.9
Chemicals and Allied Products	5.6
Nonelectrical Machinery	5.4
Printing and Publishing	4.4
Furniture and Fixtures	4.1
Total Manufacturing	4.0
Paper and Allied Products	3.8
Total U.S. Industrial Production	3.6
Food and Kindred Products	3.2
Textile Mill Products	2.9
Transportation Equipment	2.8
Lumber and Wood Products	2.8
Fabricated Metal Products	2.6
Stone, Clay and Glass	2.5
Miscellaneous Manufactures	2.3
Petroleum and Coal Products	1.7
Apparel and Textile Products	1.6
Tobacco Products	0.7
Primary Metals	0.6
Leather and Allied Products	-2.9

should contribute to above-average growth in Arizona, New Mexico and Oklahoma (See Chart 1). Taken alone, the composition of industry in Texas and Louisiana will yield growth rates near and below national rates, respectively.

Chart 1
Manufacturing Composition Growth Ratings*
Southwestern States and United States



*Weighted average of annual industrial growth rates (1963-88); 1982 state value added used for weights

Arizona's rating is the result of relatively high concentrations of services and the manufacture of scientific instruments, electrical and nonelectrical machinery. New Mexico has above-average concentrations in electrical machinery, printing and publishing; Oklahoma in rubber products, plastic products and nonelectrical machinery. The Texas rating near the national average is the result of a diverse economy, though it has above-average concentrations in many industries — some high- and some low-growth. Louisiana's below-average rating can be attributed to the above-average presence of paper and allied products, lumber and wood products, and petroleum and coal products — all of which have grown slowly in the past 25 years.

During the next three to five years, a second factor also will affect which industries show high growth — the decline in the value of the dollar. Though all U.S. manufacturing industries are helped by the dollar's decline,

some are helped more than others. Several reasons account for the differing impact across industries: The dollar has depreciated at different rates against various foreign currencies; industries differ in their exposure to trade with a given country; and industries vary in their sensitivity to foreign competition.³

While the dollar has declined most sharply against the European and Japanese currencies, it has depreciated to a smaller extent against other foreign currencies. Indeed, the dollar actually has appreciated against some currencies. The strongest effects of the dollar's decline should be evident in industries producing transportation equipment, scientific instruments, miscellaneous goods, electrical machinery, nonelectrical machinery, and chemicals and allied products (See Chart 2). These industries are the most exposed to trade with Europe and Japan or are the most sensitive to changes in the value of the dollar.

The above-average presence of these industries in a state suggests

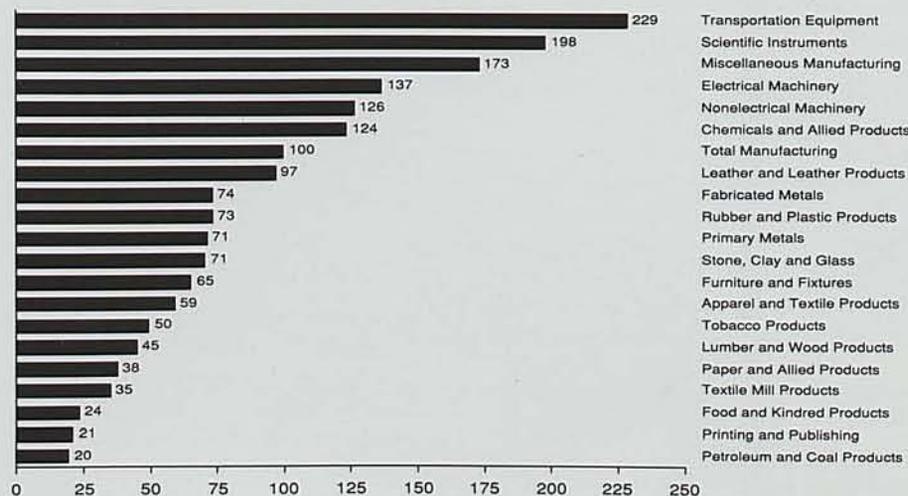
above-average growth for that state through the early part of the next decade. In contrast, states that have high concentrations of other industries may see weaker growth during the next three years.

Of the five Southwest states, only Arizona is likely to gain more from the fall in the dollar than the nation as a whole. Louisiana may gain less. The other states should see gains at about the national average.

What makes a state attractive?

Capital and labor are attracted to states where they can earn and retain the highest income. A host of factors influence the pecuniary and nonpecuniary returns to business investment and labor effort. Among these factors are state and local fiscal policies, political and social institutions, labor force characteristics, and weather. Taken together, these factors may be said to describe the state's economic climate. Other things being equal, growing in-

Chart 2
Relative Response of U.S. Manufacturing
to the Lower Dollar



Response of Total Manufacturing = 100

“Education is one of the most valued services that state and local governments can provide.”

dustries will move to the states with the most attractive economic climates.

