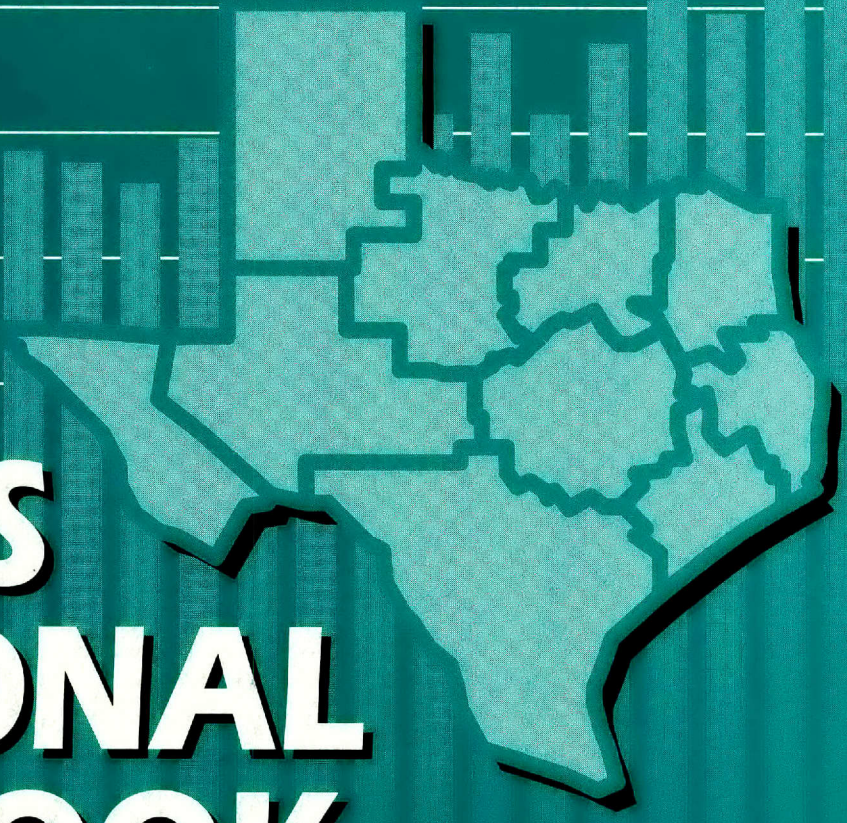


TEXAS REGIONAL OUTLOOK

Upper East Texas

JOHN SHARP
Comptroller of Public Accounts

A Report of the Comptroller's

FORCES OF CHANGE
PROJECT

COMPTROLLER OF PUBLIC ACCOUNTS
STATE OF TEXAS
AUSTIN, 78774

JOHN SHARP
Comptroller

Dear Fellow Texan:

This is the second year we have done *Regional Outlook* reports. This year, we've added an analysis of the historical forces that have shaped each region, as well as insights into the area's current and future population. We've also examined the region's present and future economic health, and identified which occupations and businesses are doing well now and which are poised for future growth.

Much of this new analysis comes from a major project we are working on at the Comptroller's Office entitled *The Forces of Change*. In February, Governor Ann Richards signed Executive Order 92-1 calling upon the Comptroller to undertake a sweeping study of the major issues likely to face the citizens of Texas over the next 35 years. It has been an eye-opener for us to look at these forces of change–those inevitable undercurrents of demographics, economics and social norms that already are beginning to shape the very nature of Texas.

Our 17 million residents and 7 million workers are engaged in a highly diversified economy with an output of more than $250 billion a year. It's important we know how Texas got where it is today, and where it is going tomorrow. How are these forces playing out in our state? What can we do to position ourselves to gain the greatest advantage in the times ahead?

One of the great strengths of this state has been its diversity: in land, in resources, in people. We have the wide open spaces, cattle and oil wells that outsiders think of when they think of Texas. But we also have three of the nation's 10 most populous cities, and more metropolitan areas than any other state. To learn about Texas, you have to find out about the incredible range of economic, social and cultural activity across the state. To know the whole, you have to figure out the pieces.

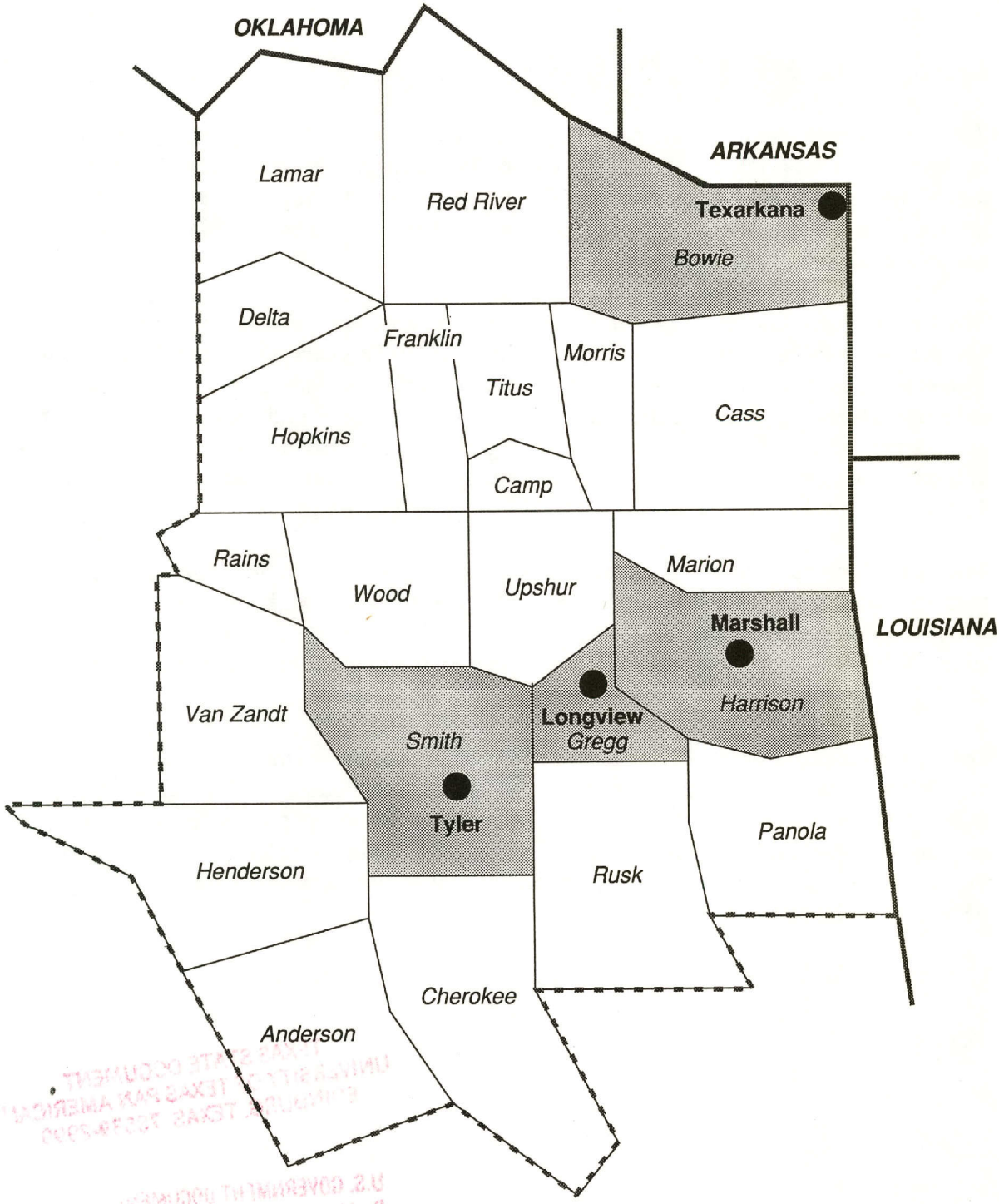
I hope you find this report informative, useful and thought-provoking.

Sincerely,

John Sharp

JOHN SHARP
Comptroller of Public Accounts

Upper East Texas
Counties and Metropolitan Areas



Shaded areas indicate a Metropolitan Statistical Area (MSA).

REGIONAL OUTLOOK: UPPER EAST TEXAS

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Introduction

We are living in a time of change. More than ever before, the basic structures of our social and economic world—the market place, the family, the government—are undergoing transformations that will fundamentally alter the way we work and the way we live.

The world order that provided the political framework for more than a generation—two military superpowers with conflicting ideologies—has vanished virtually overnight. Now, economic powerhouses in Asia, Europe and America are waging war over market share, trade and jobs. Small businesses, as they contend with more and more regulations, have to worry about competitors around the world, not just around the corner.

Our cities seem under siege as we battle poverty, drugs and unemployment. Every day we hear more of teen pregnancy, adult illiteracy, job layoffs. The last generation's traditional family of a breadwinner, a housewife and two or three kids, has become a statistical oddity, the victim of financial pressures, stagnant wages and salaries, divorce and changing attitudes about the proper roles of men and women.

Future demographics meets the changing economy at the crossroads of the workforce. Winners and losers in the new world economy will be less and less determined by who has what resources and more and more by who has what skills, technology and knowledge. All of this will be played out on a stage in which the environment will demand and receive much greater consideration.

Against this backdrop, state government will face increasing pressures to meet growing and changing needs. Federal, state and local governments are caught between insistent calls for better schools, human services and highways, and irate taxpayers tired of turning over a bigger and bigger chunk of hard-earned money to a growing bureaucracy. Government must be held accountable for efficiency and effectiveness.

Texas cannot sit back and watch as the world changes. We will change, too, like it or not. The question is, will we allow ourselves to be carried along willy-nilly, hoping for the best but fearing the worst? Or do we begin now to understand the forces shaping our future?

It is with this perspective that the Comptroller's Office has undertaken a sweeping study, *The Forces of Change*. Our state's 17 million residents and 7 million workers are engaged in a highly diversified economy with an output of more than $250 billion a year. We want to know how Texas got where it is today, and where it's going tomorrow. How are the forces of change playing out in our state? What can we do to position ourselves to gain the greatest advantage in the times ahead?

This report is one part of that project. Recognizing the diversity of Texas demands that we place the forces of change in a regional perspective. All of the forces of change will affect the entire state, but some will play out more prominently in different regions of Texas.

To address this diversity, this report will review the trends of change in the Upper East Texas region of the state. Reviewing the economic history and geography of East Texas is a necessary precursor to understanding the current structure of, and ongoing changes in, the region's economy. Crucial in the economic future of the region will be the changing demographics and its effects subsequent on the labor force. The interplay of known economic trends and changing demographics yields a baseline forecast for the economic health of the region to the turn of the century.

Most importantly, against this forecast we can assess the likely impacts of key forces of change on the future of Upper East Texas. Of critical importance in this region will be improving workforce skills to compete in a new world economy based less on natural resource endowments and more on the abilities of the labor force. At the same time, environmental concerns must be reconciled with economic pressures.

We can, with intelligence and foresight,

come up with a plan to make the most of the new world now being created. Who "wins" and who "loses" in the 21st century has not yet been decided, but it is being decided today. The stakes are high, and the competition will be fierce. We will feel the results of this competition on our own standard of living, and how we fare will do much to determine what kind of world we will leave to our children. ✪

Economic History and Geography

The key to understanding the development of Texas is the relationship of man to the land. And nowhere in Texas is the relationship more vital than in the 23 counties which constitute Upper East Texas.

The first thing early settlers in East Texas saw were the huge pine forests. Timber was to become one of the first resources that the area profited by, although it was not the most sensational. That accolade is reserved for oil. The discovery of oil in the area prior to World War II, and the postwar boom that increased the demand for crude, helped Texas become one of the most prosperous states in the Union.

Early Economic History: Agriculture

The first known native inhabitants of the Upper East Texas region were the Caddos. The tribe exhibited a higher civilization than the Native Americans of the Plains and have been described as a cultured, industrious, intelligent, prosperous people. They were sedentary, cultivating corn, beans and squash. Their word for friend or ally, "Taychas" or "Tejas" was adopted by the Spanish in referring to the tribesmen and the word later evolved into its present form, Texas.

The Caddos were replaced by Anglo-Americans as disease and disputes decimated them. The Caddo's legacy in East Texas includes place names, such as Caddo Lake, along with the cultivation of corn.

The first major Anglo-American settlers brought the culture of the Upper South from Tennessee and Arkansas. These settlers are probably responsible for the type of cattle raising practiced in the Upper East Texas region in the 1800s, which differed from that of other areas in Texas. Here it followed the methods used in colonial America. Cattle were part of the method of self-contained agriculture and were usually left to forage for themselves on the open range. Dogs were frequently used to aid in cowhunting and there is no mention of roping as in South Texas. Almost all cattle raisers also had other livestock such as hogs and poultry and cultivated crops.

Eventually, between 1870 and 1890, open-range cattle raising was replaced by the cultivation of cotton and wheat.

Cattle raising still existed in Upper East Texas, but the cattle now ranged on flood-prone land. The more fertile prairie was reserved for cotton and other crops. Cattle made a comeback, replacing cotton in more modern times. Today, the Upper East Texas region has several areas known for concentrations of dairy and beef cattle.

Another livestock industry important to the Upper East Texas area is poultry. Transportation improvements allow the industry, once located near large urban centers to be concentrated in a rural area and ship its product to city markets. Upper East Texas is suited to poultry raising in that it has a temperate climate, adequate precipitation and available feed. The area is home to two major poultry production firms, Tyson Foods and Pilgrim's Pride.

- **The economy of Upper East Texas has historically been dependent on the land and its resources: lumber, cotton, cattle and crude.**
- **The specialized regional economy is beginning to diversify.**

Settlers from the Upper South were soon outnumbered by immigrants from the states of the Deep South. So numerous were these settlers that today the area is known as part of the terminus of the Old South. These settlers cultivated cotton using the plantation system of agriculture.

After the Civil War, the large plantations were divided into smaller areas for tenant farmers or sharecroppers, who continued to cultivate cotton. It was not until the 20th century that many farmers switched from cotton to feed crops, due to erosion of the soil, boll weevil infestation and root-rot in the cotton plants.

The area was also hit by droughts during a depression following World War I. In the 1930s, the combination of the Great Depres-

sion, the Dust Bowl years and mechanized cultivation caused a major change in the agriculture practiced in Texas. In Upper East Texas as in other areas, many of the former tenant farmers moved to the cities and some of the fields were converted to forests and pastures. Former crop fields planted with pine trees are called woodland plantations. Today, the main cultivated crops in most areas of the Upper East Texas region are hay and pine trees.

Timber Industry

The timber available in Upper East Texas was an important commodity to the early settlers. In fact, the lumber industry was one of the first industries in Texas. Loggers cut both hardwood and pine timber in East Texas in the 1870s and, using the Sabine and Neches rivers, floated the logs to mills in Beaumont and Orange.

The advent of railroads made Upper East Texas lumber available to other areas of the state. In the process, those towns that served as mill and rail centers such as Longview, Texarkana and Tyler prospered. During the later part of the nineteenth century, lumber ranked highest in railroad freight tonnage.

In 1899, the lumber industry in East Texas produced over one billion board feet. In 1907, the timber industry reached its peak with production decreasing thereafter. In fact, so much timber was cut that the virgin pine forests were virtually destroyed before 1920. This was particularly true after a method of making sulfate paper from yellow pine was developed in 1911, increasing the demand for this wood. A great deal of the wood was also required by the railroads for ties. In the 1940s technology to produce newsprint from southern pines further increased the demand for East Texas timber.

The change from cotton fields back to forested lands in some areas occurred after 1930. Thanks to cooperative private and public efforts, much of the forest has been replanted and in fact some areas of the Piney Woods may have more forest land now than they did in the early 1800s. During the 1970s, annual tree growth exceeded annual harvest. But pine timber removal since 1986 has exceeded annual growth. Projections by the U.S. Forest Service indicate an increase in the demand for timber which will outpace supply.

The U.S. and Texas Forest Services operate to both protect and develop the timber resources in Texas, which consists mostly of pine trees. While the U.S. Forest Service efforts are primarily confined to about 650,000 acres of national forests, the Texas Forest Service assists private landowners on the remainder of the 11.7 million acres of East Texas forest land. In Upper East Texas an estimated 80 percent of the forested land is in small private ownership. The Texas Forest Service is working toward replanting and reforesting both the state forests and private timber areas by growing seedlings in nurseries and providing them for planting. The agency also promotes tree improvement, predator insect eradication and wildlife management.

As for forest pests, there is some controversy over the migration of the southern pine beetle from designated wilderness areas, where no timber management is allowed, onto the national forests or private forest lands. The southern pine beetle kills the trees, causing devastation in the forest. In such cases, the beetle increases in number to the point where eradication outside the wilderness area is difficult. The controversy stems from the desires on one side to leave wilderness areas strictly alone and the desire on the other side to protect valuable resources.

Another ongoing controversy exists over the cutting methods employed by logging companies and the resultant damage to the wildlife habitat. Modern logging techniques have replaced selective cutting with even-aged timber management which includes clearcutting. Now, when an area is replanted, the trees are all the same age, unlike the variation found in natural stands. Clearcutting has resulted in a reduction in the number of some species of wildlife, including owls, hawks and woodpeckers, but has been beneficial to other species. The controversy over cutting methods has already made its way into the federal courts as one species of the affected wildlife, the red-cockaded woodpecker, is on the endangered species list. The Texas Parks and Wildlife Department, having verified that the bird's population was declining, was instrumental in having it placed on the endangered species list. Due to habitat loss, very few if any red-cockaded woodpeckers exist in Upper East Texas outside the state forest.

The bounty of nature provided the original timber to foster the logging industry in Upper East Texas. The replanted pines provide continued economic benefit. Trees harvested from the area are used to manufacture lumber, plywood, fence posts and paper. A recent addition to the forest industry are Christmas tree farms.

The Discovery of Oil

The other major resource of the Upper East Texas area is oil. The Black Giant Field, discovered in 1930, was the largest in America until that time. It was 45 miles long and five to ten miles wide, encompassing 140,000 acres and crossing five counties, Gregg, Rusk, Upshur, Smith and Cherokee.

Discovery and overproduction of oil from East Texas caused a depression in the oil market in 1931. Oil that had sold for a dollar a barrel in 1930 was going for ten cents a barrel in 1931. Wellhead prices were far below production costs but people still kept sinking holes and pumping oil.

The Texas Railroad Commission had been created in 1891 by Governor Hogg to regulate railroad freight rates. With the discovery of oil at Spindletop, the Texas legislature recognized the need for controls in the oil patch and assigned those duties to the Commission. When overproduction in the Black Giant Field began to glut the market, the Railroad Commission issued proration orders to equitably apportion the market demand for oil among the field's producing wells, thereby fostering conservation and preventing physical waste of a nonrenewable resource.

Federal government assistance in prorationing oil was sought in 1933 because the production of "hot oil," or oil produced illegally, circumvented the prorationing orders. Thanks in part to the control forced on the oil industry, the U.S. was able to supply almost 90 percent of the oil necessary to the Allies' defeat of the Axis powers in World War II. Much of this oil came from the East Texas fields.

By the late 1940s, it was apparent that domestic demand would soon exceed supply and the U.S. would become a net importer of oil. From 1955 on, the number of U.S. drilling rigs decreased. Dominance in the oil industry slowly shifted from the U.S. fields to those in the Middle East.

In 1960, the Organization of Petroleum Exporting Countries (OPEC) was created in response to a price cut by Standard Oil of New Jersey. Excessive supply made the organized control of oil necessary to maintain price. The machinations of OPEC in the 1970s, along with the deregulation of oil prices by the government, brought great wealth to Texas as the price of oil increased. In the early 1970s, the Texas Railroad Commission allowed production at 100 percent of capacity.

The drop in oil prices in the early 1980s precipitated a decline in the economy of Upper East Texas. The collapse of oil prices in 1986 exacerbated the decline. In the beginning of February 1986, the price of oil was around $25 per barrel. By March, it had dropped to below $11. Along with this drop in price was an increase in unemployment, putting Upper East Texas and the state into a recession. Before the oil price collapse, Texas had been considered essentially recession proof. The state found out the hard way the result of hitching its economic star to one industry. Currently, oil has hovered around $20 per barrel.

Although the East Texas oil field has produced over five billion barrels of oil, it is estimated to have one billion more in reserve. It is possible that the field will continue producing until the year 2030; with technological improvements, the field could remain productive even longer.

Other Regional Industries

Other extractive industries in Upper East Texas include lignite coal and iron ore. Texas Utilities Mining, with most of its mining operations in Upper East Texas, is the largest producer of lignite coal in the state. The company uses all the coal it mines in power generation plants. The power plants are located near the mine sites in what is known as a captive operation. Most of the iron ore is located in the eastern part of the state and goes to one of the state's few steel mills, The Lone Star Steel Company, located in Morris county.

Also having an impact on some Upper East Texas towns is tourism, much of it based on the area's many lakes and natural beauty. But some cities, like Jefferson, have used history to build its tourist trade.

In the 1960s and 1970s, the town under-

took several building restoration projects which today attract tourists and give the city new life. Many building have been designated Texas Historic Landmarks. Jefferson has the second oldest hotel in continuous operation and the forerunner of the state's bed-and-breakfasts, Pride House, which opened in 1980.

The three metropolitan statistical areas also have areas of specialization, although they are trying to diversify. Texarkana, located in both Texas and Arkansas, is home to both the Red River Army Depot and the Lone Star Army Ammunition Plant. The Red River Army Depot was established in 1941 as the Department of Defense began spreading out its operations in response to the beginning hostilities of World War II. The installation is a federal Material and Readiness Command depot, its mission to store and ship ammunition and to overhaul and repair heavy equipment. It is the Army's largest depot in terms of employment and workload. The Lone Star plant is a separate entity run under contract by a private firm. Recent Department of Defense cuts have hurt the area's employment level.

Tyler, long known for its roses, has a fairly diversified economy. Manufacturing companies located in Tyler include Tyler Pipe Industries, manufacturing plastic and cast-iron pipe, the Trane Company and the Carrier Corporation, manufacturing air conditioning equipment, and Kelly-Springfield Tire.

Longview-Marshall is the area's industrial center. This metro area's natural resources are enhanced by its access to transportation routes; it benefited early from rail transportation and now from access to Interstate 20. Two large companies located in Longview-Marshall metro area include the Marathon Letourneau Company, which manufactures heavy equipment, and Texas Eastman Company, a plastics concern.

Geography

The perception of Texas as a hot, dry, barren desert is far removed from the reality of Upper East Texas. The region is one of the wettest areas in the state. Annual rainfall averages from 40 to 48 inches. The area is traversed by five rivers, the Red, Sabine, Sulphur, Neches and Cypress. The annual water discharge of the Sabine River is the largest of any river in Texas. Several lakes are in the area including Caddo Lake, Wright Patman Lake and Lake O' the Pines, along with several reservoirs.

Upper East Texas is located on the Gulf and Atlantic Coastal Plain, one of the five major physiographic regions of North America that extend into Texas. The area is composed of both woodlands and prairie and is gently sloping to gently rolling. Elevation is generally less than 500 feet. The mean annual temperature ranges from 64 to 66 degrees and the climate is classified as subtropical humid. The growing season is approximately 240 days.

The soil of the Upper East Texas region is sandy with a clay subsoil. While there are several areas that contain excellent farm land and the soil is generally suitable for crop growth, the area is not especially fertile. The fertile areas contain alluvial soil found along rivers and the "redlands," which begins at the Sabine river and extends through Cherokee and Smith counties. The area is called the "redlands" because of the loamy soil's reddish color. This fertile soil was highly prized by settlers interested in good farmland.

Although the soil is suitable for crop growth, nothing grows as well in the generally available grey sandy soil as pine trees. The Upper East Texas region is part of the Piney Woods region of East Texas. The name comes from the expanse of virgin pine forest that existed when the first settlers arrived. Included are the longleaf, shortleaf and loblolly pines. Intermixed with the pine forests are hardwoods like post oaks and hickory which occupy the river valleys.

The Upper East Texas area boasts one of the state's forests, the I. D. Fairchild State Forest. Also located in the region are several state parks including Caddo Lake State Park, Caddo Mounds State Historic Site, Daingerfield State Park, Jim Hogg State Historical Park and Rusk/Palestine State Park. ✪

Economic Structure and Trends

The Upper East Texas region boasts an economy that is both similar to, and different from, other regions of the state. The distinctiveness of a regional economy can be expressed in terms of the ways in which it differs from other regions, the state and the nation. This section of the report will examine the economic structure and trends of the Upper East Texas region.

In broad terms, the region shares with the state a large and growing service sector, and significant employment in retail trade. But a relatively large government sector and manufacturing industries which are unique to the region differentiate Upper East Texas from other parts of the state.