Sound state and local fiscal policies can give a state a competitive edge in attracting and keeping business investment and able workers. These mobile resources are more attracted to states that provide highly valued services. On the other hand, they are less attracted to the states in which they would incur high taxes. The most attractive fiscal policies strike a balance between the provision of government services and the taxes required to finance them.⁴

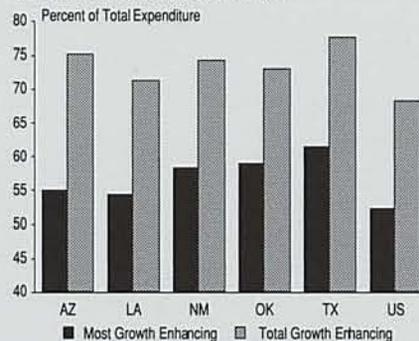
When provided efficiently, education is one of the most valued services that state and local governments can provide. Good health services and good roads and highways, also are quite valuable in attracting business investment and labor. Expenditures for these public services offset the negative effects of the taxes necessary to finance them by a considerable margin. Spending on public safety, sewerage and sanitation, natural resources, parks and recreation, and other transportation facilities also offsets the negative effects of the taxes required to finance it, but by a smaller margin.

On the other hand, administrative expenditure and transfer spending (which includes welfare) do not attract business investment and labor. They also have the negative effect of necessitating higher taxes or diverting state and local revenues from expenditures that enhance growth.

State and local fiscal policy in the Southwest provides the region with an advantage in attracting capital and labor. In each of the five states, a greater percent of state and local government spending is devoted to growth-enhancing services than is the national average (See Chart 3). But the share of Louisiana's expenditure devoted to growth-enhancing services is close to the national average.

Economic growth in a state also may be influenced by political and

Chart 3
State and Local Government Expenditure on Growth-Enhancing Services (1986)
Southwestern States and United States



social institutions. Recent economic research provides evidence that special interest groups can be quite effective in bringing about redistribution, restrictive business regulation, restrictive work rules, and other similar measures through political and social action. While these measures benefit the special interest groups, they inhibit innovation, reduce overall returns to business investment and labor effort, and thus, retard economic growth. The negative effect that special interest groups exert on state economic performance seems to be associated with unionization and the state's age.⁵

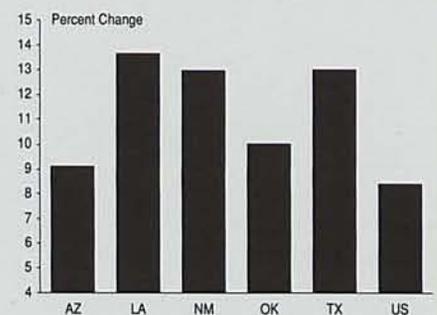
With the exception of Louisiana, the Southwest may suffer fewer economic effects from special interest groups than the average state. The other four states are younger than the U.S. average — though Texas does come close. Nevertheless, Louisiana, as well as Arizona and Texas, seem to have weak union influence as shown by their right-to-work laws. New Mexico and Oklahoma lack such laws.

Characteristics of the labor force other than unionization also will affect future state economic growth. The age and educational attainment of a state's labor pool affect its productivity. Employees in the two age groups 35 to 44 and 45 to 54 are thought to be the most productive. And, educational

attainment is positively associated with labor productivity. In addition, a highly educated work force may be necessary to sustain growth in the high technology industries that are beginning to dominate U.S. manufacturing.

Labor force characteristics provide a mixed picture for economic growth in the Southwest. The projected growth rates of the working age population in all five states are above the national average (See Chart 4). The projected growth rates of the most productive age groups also exceed the national average. Educational attainment is not uniform across the five states. While Arizona has a more educated population than the national average, Louisiana has a less educated population, and the other three states are close to average.

Chart 4
Projected Growth in Working Age Population (1986-96)
Southwestern States and United States

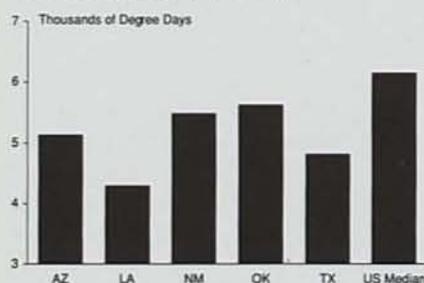


Weather affects a state's attractiveness because extreme heat or cold reduces personal comfort outdoors and adds to the cost of living and the cost of doing business. The impact of climate on economic decisions is conveniently measured in heating and cooling degree days.