Broad Employment Trends in Upper East Texas

Overall employment in Upper East Texas has been cyclical, reflecting many of the same trends that have impacted the state as a whole (See Figure 1). The region experienced employment declines in 1983 and 1986 following the crash in the state's oil industry. In the late 1980s, however, Upper East Texas enjoyed some employment growth. Employment in 1991 reached a record 304,900, a net gain of 9,900 jobs or 3.4 percent over 1988 employment. During the last four years employment grew by 7.0 percent in Texas and by 2.6 percent in the U.S. So, during the period 1988 to 1991 employment in the Upper East Texas region grew at about half the rate of the state, but it grew somewhat faster than in the nation.

Since the mid-1980s, the region has been adding jobs. But as the job growth in the state consistently outpaced the Upper East Texas region throughout the past decade, the region has slowly been losing its share of statewide employment.

With some variations, the largest employment sectors in the Upper East Texas region reflect the largest sectors statewide. Table 1 highlights the fact that the Upper East Texas region has a larger government presence and is more manufacturing intensive than the state as a whole.

The importance of the service sector is also evident. In fact, in both the region and the state, the largest employment gains over the past decade have occurred in the services sector. Between 1982 and 1991, Texas' service sector added more than 560,000 jobs, including 19,000 in the Upper East Texas region.

But services, by their nature, are provided locally, and are not export-oriented. In fact, the growth of services is attributable to several demand-induced trends rather than any comparative advantage for the state or region.

Recent growth in services has been tied to the increasing complexity of the business environment. With the rise of the global economy, technology, regulation and other forces affecting the business climate, businesses have come to rely more and more on independent firms for legal, accounting, data processing, consulting and many other services. Not surprisingly, business services is one area in which service growth has been concentrated.

Another area of prominent service growth for the state, and for the Upper East Texas region in particular, is health care. This trend has been driven by the aging of the population as well as rising income and the rapid advancement of health care technology.

Finally, the large-scale entry of women into the work place has driven up household income and stimulated demand for such things as child care and cleaning services.

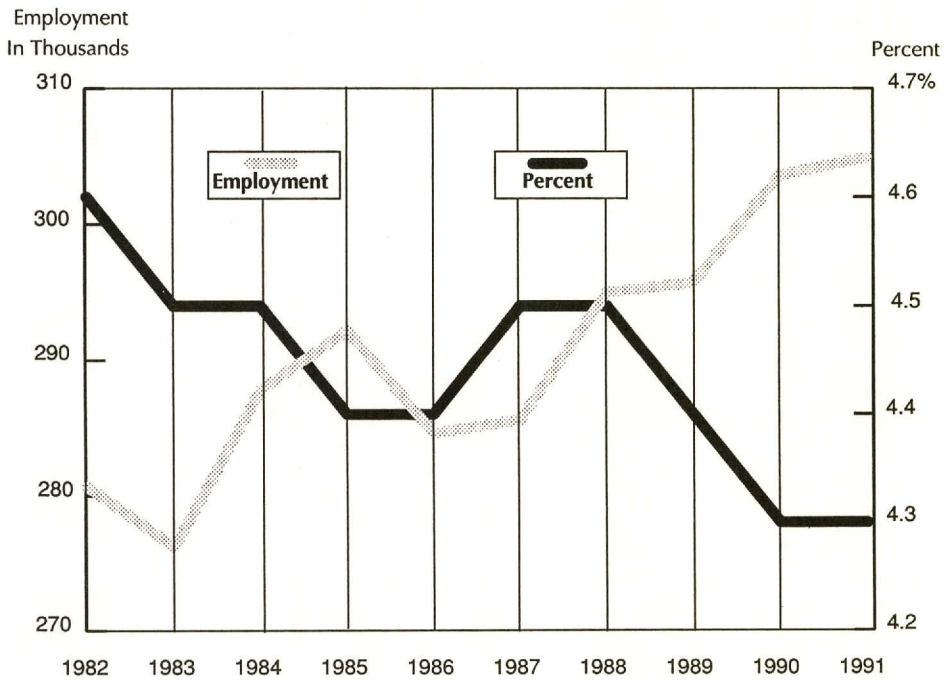
• Upper East Texas is more manufacturing intensive and has a proportionally larger government sector than the state as a whole.

• The region specializes in manufacturing and oil- and gas-related industries—such as defense-related manufacturing, food products, wood and paper products, construction equipment, chemicals, oil and gas production and related services.

• From 1988 to 1991, the region increased its share of employment in many industries—most notably in health services, educational services and poultry processing.

Figure 1

Upper East Texas Employment Total and Percent of Statewide Employment



SOURCES: Texas Employment Commission and Texas Comptroller of Public Accounts.

Areas of Specialization

One key to understanding a region's economy is to define the industries that drive income and employment growth. Typically, these industries sell their particular goods or services outside the region, thereby generating regional "export" income. While these industries may or may not be an area's biggest, they play a much larger role in the regional economy than in the state's or nation's.

One measure of this greater importance is the "location quotient" which expresses how large a local industry is relative to the national economy. Mathematically the location quotient is defined as the percentage of the region's total employment that is accounted for by a particular industry, divided by the same industry's percentage share of total national employment. Thus, a location quotient greater than "1" means that the industry employs proportionally more people in the region than it does in the nation as a whole. Table 2 presents 30 industries in Upper East Texas whose share of total regional employment is more than five times larger than the industry's corresponding share of total national employment.

Manufacturing

Upper East Texas' employment base is relatively manufacturing intensive in comparison to both the state's and the nation's economy. The region's manufacturing sector accounts for 19 percent of its total employment as compared with 14 percent statewide and 17 percent nationally. Not

Table 1
Largest Industries
(Based on 1991 Employment)

Texas	% of Total	Upper East Texas	% of Total
Services	23.0%	Services	20.1%
Retail Trade	18.4	Government	19.3
Government	18.0	Manufacturing	19.1
Manufacturing	13.9	Retail Trade	18.7

SOURCE: Texas Employment Commission and Texas Comptroller of Public Accounts.

surprisingly, manufacturing dominates the list of industries in which the region specializes. In fact, 26 of the 30 industries listed in Table 2 are manufacturing industries. More than 54 percent of all manufacturing employment in the region in 1991 was located in the metropolitan areas of Texarkana, Longview-Marshall and Tyler.

Upper East Texas has a strong concentration of defense-related manufacturers, evidenced by the presence of tanks and tank components, as well as ammunition, among the industries of specialization. Responsible for much of this dominance is the government-owned, contractor-operated Lone Star Army Ammunitions Plant, located in Bowie County. Employees at the facility load, assemble and pack ammunition items and explosive components. Employment peaked at 12,000 in the late 1960s during the height of the Vietnam War. Recently, employment has fallen because of continued defense-related cutbacks.

Construction equipment manufacturers are well represented in the region. Plumbing fixtures, refrigeration and heating equipment , brick and structural clay tile and iron foundries all appear among the region's areas of specialization. Tyler Pipe, that city's largest manufacturer, makes pipe for municipal, commercial and residential construction. The city of Tyler is home to two manufacturers of air conditioning equipment.

Food products—in particular canned food, poultry products and animal and marine fats and oils—are another area of specialization for the region. Panola, Titus and Camp counties add heavily to the manufacturing makeup of the region. Chicken processing companies Pilgrim's Pride and Tyson have the majority of their manufacturing facilities in these Upper East Texas nonmetropolitan counties. Another major Upper East Texas food products manufacturer is Campbell Soup, located in Lamar County.

Much of the Upper East Texas region is heavily forested. It is not surprising then, that wood and paper products manufacturing is among the region's top areas of specialization. Upper East Texas is well represented in industries such as wood containers, sanitary paper products, nailed wooden boxes, wooden pallets and skids, paperboard mills and wood preserving.

Oil and Gas Production and Mining

Upper East Texas is a center of Texas oil and gas production. The impact of oil and gas is felt across industry lines, with jobs spread among oil and gas equipment manufacturing, chemicals production, oil and gas field services, drilling and coal mining. The region's oil and gas industry has suffered through the 1980s, as precipitous price declines translated into layoffs. This industry-wide sluggishness has continued into the 1990s.

Areas of specialization for Upper East Texas' oil and gas, mining and petrochemicals industries included chemical preparations, industrial organic chemicals, oil and gas field machinery, oil and gas extraction and coal mining.

Texas Eastman, a Longview subsidiary of Eastman Kodak, is one of the region's largest employers. The facility manufactures chemicals and plastics.

UPPER EAST TEXAS

Government

Local, state and federal government employment makes up one of Upper East Texas' largest sectors, with 19 percent of total nonfarm employment. The region boasts a large federal presence, at the Red River Army Depot in Texarkana. State facilities include a state university, highway construction and social services. Still, local government represents the bulk of government employment in the region, primarily found in the region's many public school systems.

The largest government employer in the Upper East Texas region is the Red River Army Depot (RRAD) in Texarkana. Opening in 1941, this 9,000 acre facility began as an ammunition storage site. Since then, RRAD has grown into the Army's largest depot with major maintenance, supply and ammunition storage functions. The depot assembles and repairs Chaparral surface-to-air missiles and also is the supply site for the Hawk air defense missile. In addition, the depot preserves, packages, certifies and stores the Patriot missile.

Location Quotient and Shift Share Analysis

This section of the paper explores the structure of the region's economy and how it has changed over the past several years. More specifically, an analysis known as "location quotient" is used to identify the unique structural components of the Upper East Texas economy. This technique compares an industry's proportion of employment in a region with its proportion in the nation's economy. This identifies areas of specialization in the Upper East Texas economy that "export" outside the region, thereby bringing in many of the dollars that flow through other sectors of the economy.

Merely examining structural concerns often misses important trends. To identify the dynamic components of the region's economy, a "shift share" analysis helps to point out the economic strengths and weaknesses. The technique decomposes the change in an economy over time into component parts. One part, the national growth component, explains the change in a region's employment growth that can be attributed to growth in the national economy. A second component, the industry mix, adjusts for the industries represented in the region, relative to the national economy. The final, and key component is the competitive effect which points to industries for which the region has gained or lost competitive share in employment.

One criticism of the location quotient technique is that it offers only a static—or "snapshot"—view of an economy. The strength of location quotient analysis is that it highlights areas of regional specialization, but it does so only for a particular point in time. The shift share analysis, however, shows a broader picture of change in a regional economy over time. Shift share analysis points to industries that may be waxing or waning in terms of attractiveness and competitive advantage relative to other regions in the United States. Industries that gained in competitive share have been successful in grabbing a disproportionately large amount of the available pool of new employment generated in that industry over the time period in question. This indicates that the region is comparatively more attractive to the industry than other regions in the nation. In this way, the shift share analysis portrays a more dynamic view of change in an economy, and highlights industries that may continue to capture a large share of new growth in the future.

Areas of Comparative Advantage

Another key to understanding a region's economy lies in defining its growth industries. Growth is attributable to several different causes. Some growth in a region tends to be driven by national economic growth trends. Whether the mix of industries in a region reflects relatively faster or slower growing industries is yet another factor affecting regional employment trends. The most telling indicator, however, describes employment growth in a region that is related to the region's relative attractiveness. "Shift share" analysis provides such an indicator. The shift share technique identifies regional growth that is attributable to national growth and industry mix. The residual represents the growth in a region that has been generated by the region's ability to compete with other regions for their share of new jobs in an industry. A region that has gained in competitive share in a particular industry has been relatively more successful than other regions—or has exhibited a comparative advantage—in attracting jobs.

Services and Trade

Health and educational services head the list of Upper East Texas region industries that gained in competitive share (See Table 3). Other services that gained in competitive share include social services, business services and personal services. These service industries are driven more by demand from within the region than export potential to areas outside the region.

Along those same lines, several retail trade industries appear to be gaining in competitive share. Food stores, general merchandise stores and eating and drinking places all showed increases in competitive share. Wholesale trade of durable goods, a more export-oriented industry, is also among the strong gainers of competitive share.

Table 2
Top 30 Areas of Specialization in the Upper East Texas Region Economy

Industry	Regional Employment in 1991	Location Quotient*
Tanks and Tank Components	4,621	125.2
Canned Specialties	1,350	20.7
Plumbing Fixtures	508	20.7
Leather Gloves and Mittens	136	20.1
Ammunition	2,015	16.5
Wood Containers	345	15.9
Refrigeration and Heating Equipment	3,517	10.9
Sanitary Paper Products	926	10.6
Iron Foundries	2,221	10.3
Brick and Structural Clay Tile	418	10.3
Clay Refractories	182	10.3
Railroad Equipment	805	9.5
Animal and Marine Fats and Oils	189	8.7
Chemical Preparations	1,043	8.3
Industrial Organic Chemicals	2,820	8.1
Oil and Gas Field Machinery	1,029	8.1
Manufacturing Industries, NEC**	608	8.1
Pottery Products	295	8.0
Administration of Economic Programs	558	8.0
Nailed Wood Boxes	89	7.7
Environmental Quality and Housing	826	7.6
Oil and Gas Extraction	8,361	7.5
Metal Cans	815	7.4
Wood Pallets and Skids	668	7.4
Paperboard Mills	1,007	7.1
Poultry Slaughtering and Processing	3,901	6.9
Tires and Inner Tubes	1,483	6.5
Coal Mining	2,119	5.6
Wood Preserving	185	5.6
Noncurrent-carrying Wiring Devices	260	5.6

*Figures above 1 indicate an industry in which the region specializes
**Not Elsewhere Classified.

SOURCE: Texas Comptroller of Public Accounts.

Table 3
Top 30 Upper East Texas Industries Ranked by Gain in Competitive Share
(Based on change in employment from 1988 to 1991)

Industry	Regional Employment in 1991	Gain in Competitive Share*
Health Services	36,631	1,083
Educational Services	30,665	915
Food Stores	12,945	630
Eating and Drinking Places	15,945	575
Special Trade Contractors	5,751	518
General Merchandise Stores	8,870	501
Social Services	5,790	490
Poultry Slaughtering and Processing	3,901	447
Wholesale Trade—Durable Goods	7,307	390
Electric, Gas and Sanitary Services	6,060	348
Manufacturing Industries, NEC**	608	322
Hardware	386	279
Heavy Construction	6,893	234
Ammunition	2,015	205
Sanitary Paper Products	926	203
Business Services	5,660	187
Executive, Legislative and General Government	2,407	185
Refrigeration and Heating Equipment	3,517	178
Special Industry Machinery	307	173
Radio & TV Communication Equipment	394	159
Men's & Boy's Suits and Coats	173	155
Fabricated Structural Metal	311	149
Transportation Services	649	146
Logging	386	145
Personal Services	2,992	140
Plastics Foam Products	270	140
Local & Interurban Passenger Transport.	268	139
Sporting & Athletic Goods	395	138
Transportation by Air	386	125
Coal Mining	2,119	120

*Represents employment growth from 1988 to 1991 that is attributable to the region's comparative advantage in the industry over other regions in the United States.

**Not Elsewhere Classified.

SOURCE: Texas Comptroller of Public Accounts.

Tourism is boosting the export potential in the region's trade and services sectors. Tourism, like more traditional exports, brings in dollars from outside the region. In the Upper East Texas region, tourism and business travel-related expenditures topped $632.4 million in 1989 (latest data available). Travel-related employment rose to 11,590 in 1989. Much of the area's allure to tourists is based on its natural resources. Water-based recreation and weekend and retirement homes are abundant on Upper East Texas lakes.

Manufacturing

Several of the region's manufacturing industries added significant amounts of competitive share employment.

Poultry slaughtering and processing is big business in Upper East Texas, and the region grabbed a large share of the jobs in this industry over the period 1988 to 1991. In addition, the region remained attractive for hardware, ammunition, sanitary paper products and special industry machinery manufacturers.

The timber industry is important in some parts of Upper East Texas. The majority of timber harvesting in the region occurs along the Texas-Louisiana border—in Cass, Marion, Harrison, Rusk, Cherokee and Panola counties. Upper East Texas accounts for 26.7 percent of the total Texas timber harvest. Logging is among the industries that gained in competitive share from 1988 to 1991.

Several transportation industries have also showed an increase in competitive share. These include transportation services, local and interurban passenger transportation and transportation by air. Driven by the construction-intensive oil and gas and chemical production industries, the Upper East Texas heavy construction industry added employment faster than other regions from 1988 to 1991. Another construction industry, special trade contractors, appears on the list of industries that gained competitive share.

Interestingly, using the shift share technique, an industry can gain in competitive share employment while actually showing slight overall job losses for the period in question. Such was the case for two industries in the Upper East Texas region. Refrigeration and heating equipment and coal mining suffered mild employment declines between 1988 and 1991, but they appear on the list of industries that gained in competitive share. This indicates that while regional employment may be declining, these industries are doing much better within the region than throughout the rest of the nation.

What emerges from this analysis of specialization and change is a picture of a region with a strong manufacturing sector providing outside income to support other industries. Health care is also a large and growing area of specialization for the Upper East Texas region. In addition, the Upper East Texas region is still largely dependent on exports of its natural resources. The oil and gas industries still play a major role, as do timber and poultry products. Government employment plays heavily in the region's export potential with military bases, defense contractors, higher educational institutions and a large local government sector. The area is also building a growing tourism industry around its natural beauty.✪

Demographics

Population Growth

According to the 1990 census, the Upper East Texas region has a population of 901,037, representing an increase of 11.7 percent since the 1980 census. This is significantly less than the state's growth rate of 19.4 percent during the same period. Different counties in the region, however, have experienced population swings that vary greatly from the region's norm. Population growth in the majority of the counties in the region lagged far behind the state during the past decade, with some even experiencing population declines. Yet, even though growth came slowly to most parts of the region, a few Upper East Texas counties saw increases that far out-distanced the state average.

The counties in the region that either border, or are very near to the border of the Dallas Metropolitan Statistical Area (including Henderson, Rains and Van Zandt) all had population gains that greatly exceeded those of the region and even those of the state as a whole. Growing at a 38.8 percent clip, Rains County led all counties in the region in percentage population gain. (See Table 4.) Henderson County, which borders the Dallas MSA, followed close behind, growing at a rate of 37.4 percent.

The eastern portion of the region, however, did not fare as well. With the exception of Bowie, Gregg and Harrison counties (which contain the metropolitan areas of Texarkana and Longview-Marshall) the counties closest to the Louisiana border experienced very slow population growth over the 10 year span. The populations of Red River and Morris counties actually declined during the period. The two counties suffered the largest declines in the region in both percent declines, and actual population loss.

Metropolitan areas traditionally tend to outpace the state average for population growth. The metropolitan areas of Upper East Texas, however, experienced lackluster combined population growth of only 11.3 percent for the decade of the 1980s. The Tyler MSA, which encompasses Smith County, grew by 17.9 percent and led the other two MSAs. Though among the region's leaders in population growth, Smith County still lagged behind the level of population growth of the state as a whole.

The counties that make up the other two MSAs not only trailed the growth-level of the state, but also fell below the level of the region. Bowie County, including the city of Texarkana, grew at a rate of only 8.5 percent during the decade. Gregg and Harrison counties, which contain the cities of Longview and Marshall, also experienced relatively weak population growth of 5.5 percent and 10 percent respectively.

Net migration, which measures the number of people moving into and out of the area, coincides, for the most part, with the overall population trends of the region. The counties along the western edge of the region, especially those closest to the Dallas MSA, all saw their population increase as a result of relocations. Some counties, such as Delta, Rains, Wood and Van Zandt, would have had population declines over the decade if only births and deaths had been taken into account.

As was the case with total population, the eastern portion of the region lagged behind the western in total net migration. The metropolitan counties of Bowie and Harrison saw their numbers increase as people moved into their counties, but, because of

- **Population growth in Upper East Texas has been slower than the statewide average.**
- **While the region is becoming more ethnically diverse, it is still less so than the state as a whole.**
- **Like the state, the population of Upper East Texas is aging.**
- **In most counties of Upper East Texas, income levels remain below state and national averages.**

Table 4
Upper East Texas Population

County	Total			White			Black			Hispanic			Other		
	1980	1990	Percent Change	1980	1990	Percent Change	1980	1990	Percent Change	1980	1990	Percent Change	1980	1990	Percent Change
Anderson	38,381	48,024	25.1%	28,283	32,665	15.5%	8,115	11,091	36.7%	1,796	3,953	120.1%	187	315	68.4%
Bowie	75,301	81,665	8.5	57,565	61,964	7.6	16,322	17,697	8.4	993	1,334	34.3	421	670	59.1
Camp	9,275	9,904	6.8	6,762	7,015	3.7	2,365	2,349	-0.7	125	501	300.8	23	39	69.6
Cass	29,430	29,982	1.9	22,661	23,464	3.5	3,658	6,020	64.6	336	373	11.0	75	125	66.7
Cherokee	38,127	41,049	7.7	29,583	31,201	5.5	6,979	6,858	-1.7	1,294	2,697	108.4	271	293	8.1
Delta	4,839	4,857	0.4	4,396	4,344	-1.2	396	400	1.0	20	67	235.0	27	46	70.4
Franklin	6,893	7,802	13.2	6,374	7,040	10.4	409	349	-14.7	78	357	357.7	32	56	75.0
Gregg	99,487	104,948	5.5	79,022	80,358	1.7	17,629	19,835	12.5	2,011	3,775	87.7	825	980	18.8
Harrison	52,265	57,483	10.0	34,992	39,907	14.0	16,252	15,960	-1.8	802	1,278	59.4	219	338	54.3
Henderson	42,606	58,543	37.4	37,241	51,135	37.3	4,562	4,727	3.6	619	2,368	282.6	184	313	70.1
Hopkins	25,247	28,833	14.2	22,246	24,755	11.3	2,538	2,469	-2.7	397	1,407	254.4	66	202	206.1
Lamar	42,156	43,949	4.3	35,171	36,546	3.9	6,226	6,369	2.3	379	475	25.3	380	559	47.1
Marion	10,360	9,984	-3.6	6,675	6,696	0.3	3,544	3,093	-12.7	99	147	48.5	42	48	14.3
Morris	14,629	13,200	-9.8	11,154	9,660	-13.4	3,143	3,220	2.4	247	239	-3.2	85	81	-4.7
Panola	20,724	22,035	6.3	16,273	17,429	7.1	4,044	4,042	0.0	343	477	39.1	64	87	35.9
Rains	4,839	6,715	38.8	4,491	6,234	38.8	268	284	6.0	58	158	172.4	22	39	77.3
Red River	16,101	14,317	-11.1	12,505	11,107	-11.2	3,221	2,857	-11.3	280	273	-2.5	95	80	-15.8
Rusk	41,382	43,735	5.7	31,503	32,899	4.4	8,896	8,924	0.3	830	1,736	109.2	153	176	15.0
Smith	128,366	151,309	17.9	95,585	109,853	14.9	28,059	31,289	11.5	4,037	8,986	122.6	685	1,181	72.4
Titus	21,442	24,009	12.0	17,792	18,128	1.9	2,965	3,188	7.5	608	2,556	320.4	77	137	77.9
Upshur	28,595	31,370	9.7	23,904	26,714	11.8	4,367	3,858	-11.7	215	641	198.1	109	157	44.0
Van Zandt	31,426	37,944	20.7	29,503	34,786	17.9	1,282	1,451	13.2	558	1,515	171.5	83	192	131.3
Wood	24,697	29,380	19.0	21,775	26,069	19.7	2,553	2,374	-7.0	283	788	178.4	86	149	73.3
Regional Total	806,568	901,037	11.7	635,456	699,969	10.2	147,793	158,704	7.4	16,408	36,101	120.0	4,211	6,263	48.7
Texas Total	14,229,191	16,986,510	19.4	9,350,297	10,291,680	10.1	1,692,542	1,976,360	16.8	2,985,824	4,339,905	45.4	200,528	378,565	88.8

Note: These numbers were adjusted to define white, black, hispanic and other as mutually exclusive categories by the Department of Rural Sociology, Texas A&M University.

SOURCES: U.S. Census Bureau, Texas A&M University and Texas Comptroller of Public Accounts.

their size, the increases had little effect on their total population growth. Even though Gregg County, which combines with Harrison to make the Longview-Marshall MSA, had a population increase of 5,500, almost 2,700 more people moved out of the county than moved into it.

Some non-metropolitan counties in the region's eastern half, however, fared much worse. Cass and Marion counties had more people move out of, rather than into, the counties over the past ten years. Morris County, which lost almost 1,900 people due to net migration, saw 13 percent of its population leave the county during the past decade. To the north, Red River County also lost population due to net out-migration during the same period.

Population changes over the past ten years have had a varied affect on the population density of the region's counties. In the Upper East Texas region there are approximately 58 residents per square mile. Population growth during the past ten years has led to an increase in the average population density from its level of just under 52 residents per square mile in 1980. The region remains less densely populated than the state, which averages almost 64 persons per square mile.