Not surprisingly, weather provides a competitive edge to the Southwest. In combined heating and cooling degree days, the states rank between 5th and 17th lowest in the nation (See Chart 5).

*“A good economic climate can attract
growing industries to a state.”*

Chart 5
Combined Heating and Cooling Degree Days
Southwestern States and United States



Outlook for the Southwest

Over the next decade, four of the five states in the Southwest likely will see economic growth above the national average. During this period, the Southwest will continue to make the transition from an economy that relies heavily on resource extraction to one that is more modern and more diversified. Manufacturing in Arizona, New Mexico and Oklahoma is concentrated in industries most likely to see the greatest expansion during the remainder of the 20th century (See Table 2). Taken alone, the composition of Texas manufacturing indicates economic growth at about the national average, while that

for Louisiana suggests growth below the national average.

Nevertheless, the current composition of industry in a state could change. A good economic climate can attract growing industries to a state. When added to the state's industrial mix, the attractive economic climate in Texas is likely to mean growth above the national average for the state. Arizona, New Mexico and Oklahoma also will benefit from their attractive economic climates. In contrast, our analysis suggests that the economic climate in Louisiana is close to the national average and will do little to hinder or aid economic growth in that state.

Of course, our brief analysis is limited by the number of factors we were able to consider. A number of additional factors, some of which cannot be measured, may contribute to the actual growth experienced in the Southwest during the next decade.

— Stephen P. A. Brown and
Lea Anderson

¹ In answering these questions, we draw upon the economics literature and past and ongoing research at the Federal Reserve Bank of Dallas.

² Sectors that can export goods or services to the nation or world are of primary concern in assessing the composition of a state's economy. Our analysis covers manufacturing and services but excludes agriculture, forestry, fisheries and mining. While trends in the latter four industries are beyond the scope of this article, they can be expected to affect economic growth in the Southwest.

³ See W. Michael Cox and John K. Hill, "Effects of the Lower Dollar on U.S. Manufacturing: Industry and State Comparisons," Federal Reserve Bank of Dallas *Economic Review*, March 1988, 1-9.

⁴ See Stephen P. A. Brown "New Directions for Economic Growth: Redesigning Fiscal Policies in Louisiana, New Mexico, and Texas," Federal Reserve Bank of Dallas *Economic Review*, July 1987, 13-20 and L. Jay Helms, "The Effect of State and Local Taxes on Economic Growth: A Time Series-Cross Section Approach," *The Review of Economics and Statistics* 67 (November 1985): 574-82.

⁵ See Mancur Olson, *The Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities*, Yale University Press, New Haven, 1982 and "Maintaining a Healthy Business Climate: A Broader Perspective on the Rates of Economic Growth and of Unemployment in the Southern and Southwestern States," *Energy and the Southwest Economy* (Dallas: Federal Reserve Bank of Dallas, 1987), 271-304.

Table 2
Summary of Growth-Determining Factors
Southwestern States

Factors	AZ	LA	NM	OK	TX
Industry composition	+	-	+	+	0
Comparative advantage	+	-	+	+	0
Value of the dollar	+	-	0	0	0
Economic climate	+	0	+	+	+
Government spending	+	0	+	+	+
Age of state	+	-	+	+	0
Unionization	+	+	-	-	+
Age of population	+	+	+	+	+
Educational attainment	+	-	0	0	0
Weather	+	+	+	+	+

+ suggests economic growth above the national average.
0 suggests economic growth at the national average.
- suggests economic growth below the national average.

ECONOMIC COMMENTARY

by Robert H. Boykin, President
Federal Reserve Bank of Dallas

It is a pleasure to introduce our first issue of *The Southwest Economy*.

This newsletter will review business conditions and economic developments in the Southwest, including agriculture, banking, energy, high technology, international trade, and manufacturing. We will look not only at the issues that are specific to the states of the Eleventh Federal Reserve District — Louisiana, New Mexico and Texas — but also at the national issues that affect us as well. And as we have done in this issue, we will occasionally reach beyond our District boundaries to address concerns that are common to the entire Southwest.

In addition, each issue of *The Southwest Economy* will feature a commentary on current economic conditions in the Eleventh District or another matter of importance. In this issue, I am pleased to present the Bank's outlook for the regional economy.

In contrast with the U.S. economy, which is about to enter its seventh year of expansion, the Eleventh Federal Reserve District economy is showing only mixed signs of expansion.

While some recent developments give us reason for optimism, other measures of economic performance suggest that we must temper that optimism. On the positive side, unemployment rates in Louisiana, New Mexico and Texas declined in recent months, as nonagricultural employment rose. (Most of the recent employment gains have been in manufacturing and services.) In addition, the slide in Texas construction employment may be near an end. On the negative side, oil prices recently slipped and it appears that manufacturing is growing more slowly than last year.