Gregg County is, by far, the most densely populated county in the region. Its average population density has increased from 363 residents per square mile in 1980, to 382 per square mile in 1990. Bolstered by strong population growth in the city of Tyler, population density in Smith County rose from 138 persons per square mile in 1980 to just under 163 per square mile in 1990.

The region's non-metropolitan counties also become more densely populated. As could be expected, the fast-growing counties in the western portion saw large jumps in their level of population density. The four western-most counties, Rains, Van Zandt, Henderson and Anderson, had large jumps in population density. During the past ten years, the population density of Henderson County grew to stand at just under 67 persons per square mile in 1990.

Ethnic Diversity

Just as the density of the region's population has changed over the past ten years, it's ethnic make-up is moving toward the state's. While the population of the region has increased by 11.9 percent during the past ten years, growth among the ethnic groups has varied greatly. The Anglo population increased by 10.2 percent while the Black population increased by only 7.4 percent. Rapid growth in the Hispanic population supplied the remainder of the increase. In the past decade, the total number of Hispanics in the Upper East Texas region has grown 120 percent and its share of the total population has doubled from 2 to 4 percent.

Growth in the Hispanic population has been widespread across the region, with some smaller counties more than quadrupling their totals of ten years ago. The only counties in which the Hispanic community became smaller were Red River and Morris counties, although at a slower rate than the declines in for other groups. The share of the ethnic make-up occupied by Hispanics increased in each of the 23 counties in the region. While the growth rates of hispanics in the Upper East Texas region appear huge, they still represent a small share of the total population.

The African American population in the region appears to be declining. The total number of Blacks decreased in nine of the region's 23 counties, and has grown by less than half of the regional-average in seven others. The percentage of Blacks in the ethnic make-up decreased in 16 of the 23 counties and stayed the same in three others.

The role of Anglos in the ethnic mix has also declined in the Upper East Texas Region during the past 10 years. Growth in the Anglo population has surpassed the regional average in only seven counties.

Despite their decreasing dominance in the ethnic mix, Anglos still vastly outnumber all other ethnic groups put together. The largest concentrations of minorities in the region come in either metropolitan counties or those counties which border Louisiana. Led by Marion County at 31 percent, Blacks make up more than 20 percent of each of the counties on the Louisiana border, with the exception of Panola County that has 18.3 percent. Black residents in the four metropolitan counties average 22.3 percent of the total population. The Hispanic population, though growing rapidly, still makes up only a very slight percentage of the total population in nearly all the region's counties.

In the Upper East Texas region, Anglos make up over three-quarters of all residents, compared to only 60 percent of all Texas residents. (See Table 5.) However, the region closely mirrors the national average of 75.7 percent Anglo.

Comparing minority populations accentuates the disparity between the region and the state. African Americans make up 17.6 percent of the region's population as opposed to only 11.6 percent of the state total and 11.7 percent of the nation. Further, Hispanics account for only 4 percent of the region's population compared to 25.6 percent for the state and 9 percent for the nation. Of the 23 counties, the percentage of Anglos decreased in 16, increased in six and stayed the same in one.

Age

Though the ethnic make-up of the Upper East Texas region differs greatly from state and national norms, the breakdown of its population by age group is very similar. Two trends in age-group breakdown have affected the region just as they have the rest of the nation. The first is the impact of the "Baby Boomers" and the second is the gradual aging of the population.

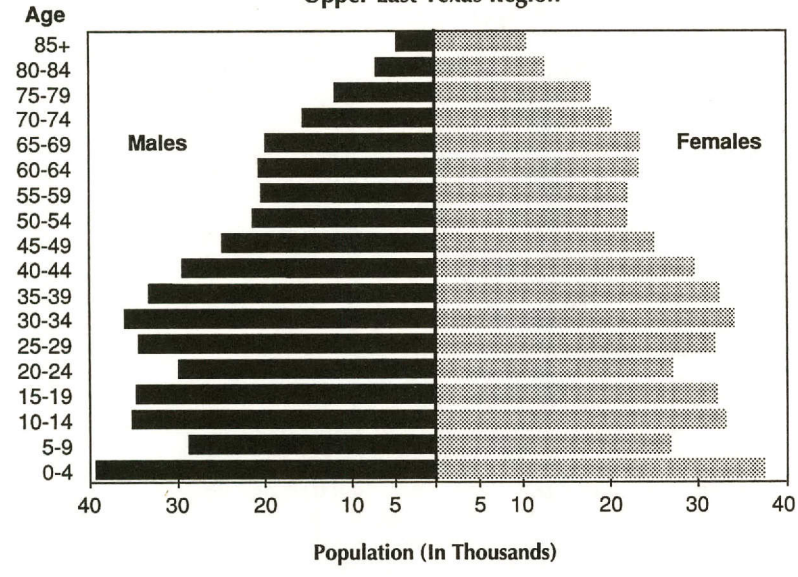
Most of the Baby Boomers, those born in the population explosion that followed World War II, now occupy the age categories between 25-44. Ranking just behind the "less than 5 years of age" group, the "35-39" group is the next largest, making up 7.7 percent of the population. Upper East Texas Baby Boomers combine to make up 28.7 percent of the total population for the region. (See Figure 2.)

The Baby Boomers have swelled the ranks of their age divisions, increasing the total population in their age groups by almost 30 percent in the past 10 years. The age-group categories vacated by them have declined rapidly in their wake. In 1980, Upper East Texans between the ages of 15 to 24 made up 16.8 of the total population. Ten years later, as the Baby Boomers aged, the number of people in that age group had declined by 9.2 percent and their share of the total population had decreased to 13.6 percent.

As the swollen ranks of the Baby Boomers age, they have increased the average age of the population. This, combined with medical advances that have extended the average life-span, promises to dramatically alter the make-up of the population in coming years.

Figure 2

1990 Population By Age and Sex
Upper East Texas Region



SOURCES: Bureau of the Census and United States Department of Commerce.

The effects of increased longevity are evident in the Upper East Texas region. The number of the region's residents above the age of 65 has increased by 20 percent during the past 10 years, from 117,900 in 1980, to 141,500 in 1990. The largest increase of any age category came from the "85 and older" group which more than doubled during the decade, increasing from just 6,200 in 1980, to 14,900 in 1990.

Another trend evident in the region is the propensity of women to live longer than men. The number of men in the region exceeds the number of women until about the age of 30, where they remain equal for about 10 years. After that, however, the proportional number of women in each age group increases until, at 85 years old and above, the male/female ratio is less than one male for every two females.

Table 5
Upper East Texas Ethnic Make-up

County	Percent White 1980	Percent White 1990	Percent Black 1980	Percent Black 1990	Percent Hispanic 1980	Percent Hispanic 1990	Percent Other 1980	Percent Other 1990
Anderson	73.7%	68.0%	21.1%	23.1%	4.7%	8.2%	0.5%	0.7%
Bowie	76.4	75.9	21.7	21.7	1.3	1.6	0.6	0.8
Camp	72.9	70.8	25.5	23.7	1.3	5.1	0.2	0.4
Cass	77.0	78.3	12.4	20.1	1.1	1.2	0.3	0.4
Cherokee	77.6	76.0	18.3	16.7	3.4	6.6	0.7	0.7
Delta	90.8	89.4	8.2	8.2	0.4	1.4	0.6	0.9
Franklin	92.5	90.2	5.9	4.5	1.1	4.6	0.5	0.7
Gregg	79.4	76.6	17.7	18.9	2.0	3.6	0.8	0.9
Harrison	67.0	69.4	31.1	27.8	1.5	2.2	0.4	0.6
Henderson	87.4	87.3	10.7	8.1	1.5	4.0	0.4	0.5
Hopkins	88.1	85.9	10.1	8.6	1.6	4.9	0.3	0.7
Lamar	83.4	83.2	14.8	14.5	0.9	1.1	0.9	1.3
Marion	64.4	67.1	34.2	31.0	1.0	1.5	0.4	0.5
Morris	76.2	73.2	21.5	24.4	1.7	1.8	0.6	0.6
Panola	78.5	79.1	19.5	18.3	1.7	2.2	0.3	0.4
Rains	92.8	92.8	5.5	4.2	1.2	2.4	0.5	0.6
Red River	77.7	77.6	20.0	20.0	1.7	1.9	0.6	0.6
Rusk	76.1	75.2	21.5	20.4	2.0	4.0	0.4	0.4
Smith	74.5	72.6	21.9	20.7	3.1	5.9	0.5	0.8
Titus	83.0	75.5	13.8	13.3	2.8	10.6	0.4	0.6
Upshur	83.6	85.2	15.3	12.3	0.8	2.0	0.4	0.5
Van Zandt	93.9	91.7	4.1	3.8	1.8	4.0	0.3	0.5
Wood	88.2	88.7	10.3	8.1	1.1	2.7	0.3	0.5
Total	**78.8**	**77.7**	**18.3**	**17.6**	**2.0**	**4.0**	**0.5**	**0.7**
TEXAS	**65.7**	**60.6**	**11.9**	**11.6**	**21.0**	**25.6**	**1.4**	**2.2**

Note: These numbers were adjusted by the Department of Rural Sociology at Texas A&M University to define white, black, hispanic and other as mutually exclusive categories.

SOURCES: U.S. Census Bureau, Texas A&M University and Texas Comptroller of Public Accounts.

Table 6
Upper East Texas
Per Capita Personal Income

1990 Rank in State		1980	1990	Change	Percent Change
220	Anderson	$ 7,488	$12,520	$5,032	67.2%
116	Bowie	7,824	15,151	7,327	93.6
46	Camp	8,153	18,053	9,900	121.4
176	Cass	6,730	13,677	6,947	103.2
196	Cherokee	8,155	13,238	5,083	62.3
172	Delta	6,874	13,755	6,881	100.1
143	Franklin	6,254	14,488	8,234	131.7
72	Gregg	9,700	16,771	7,071	72.9
168	Harrison	7,546	13,826	6,280	83.2
216	Henderson	6,487	12,662	6,175	95.2
136	Hopkins	6,944	14,624	7,680	110.6
129	Lamar	7,236	14,769	7,533	104.1
234	Marion	5,402	11,485	6,083	112.6
183	Morris	10,491	13,560	3,069	29.3
104	Panola	7,486	15,616	8,130	108.6
229	Rains	6,336	11,945	5,609	88.5
212	Red River	5,639	12,789	7,150	126.8
147	Rusk	8,234	14,346	6,112	74.2
58	Smith	9,278	17,511	8,233	88.7
110	Titus	9,417	15,432	6,015	63.9
203	Upshur	6,521	12,970	6,449	98.9
144	Van Zant	7,177	14,446	7,269	101.3
160	Wood	7,913	14,025	6,112	77.2
Regional Average		$8,035	$14,979	$6,874	85.5
TEXAS AVERAGE		**$9,528**	**$16,717**	**$7,189**	**75.5**

SOURCES: Bureau of Economic Analysis and Texas Comptroller of Public Accounts.

Income

Though some population trends of the state may hold true for the region, income levels in the Upper East Texas region are consistently below those of the state and nation. Since 1986, per capita income levels for the region have never come within 10 percent of the state average or within 20 percent of the national average. In 1990, the region averaged $14,979 in income per person while the state averaged $16,717 and the national average was $18,696. (See Table 6.)

Since the statewide recession of the mid-1980s, however, personal income in the region has grown at an impressive pace, increasing at an average annual rate of 5.6 percent between 1987 and 1990. Despite this strong growth, the region has still not been able to keep pace with the 6.5 percent annual income growth rate of the state during that period.

Individual counties in the region, however, not only kept pace with the state average, but exceeded it. Bolstered by a 19 percent jump in 1989, personal income in Camp County remains at 108 percent of the state average as of 1990. Though Camp County's level of $18,053 leads all counties in the region in per capita personal income, two other counties are also above the state average. The region's most populous county, Smith, has an average income level of $17,511 per person, 104.7 percent of the state level. Another metropolitan county, Gregg, also has a level slightly above the state's, at $16,771 or 100.3.

In all, the metropolitan counties of the state fared much better than did the non-metropolitan ones. The metropolitan counties, Bowie, Gregg, Harrison and Smith, combined for a per capita income level of $16,625 (almost equaling the state average), while the non-metro counties averaged just $13,862, only 82.9 percent of the state level.

The bottom 10 counties in the region with regard to per capita income are all non-metropolitan counties. Marion County, with an income level of just $11,485, ranks among the bottom 20 counties in the state. The region also has five other counties with average income levels below $13,000 per person.

Demographic Trends in the Future

In the Upper East Texas region, trends in both the size and make-up of the population are expected to continue into the 21st century. The region's population will continue to increase, but the rate of expansion will consistently be less than the state's. For the next ten years, the region will grow at an annual average rate of less than 0.4 percent. During this period the population of the state will expand by an average of 1.1 percent per year.

Differences in the rate of population growth among the various ethnic groups will continue to increase the ethnic diversity of the region. The Black population in the region will expand at a rate that is very close to, or slightly ahead of, that of the state. The number of Hispanics in the region will continue to grow much faster than any other group, though their meteoric rise will slow to an annual rate of 2.2 percent in the coming decade. In the next 10 years, the number of minorities in the region's ethnic mix will grow as the rate of population growth among Anglos falls to an annual average of just 0.2 percent. The percentage of whites in the region will continue to surpass the state average, however, making up more than three-quarters of the total population past the year 2010.

Though the region continues to grow, recent years have seen the rate of expansion decrease. The population of the Upper East Texas region will peak around the year 2012 at approximately 955,000. Though the Hispanic population will continue to increase, other minority growth will have slowed significantly and the Anglo population will have been in decline for several years. By the year 2025, the region's population will decline to 932,000. ✪

Labor Force

The Upper East Texas region, like most of the state, relies on a quality labor force. The region's industrial profile has traditionally been comprised of timber-related and defense-related manufacturing, as well as oil and gas production. As the national and state economies have fluctuated, so has the Upper East Texas economy, which is reflected in regional employment.

Upper East Texas is following many of the state's occupational shift trends. Service-related and sales-related occupations continue to constitute a growing portion of Upper East Texas' labor force. Professional and technical occupations are also gaining ground. To balance the gains in these occupations, production occupations, such as machinists, assemblers and welders have a declining presence in the region.

To provide local industry with a trained work force, the majority of school districts have extensive vocational education programs. Regional manufacturers and colleges have also realized the importance of education to the quality of the workforce and productivity. While ranking well compared to the state in secondary education completion, the region lags behind the state in the number of college graduates. (See Table 7.)

Labor Force Demographics

In 1990, Upper East Texas' working age population (18-64 year olds) totaled 520,800 or 57.8 percent of the region's total population. Following the national trend, the region's population is aging. This will have a significant impact on the regional work force because there will be fewer entry-level workers in the job market of the future. The population of 15 to 24 year olds has fallen by 12,500 or 10.2 percent, from 135,500 in 1980 to 123,000 in 1990. The population for 5 to 14 year olds has also fallen slightly between 1980 and 1990. This trend of declining population in younger age groups is significant because it implies that for the region to continue to expand its industrial base, it will need to attract workers from outside the Upper East Texas area. It will also be important for local school districts to prepare quality graduates, who are ready to enter a toughening job market.

Within the Upper East Texas region, 31 percent of the population over age 18 don't have high school diplomas or equivalent certification, compared to 28.2 percent for the state and 21.6 percent for the nation.

In 1991, college became a reality for an increasing number of the region's graduating high school seniors. The proportion of the region's adult population that has at least attended college closely reflects the national average, at 39 percent, but lags behind the statewide figure of 45.9 percent.

Occupational Characteristics

The Upper East Texas labor force is concentrated in the area's three metropolitan areas—Longview-Marshall, Texarkana and Tyler. These areas are centers for the region's manufacturing infrastructure. The region's metropolitan area labor force rose by 20,400 or 10.7 percent from 191,100 in 1985 to an estimated 211,500 in 1990. During the same period the statewide labor force grew by an estimated 10.4 percent.

- **As the region's population ages, the number of future entry-level workers will fall.**
- **Professional jobs are on the rise, but continue to lag behind the state and nation.**
- **The region's aging population has increased the demand for health service workers.**
- **Manufacturing-related occupations are more predominant in the region than the state.**
- **Average wages in the region are substantially below state and national figures.**
- **Texas State Technical College-Marshall, which opens in September, should increase the quality of the regional labor force.**

Table 7
Upper East Texas, Texas and U.S. Educational Attainment Levels in 1990

	Upper East Texas	Texas	United States
Less Than 9th Grade	10.8%	12.3%	4.7%
9th-12th Grade No Diploma	20.2	15.9	12.6
High School Grad or GED	30.0	25.9	39.5
Some College No Degree	21.5	22.9	18.5
Associate Degree	5.6	4.9	na
Bachelor Degree	7.8	12.6	11.0
Graduate Degree	4.1	5.5	7.4

SOURCES: U.S. Census Bureau and Texas Comptroller of Public Accounts.

Upper East Texas is similar to the majority of the state regarding the fastest growing industries. Elementary and secondary schools, restaurants, hospitals and department stores are the leading employers. In addition, Upper East Texas has several industries that are vital to the regional economy, including health care, oil and gas production, poultry processing, defense-related manufacturing, industrial organic chemical and refrigeration equipment manufacturing.

Professional and technical occupations—ones that require higher education—constitute a larger percentage of the statewide labor force than in Upper East Texas. In 1990, professionals accounted for 19 percent of the total labor force in the state, a jump from 18.3 percent in 1985. During the same

Table 8
Upper East Texas' 10 Largest Occupations in 1990

Occupation	Total	Percent of Total	Percent of State Total	Rank in State
Total, All Occupations	211,525			
General Office Occupations	13,500	6.4%	6.4%	1
Food and Beverage Occupations	13,050	6.2	6.2	2
Mechanics, Installers and Repairers	11,375	5.4	4.5	4
Helpers, Laborers and Material Movers, Hand	8,650	4.1	4.4	5
Transportation and Material Moving Machine Operators	8,600	4.1	4.6	3
Teachers and Instructors	8,175	3.9	4.4	6
Salespersons, Retail	7,475	3.5	3.1	8
Construction Trades, Extractive	7,450	3.5	4.3	7
Machine Setters, Operators and Tenders	7,250	3.4	3.1	9
Secretaries	5,950	2.8	3.0	10

SOURCES: Texas Employment Commission and Texas Comptroller of Public Accounts.

Table 9
Upper East Texas' 10 Fastest Growing Occupations 1985-1990

Occupation	1985 Total	1990 Total	1985-1990 Job Change	Rank in State Growth
Total, All Occupations	191,050	211,525	20,475	
Food and Beverage Occupations	11,500	13,050	1,550	1
Teachers and Instructors	6,950	8,175	1,225	2
Mechanics, Installers and Repairers	10,150	11,375	1,225	4
Cashiers	4,800	5,675	875	9
General Office Occupations	12,650	13,500	850	5
Salespersons, Retail	6,700	7,475	775	13
Health Care Maintenance and Treating Occupations	4,250	4,925	675	6
Secretaries	5,300	5,950	650	10
Health Service Occupations	3,400	4,025	625	12
Management Support Occupations	5,200	5,700	500	11

SOURCES: Texas Employment Commission and Texas Comptroller of Public Accounts.

period, the number of professionals in Upper East Texas rose from 16.7 percent of the labor force to 17.2 percent. Thus, though the number of professionals in the region has increased during those five years, it has failed to keep pace with the state's growth during the same period.

Upper East Texas' teachers and instructors make up the largest portion of those with professional occupations, accounting for 3.9 percent of the total labor force in 1990, up from 3.6 percent in 1985. Throughout the state, teachers and instructors made up 4.2 percent in 1985 and 4.4 percent of the labor force in 1990. Despite their relatively smaller share of total employment, the number of teachers and instructors in the region has expanded at an impressive rate during those five years, rising by 17.6 percent.

Though engineering occupations experienced growth in employment throughout the state, they showed less growth in the Upper East Texas region. Between 1985 and 1990, their share of total employment in the region remained unchanged at 1.2 percent. Across the state, it also remained constant, but at a level of 1.4 percent. Mechanical and electrical engineers are predominant in the region, each accounting for 0.2 percent of the labor force in 1985 and 1990.

Upper East Texas' large manufacturing base is supported by more than 65,000 production, operative and maintenance workers, accounting for an estimated 31.6 percent of the regional labor force in 1990. This is substantially higher than state's level of 26.8 percent of the total labor force and gives further evidence of the importance of manufacturing to the regional economy. Mechanics, installers and repairers continue to be a major factor in the Upper East Texas labor force. In 1990, these occupations employed 11,400 or 5.4 percent of the total labor force, and have increased by more than 1,200 since 1985.

Because of the region's lack of abundant railways, waterways and airports, the majority of transportation-related employment occurs in highway transportation. Upper East Texas' largest transportation-related occupation is truck drivers. In 1990, the region's truck drivers constituted 2.7 percent of the labor force, rising by 14.7 percent between 1985 and 1990. Across the state, the number of truckers has increased by 10.8 percent during those five years and their share of the total labor force stood at 2.4 percent as of 1990.

The construction industry is an important indicator of the state and future of the local economy. While the state's construction labor force fell from 3.7 percent of the total labor force in 1985 to 3.6 percent in 1990, the region's construction sector also fell in

terms of labor force share. In 1990, the proportion of construction workers in the labor force mix fell to 3.3 percent from 3.5 percent in 1985. While the state's construction employment rose by 7.0 percent the region's only grew by 6.4 percent.

Although service-related employment has been an area of fast growth for the state, Upper East Texas is lagging behind. In 1990, service jobs accounted for an estimated 15.0 percent of total state occupations, up from 14.5 percent in 1985. In Upper East Texas, service occupations were only 14.8 percent of the labor force in 1990, rising from 14.3 percent in 1985. Even though service occupations are gaining employment share in the region, its rate of growth is one tenth of a percent lower than statewide, 14.1 percent compared with 14.2 percent.

Health service occupations, such as nursing aides, dental assistants and medical assistants, are experiencing the fastest growth within the service sector in both Texas and Upper East Texas, with home health aide workers growing the most. Between 1985 and 1990 health service occupations rose by 19.2 percent in Texas and 18.4 percent in the region. Despite losing ground in recent years, health service occupations continue to constitute a higher percentage of the total labor force in the region: 1.9 percent in 1990 compared with the state's 1.5 percent. This concentration can be partially attributed to the region's elderly population.

Food and beverage occupations range from bartenders and waitresses to butchers and bakers. Between 1985 and 1990 their share of the region's labor force rose from 6.0 to 6.2 percent, following, but not quite matching a statewide trend. The number of food and beverage workers increased by 14.7 percent throughout the state, while growing by 13. 5 percent in the Upper East Texas region.

While service-related occupations are on the rise, sales occupations are also growing, due largely to increased demand for the region's goods. Sales and other related occupations have a larger presence in Upper East Texas than they do in the state as a whole. In 1990, wholesale and retail sales workers made up 11.7 percent of the labor force in the region versus 11.1 percent statewide. Between 1885 and 1990, both the region and the state have enjoyed strong gains growing by 11.5 percent and 11.0 percent, respectively.

Retail sales personnel make up the largest percentage of the sales-related work force in both the region and the state. The sector's share of the total labor force remained unchanged at 3.5 percent in the region, while falling from 3.2 percent to 3.1 percent statewide. The region's retail sales growth rate of 12.2 percent was also higher than the state's rate of 10.7 percent between 1985 and 1990.

While sales-related occupations are on the rise, clerical and administrative support occupations are declining in presence in both the Upper East Texas region and the state. Between 1985 and 1990, their share of the total labor force has fallen from 16.3 percent to 16 percent in the region and from 18.1 percent to 17.7 percent throughout the state. Secretaries constitute the most sizable portion of the clerical and administrative support group. Statewide, 3.0 percent of the total labor force were secretaries in 1990, compared with 2.8 percent in Upper East Texas.

Average Wage Comparison

Texas has historically been a relatively low wage state, but now approximately equals the nation in this regard. Texas' average annual wage was $23,850 in 1990, which was $500 or 2.6 percent above the national average wage. However, when the national figure was adjusted for the state's industrial mix, Texas' average wage was above the nation average by 0.8 percent.

In contrast, Upper East Texas' average wage of $19,750 was $3,500 or 17.7 percent below the national average wage of $23,250. When the national average wage is adjusted to reflect the region's industrial structure, the difference was even greater ($4,000 or 20.3 percent).

But in seven industries, the average wage in Upper East Texas slightly exceeded the national average wage for their industry. By and large these industries, such as rubber and plastic products, coal production, paper products and chemicals are those in which the Upper East Texas region tends to specialize and which are national in scope.

Outside of those seven industries, most of the region's largest industries display regional wage rates below their national counterparts.