Falling oil prices are hampering the recovery.

Increased world oil production pushed the spot price of West Texas Intermediate crude oil below \$15 per barrel in early September. The impact of lower oil prices is evident in a falling rig count. If the fall in oil prices is sustained, our research staff estimates that total employment losses (including ripple effects) in Texas could offset the gains made in other sectors since the beginning of this year.

Those manufacturers in the District most helped by the dollar's decline are expanding while the others are contracting.

Since the first of the year, Texas manufacturers of transportation equipment, scientific instruments, electronic equipment, leather products, nonelectrical machinery, chemicals and allied products, fabricated metals, primary metals and rubber and plastics have increased output, employment, or both. Gains from the lower dollar should continue for the next few years. During the first half of 1988, however, weakness in other manufacturing sectors held the growth of District manufacturing employment below that experienced in the second half of 1987.

Construction remains a weak link in most parts of the District.

Throughout the region, construction employment continues its downward trend — although rates of decline recently have slowed. Contract values have stabilized recently, however, suggesting that construction employment may also stabilize in the year ahead.

District agriculture has endured the drought in good shape.

Though the drought has sharply reduced crop yields in many areas of the country and pushed crop prices up, it affected yields in the District only slightly. Despite modest declines in production, most farmers in the District are enjoying high cash incomes that are the result of higher crop prices.

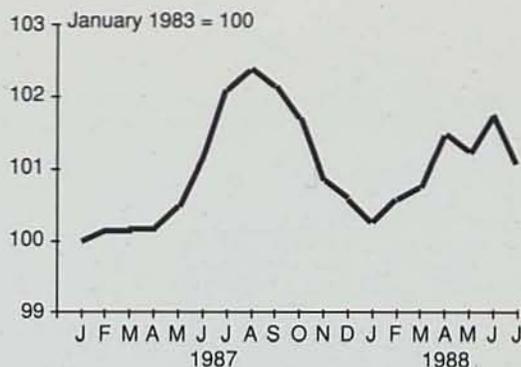
These pluses and minuses lead to my cautious optimism for the near-term economic outlook for our region.

My outlook is supported by the Texas index of leading indicators (*See the back page*). As stated in our lead article, however, we firmly believe that economic growth in the Southwest will exceed that of the nation over the longer run.

The Texas Index of Leading Economic Indicators

After declining for five consecutive months, the Texas index of leading economic indicators increased for three consecutive months beginning in February of this year. More recently, however, movements in the index have been inconsistent. After falling in May, the index rose in June and then fell again in July. Much of the recent weakness in the index can be attributed to its energy components.

Although the recent decline in the index is somewhat discouraging, a one month decline does not necessarily indicate that the Texas economy will slip in the months ahead. The inconsistency and general increase in the index since February should be given more weight in evaluating the outlook — suggesting slight-to-modest growth in the next few months.



About the Index

The Texas index of leading economic indicators signals future directional changes in aggregate economic activity in the state. The index is the weighted average of nine economic variables that lead economic activity in Texas. Seven of the variables are specific to Texas: average weekly hours, the state of Texas help wanted index, an index of stock prices for 77 companies based in Texas, new claims for unemployment insurance, retail sales, well permits issued, and the price of West Texas Intermediate crude oil. The other two — the U.S. index of leading indicators and the Texas trade-weighted value of the dollar — measure national and international factors that influence the Texas economy. Additional information on the leading index can be found in the July 1988 issue of the Federal Reserve Bank of Dallas' *Economic Review*.

Recent Changes in Texas Index of Leading Indicators (Net Contribution of Individual Components)

Component	May	June	July
Average Weekly Hours	-.32	.21	.14
Help Wanted Index	.01	.04	.08
Real Texas 77	-.04	.15	-.07
New Unemployment Claims	-.02	-.08	-.06
Real Retail Sales	-.08	.03	NA
Well Permits	.03	.10	-.46
Real Oil Price	-.08	-.19	-.16
U.S. Leading Index	-.01	.08	-.14
Texas Value of the Dollar	.24	.17	-.01
Total Change in Index	-.26	.52	-.70

The Southwest Economy is published six times annually by the Federal Reserve Bank of Dallas. The views expressed are those of the authors and should not be attributed to the Federal Reserve Bank of Dallas or the Federal Reserve System.

Articles may be reprinted on the condition that the source is credited and a copy is provided to the Research Department of the Federal Reserve Bank of Dallas.

The Southwest Economy is available without charge by writing the Public Affairs Department, Federal Reserve Bank of Dallas, Station K, Dallas, Texas 75222 or by calling (214) 651-6289.