Health services, which is the region's largest employment sector, had average

Table 10
Upper East Texas and U.S. 1990 Average Annual Wages

Industry	U.S. Annual Average Wage	Upper East Texas Average Wage	Amount Above U.S. Average
Rubber and miscellaneous plastic products	$24,707	$30,626	$5,919
Coal mining	39,677	45,529	5,862
Nonmetalic minerals, except fuel	29,910	33,838	3,928
Paper and allied products	32,623	35,183	2,560
Local and interurban passenger transit	14,668	16,486	1,818
Chemicals and allied products	39,617	40,347	730
Food stores	13,038	13,612	574

SOURCES: Texas Employment Commission, Bureau of Labor Statistics and Texas Comptroller of Public Accounts.

wages substantially below the national average, $18,500 compared with $25,200. The region's second largest industry, eating and drinking establishments, also had wages below the national average. In 1990, restaurant and bar employees' average annual wage was $350 or 4.4 percent below the U.S. average.

Some explanations for lower wages in Upper East Texas include a lower cost of living and educational levels of the work force below state and national averages.

Table 11
Relative Wage Rates for Upper East Texas' 10 Largest Private Industries

Industry	U.S. Average Annual Wages	Upper East Texas Average Annual Wages	Difference	Percent Difference
Health services	$25,200	$18,500	-$6,700	-36.2%
Eating & drinking places	8,350	8,000	-350	-4.4
Food stores	13,050	13,600	550	4.2
General merchandise stores	12,600	12,100	-500	-4.1
Food & kindered products	24,500	22,100	-2,400	-10.9
Oil & gas extraction	38,300	31,000	-7,200	-23.5
Industrial machinery & equipment	32,950	27,400	-5,550	-20.3
Wholesale trade, durable goods	31,650	24,000	-7,650	-31.9
Fabricated metal products	27,400	24,300	-3,100	-12.8
Wholesale trade, nondurable goods	27,800	20,400	-7,400	-38.3

SOURCES: Texas Employment Commission, Bureau of Labor Statistics and Texas Comptroller of Public Accounts.

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Work Force Development

In an effort to keep pace with changing occupations in the region, local educators and industry leaders are attempting to create programs that provide students with the necessary skills to enter the modern work force. By introducing vocational and technical training to students at the secondary and higher education levels, the need for on-the-job training can be greatly reduced. The opening of the Marshall Campus of the Texas State Technical College promises to greatly benefit local efforts to provide students adequate training to find jobs, while at the same time increasing the skill levels of local entry-level workers.

Texas State Technical College-Marshall (TSTC-M) was created by the 72nd Legislature to help fill the growing technical employment needs of the state. The new college is scheduled to begin classes in September 1992, with Fall enrollment projected to be between 150 and 250.

Among the programs offered at the college will be several with a strong regional impact, such as occupational safety and chemical technology. Other programs designed to expand the area's technology base include computer integrated manufacturing, instrumentation, electro-mechanical and aeronautic training.

One of the more exciting new programs at TSTC-M is the Tech-Prep program. The college is completing agreements with local school districts which would allow tenth and eleventh grade students to start training at the college while continuing to work towards high school graduation. TSTC-M is hoping to eventually expand the program to include younger students.

Upper East Texas encompasses two Texas Quality Work Force planning districts. The North East Texas district's higher education members include North East Texas Community College, Texarkana College and North Texas University. The East region is headquartered at the University of Texas at Tyler. The Texas Quality Work Force planning committee combines the efforts of government agencies, educational institutions, as well as local business to teach students the skills required by local industries. Pilgrim's Pride Chicken and Lone Star Steel are working with North East Texas Community College on one of the largest corporate-involved literacy programs in the region.

The Quality Work Force Planning Committee has declared several targeted occupations for the East Texas region. These occupations have been targeted because of projected openings and the ability to provide training. Teachers head the list, with 564 projected annual openings, which would amount to an increase of 19.7 percent between 1985 and 1995. The Planning Committee has also identified secretaries and truck drivers, with 281 and 244 projected annual openings respectively, as two other career fields expected to be in high demand in the coming years. Registered nurses, nurse's aides and licensed nurse practitioners account for the next largest block of targeted occupations. The list also includes police officers, electricians, computer operators, physical therapists and firefighters.

Dropout rates in the schools within the Upper East Texas region fall below those of the state, at just 2.9 percent. In addition, 9 out of every 10 of the region's school districts expect to send the same or a larger percentage of their students on to higher education.

Despite this fact, more must be done for the region's students to more adequately prepare them to enter college. In 1990-91, Scholastic Aptitude Test results (used as a measure for college-preparedness) averaged 855 in the region and trailed the state average of 872. Likewise, in the other major college entrance test (the American College Testing or ACT), Upper East Texas students averaged 19.4 and again fell below the state average of 19.8.

Each year, Texas school children are required to take a series of tests designed to measure their performance. Results from the TEAMS (Texas Educational Assessment of Minimum Skills) test indicates that, once again, students in the region scored lower than the state average. For the 1989-90 school year (the last data available) the Upper East Texas region's public school system had a 72 percent passing rate, falling below the state average of 73.6 percent. ✪

Forecast

Economic Outlook Through 2000

Many of the forces of change playing out in Texas will have direct impacts on the economic outlook for the Upper East Texas region by the turn of the century. An aging population augmented by generally rising real health care expenditures will support a growing health care industry in the region. Rising incomes and lifestyle changes, such as more women working outside the home, should drive further increases in the demand for other services.

For business in the region, the continuing sluggishness in the national economy, stagnant oil prices and a decline in defense-related manufacturing activity will result in slow growth during the first half of the decade. A stronger national economy along with projected increases in the demand for timber industry products should lead the region into a period of more rapid growth in the latter half of the decade. As a result, the structure of the region's economy should change significantly during the 1990s.

Traditional Economic "Drivers"

Manufacturing and oil-related economic activity powered much of the growth of the Upper East Texas region during the 1970s and 1980s. During the last decade of the century these sectors will grow considerably more slowly. In fact, all of the net employment gains projected for this region during the first half of the decade are expected to come from jobs outside these traditional sources of growth.

Total non-farm employment in the region is projected to grow from 303,500 in 1990 to 320,700 in 1995, an annual growth rate of 1.1 percent (see Table 12.) This growth rate is slightly below the 1.7 percent annual rate projected for the state from 1990 to 1995. Employment growth in the region is expected to accelerate during the latter half of the 1990s, resulting in an overall growth rate of 1.6 percent for the decade and the addition of 52,700 jobs by 2000.

Key components of the region's manufacturing base are expected to head in different directions early in the 1990s. Buoyed initially by the impact of low interest rates on the home construction market and then by a general national recovery, national forecasts for the lumber and wood products industry project relatively strong and continual employment growth during the next ten years (see Figure 3). Employment in these industries should increase more than twenty percent during the 1990s. Employment in the related paper and allied products sector is expected to hold steady through 1995 before growing modestly through the end of the decade.

In contrast, defense-related manufacturing industries will be hard hit through 1995, with industrial production in these sectors expected to drop by more than twenty percent from 1990 levels. Some recovery should occur in these industries after the mid-point of the decade.

Based on these and other national trends in key industries important to the Upper East Texas region, employment gains in the timber-related industries should help offset losses on other manufacturing industries during the first half of the decade. Latter in the 1990s, more widespread gains in manufacturing should result in the region averaging a small 0.1 percent annual growth rate in manufacturing jobs from 1990 to 2000. In

• Nonfarm employment growth in the Upper East Texas region will average 1.6 percent per year between 1990 and 2000.

• Employment growth is expected to be below the statewide rate from 1990 to 1995, but will accelerate during the latter half of the decade.

• The traditional drivers of growth–oil and gas and manufacturing–will grow much more slowly during the 1990s, but growth in services will help take up the slack.

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TABLE 12
Upper East Texas Economic Forecast Through 2000

				Average Yearly Growth		
	1990	1995	2000	1990-95	1995-2000	1990-2000
Total Personal Income (in $Billions)	$13.47	$17.47	$25.21	5.3%	7.6%	6.5%
Total Nonfarm Employment (in Thousands)	303.5	320.7	356.2	1.1	2.1	1.6
Mining Employment (in Thousands)	10.2	9.8	9.8	-0.7	0.0	-0.3
Construction Employment (in Thousands)	12.8	12.7	14.1	-0.1	2.2	1.0
Manufacturing Employment (in Thousands)	60.8	56.5	61.4	-1.4	1.7	0.1
TPU/Comm Employment (in Thousands)	20.3	21.2	24.3	0.9	2.7	1.8
Trade Employment (in Thousands)	70.8	75.0	81.2	1.1	1.6	1.4
FIRE Employment (in Thousands)	11.4	11.0	10.3	-0.7	-1.3	-1.0
Services Employment (in Thousands)	58.7	70.1	82.9	3.6	3.4	3.5
Government Employment (in Thousands)	58.4	64.4	72.1	2.0	2.3	2.1
Retail Sales (in $Billions)	4.0	5.2	7.2	5.5	6.8	6.1
Population (in Thousands)	899.3	926.1	941.4	0.6	0.3	0.5
Births (in Thousands)	12.9	12.0	11.0			
Deaths (in Thousands)	9.5	9.5	9.8			
Per Capita Personal Income	$14,979	$18,865	$26,780	4.7	7.3	6.0

SOURCE: Wharton Econometric Forecasting Associates and Texas Comptroller of Public Accounts.

comparison, the state is expected to average a 1.4 percent annual growth rate in the number of manufacturing jobs during the 1990s.

Service Sector Growth

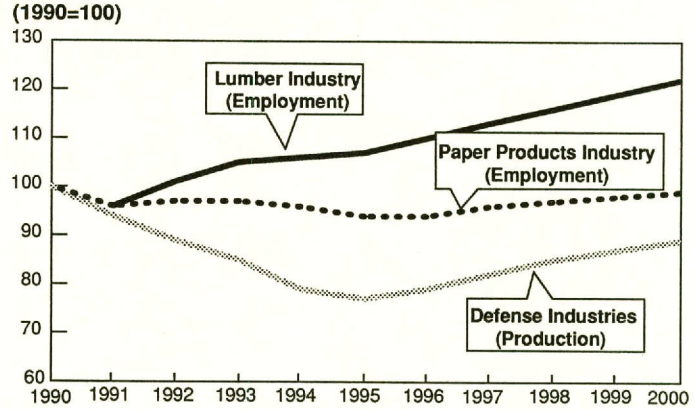
Two strong national forces of change will serve to generate the bulk of the region's jobs outside of the more traditional sources of growth. First, rapidly rising expenditures on health care coupled with an aging population is expected to generate national employment gains in the health care industries of more than 40 percent during the 1990s (see Figure 4). In serving the health care needs of its population, Upper East Texas will share in these employment gains.

Second, companies in the U.S., and particularly manufacturing firms, are reorganizing their business operations. There is a trend toward outsourcing of business functions previously conducted within the company. Notable in this regard are many building maintenance, accounting and security functions. As a result, employment in firms providing these business services has grown considerably during the past few years. At the national level this growth is expected to continue during the 1990s with business services employment expected to increase nearly 70 percent during the next ten years. Since there is no reason to expect businesses in Upper East Texas to behave differently from national norms in this regard, business services should also be a strong growth sector in the region during the decade.

As a result of these and other trends, the service sector is expected to generate significant job growth during the 1990s in the Upper East Texas region. Employment growth in services should average 3.5 percent annually from 1990 to 2000, adding more than 24,000 jobs during this period.

To serve this growing employment base, other sectors are also expected to add jobs during the decade. Nearly 11,000 jobs in wholesale and retail trade will be generated during the 1990s along with an additional 4,000 jobs in the transportation, communication and public utilities industries. Government, and predominantly local government, should average a 2.3 percent annual job growth during the last decade of the 20th century.

Figure 3
Key National Employment and Production Forecasting Indices



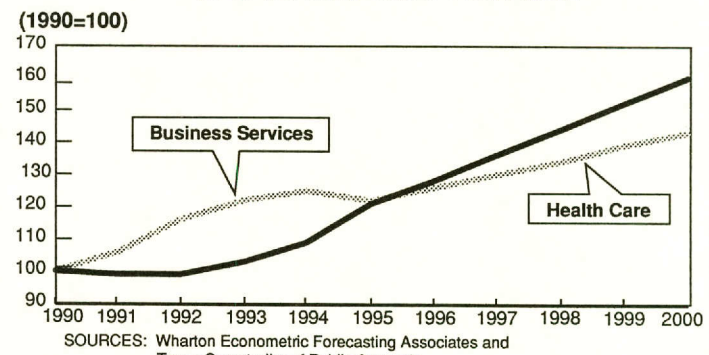
SOURCES: Wharton Econometric Forecasting Associates and Texas Comptroller of Public Accounts.

Population and Income

The underlying economic trends expected for the Upper East Texas region during the next ten years will serve to support a growing population base and rising income. Total region population should grow by more than 40,000 during the upcoming decade, an annual average of 0.5 percent.

Along with increasing employment will be rising income. Total personal income is projected to increase by 6.5 percent annually from 1990 to 2000. On a per capita basis, regional income should rise from $14,979 in 1990 to $26,780 in 2000. Regional retail sales should grow at an annual average rate of 6.1 percent during the decade.

Figure 4
Employment Indices for U.S. Business and Health Care Services



SOURCES: Wharton Econometric Forecasting Associates and Texas Comptroller of Public Accounts.

Forces of Change

Evidence of the forces of change can be seen all around us, in our history and in our current situation. For example, demographics are a force of change that effects not only Upper East Texas, but the state and the nation. Some of these changes are the aging of the population and the increasing ethnic diversity. This force of change has so much impact and prevalence that it is discussed in a separate section of this report. Generally, the forces of change have consequences for all Texans, but some are particularly relevant to a region of the state. The following discussion points to some of the forces of change affecting Texas that will significantly influence the future of the Upper East Texas region.

The Legacy and Future of a Resource-Based Economy

In Texas, the bounty of the land has been the source of wealth and prosperity. This has been particularly true for the Upper East Texas region, which benefitted in the past from forests, cotton, cattle and crude.

The region's forests provided settlers with everything from homes to fences to firewood. The forests brought in the logging companies and lumberjacks. The lumber industry was among the first viable industries in Texas, providing wealth not only for the region but also for the state, as most of the timber, sawmills and paper mills are in East Texas.

Prosperity from the land has benefitted Upper East Texas, yet one of the legacies of nature's abundance is controversy. The resources upon which the region's economy are based are finite. In addition, the marketplace is becoming increasingly sensitive to concerns about the environment. These two factors will significantly alter the future course of the region.

The original forests were destroyed by excessive logging in the early 20th century. Only belated recognition that conservation and reforestation were needed allowed the forests to be replanted and the lumber industry to continue.

In the midst of the area's continued lumber industry development, however, contention is arising from the need to provide employment while protecting the environment. The early development of the industry resulted in habitat destruction which caused the demise of several species that were native to East Texas, including black bears, ivory-billed woodpeckers and jaguars. Some methods of timber cutting currently in use, particularly clearcutting and the cutting of older timber, threaten the survival of another species in the area, the red cockaded woodpecker, which has been designated as an endangered species. Settlement of the timber development controversy, for this species at least, might well be in the courts and could serve to limit some of the activities of the timber industry. Another controversy exists over the desire to leave wilderness acres strictly natural and allowing some forest management to reduce insect pests.

The soil of Upper East Texas also supported subsistence farming and free range cattle for a time. Then, agriculture came under the dominion of King Cotton. The plantation system of agriculture practiced in this area assisted the state in becoming a leading producer of cotton in the nation. After the civil war this system of agriculture was replaced by sharecropping.

This early prosperity from cotton was another inheritance from nature's bounty. But in the 1930s King Cotton lost its dominance over agriculture in the Upper East Texas region due to soil erosion, boll weevils and root rot. The cultivation of feed crops, particularly hay, became dominant

• Upper East Texas will be less dependent on a resource-based economy as cattle, cotton and crude cannot be counted on to provide adequate employment.

• Upper East Texas will decline in population by 2025 as residents mature and in-migration dwindles.

over food crops and cotton. Some fields were also replanted as pasture for cattle and forests for the timber industry.

In addition, New Deal policies paid landowners to remove acreage from cultivation. The landowners profited, but sharecroppers lost jobs. Mechanization on the farm also reduced the need for a great deal of farm labor. Thousands of former sharecroppers and farm laborers flooded the cities searching for employment during the Depression. Fortunately for the region, just as the agriculture-based economy was waning, an oil boom arrived.

In the 1930s, one of the largest oil strikes in the U.S. was made in Upper East Texas, again providing prosperity for both the area and the state.

The discovery of oil was particularly advantageous, preceding a developing need for oil arising from World War II and the postwar boom. The discovery brought wealth into the area during the depression years and displaced farm workers could, for a time, find work in the oil fields. This boon has, however, proven to be an unstable, disparate source of prosperity. While the industry brought wealth to those who owned the mineral rights and produced the oil, it did not require enough employees to guarantee work to those displaced from the farms.

The inheritance of cattle, cotton and crude provided employment and a measure of economic prosperity in the past. Unfortunately, this inheritance has reached its zenith and a declining dependence on both the conventional agriculture base and oil industry are probably inevitable. No new inheritance of the stature of "the three Cs" lurks on the horizon to portend continued economic growth as a legacy of nature either to the region or to Texas.

This does not, however, signal the demise of either agriculture or oil from the economy of the Upper East Texas region. Rather it signals that the evolution of land use which in the past had been dictated by fate must now be directed by man. Today a declining reliance on the resource base does not belie its importance but rather the need to look to alternative means of development. In other words, the future lies in further development of the land and its resources, but in new, perhaps radical ways, along with development of human resources.

Methods must be sought that lead to economic development of the land, but not at the cost of environmental preservation. The need for economic development is not necessarily contradictory or exclusive of the environment or its conservation. There is no way to know today everything that will be valuable tomorrow. In the early days of oil production, natural gas was burned off as a waste product. Today it is a source of enormous wealth, and for the U.S., a measure of energy independence. Species of plants that yesterday were nothing more than ornamentals, are today's treatment for heart attacks. Land developed to display its natural beauty, while preserving its indigenous flora and fauna, and the restoration of old and abandoned property today draws tourists.

A prime example of economic development in harmony with environmental conservation is evident in Upper East Texas. If responsible parties in the 1930s had not worked to preserve and replant the pine forests, Upper East Texas would not have the thriving lumber industry that is today an economic mainstay.

In addition, agricultural development continues. As health consciousness dominates the food industry, development of strains of beef with less fat and organic gardening become more than just fads. The expansion of the poultry industry in recent times is also a response to health concerns, especially the cholesterol content of food. Continued development in the area of health-oriented food cultivation may provide fresh impetus to the agriculture industry in Upper East Texas.

As the Texas oil and gas market has matured, the major companies are focusing their attention overseas for greater opportunities for exploration and profits. Larger independents are expanding to diversify their risk, while taking over some of the majors' operations as the interests of these companies shift away from domestic production. Other independents are losing ground as a result of warm winters, increasing environmental constraints and low commodity prices.

Both the independents and majors have played integral parts in the development of the oil and gas industry in Texas. Much of the early oil and gas exploration was done by "wildcatters"—independents who discovered many of the largest fields in the state,

including the East Texas field. Major companies usually took over operations in order to optimize the field's development and maximize its production. Later, as their overhead costs for some wells grew too large, the majors would sell the wells back to the independents who had lower overheads. This cycle is currently being played out at many well sites in East Texas.

Even without the additional environmental concerns or the depletion of oil, the resource-based economy has not been able to generate sufficient jobs to absorb workforce growth. Development of human resources could assist the economic development of Upper East Texas.

The changing patterns of growth and migration indicated that the region experienced a slower rate of growth than the state; five counties, Cass, Gregg, Marion, Morris and Red River, experienced negative net migration between 1980 and 1990. The implication is that without new life injected from industries that locate or are developed within the region and the resultant increase in available jobs, economic stagnation and out-migration levels may continue.

To attract the companies that will not only bring jobs to the area but also the possibility of higher wages, Upper East Texas could explore not only economic development packages to expand the industrial base but also the means of providing the educated work force that such companies demand. Human resources development in terms of education and training may provide the key to the future prosperity of Upper East Texas. ✪

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UPPER EAST TEXAS

Upper East Texas Total Employment 1982-1991

Year	1982	1983	1984	1985	1986	1987	1982-1987 Change	1982-1987 Percent Change
Region	280,700	276,200	287,800	292,200	284,600	285,600	4,900	1.7%
MSA Total	157,100	154,500	160,200	162,000	158,600	157,900	800	0.5
Non-MSA Total	123,600	121,700	127,600	130,200	126,000	127,700	4,100	3.3
Tyler MSA	57,400	58,700	62,300	62,400	61,300	61,100	3,700	6.4
Longview MSA	70,200	66,100	66,700	67,100	65,000	64,200	-6,000	-8.5
Texarkana MSA	29,500	29,700	31,200	32,500	32,300	32,600	3,100	10.5
Texas	**6,168,100**	**6,100,300**	**6,404,200**	**6,585,600**	**6,464,500**	**6,412,300**	**244,200**	**4.0**
Regional Percent of Total Texas Employment	4.6%	4.5%	4.5%	4.4%	4.4%	4.5%		
Regional Unemployment Rate	8.3	9.2	6.4	7.9	10.4	9.3		
Texas Unemployment Rate	6.9	8.0	5.9	7.0	8.9	8.4		

Year	1988	1989	1990	1991	1987-1991 Change	1987-1991 Percent Change	1982-1991 Change	1982-1991 Percent Change
Region	295,000	295,700	303,600	304,900	19,300	6.8%	24,200	8.6%
MSA Total	161,400	162,000	166,600	167,500	9,600	6.1	10,400	6.6
Non-MSA Total	133,600	133,700	137,000	137,400	9,700	7.6	13,800	11.2
Tyler MSA	61,600	61,900	63,600	64,600	3,500	5.7	7,200	12.5
Longview MSA	67,500	66,900	69,300	69,700	5,500	8.6	-500	-0.7
Texarkana MSA	32,300	33,200	33,700	33,200	600	1.8	3,700	12.5
Texas	**6,606,500**	**6,739,800**	**6,983,300**	**7,065,800**	**653,500**	**10.2**	**897,700**	**14.6**
Regional Percent of Total Texas Employment	4.5%	4.4%	4.3%	4.3%				
Regional Unemployment Rate	7.9	7.6	6.4	7.2				
Texas Unemployment Rate	7.3	6.7	6.2	6.6				

Note: MSA counties are Harrison, Gregg, Bowie and Smith.

SOURCES: Texas Employment Commision and Texas Comptroller of Public Accounts.

Employment by Sector in the Upper East Texas Region

Number of Jobs

Sector	1982	1987	1991	1982-87 Change	1982-87 Percent Change	1987-91 Change	1987-91 Percent Change	1982-91 Change	1982-91 Percent Change
Agriculture, Forestry and Fishing	2,900	4,100	5,400	1,200	41.4%	1,300	31.7%	2,500	86.2%
Mining	16,100	11,300	10,800	-4,800	-29.8	-500	-4.4	-5,300	-32.9
Construction	16,200	13,100	12,900	-3,100	-19.1	-200	-1.5	-3,300	-20.4
Manufacturing	62,500	58,900	58,300	-3,600	-5.8	-600	-1.0	-4,200	-6.7
Transportation, Communications and Public Utilities	16,300	13,000	15,000	-3,300	-20.2	2,000	15.4	-1,300	-8.0
Wholesale Trade	15,300	13,000	14,100	-2,300	-15.0	1,100	8.5	-1,200	-7.8
Retail Trade	50,400	56,200	56,900	5,800	11.5	700	1.2	6,500	12.9
Finance, Insurance and Real Estate	11,300	12,900	11,400	1,600	14.2	-1,500	-11.6	100	0.9
Services	42,300	48,600	61,300	6,300	14.9	12,700	26.1	19,000	44.9
Government	47,400	54,500	58,800	7,100	15.0	4,300	7.9	11,400	24.1
Total	**280,700**	**285,600**	**304,900**	**4,900**	**1.7**	**19,300**	**6.8**	**24,200**	**8.6**

Percent of Total Employment

Sector	1982	1987	1991
Agriculture, Forestry and Fishing	1.0%	1.4%	1.8%
Mining	5.7	4.0	3.5
Construction	5.8	4.6	4.2
Manufacturing	22.3	20.6	19.1
Transportation, Communication and Public Utilites	5.8	4.6	4.9
Wholesale Trade	5.5	4.6	4.6
Retail Trade	18.0	19.7	18.7
Finance, Insurance and Real Estate	4.0	4.5	3.7
Services	15.1	17.0	20.1
Government	16.9	19.1	19.3
Total	**100.0%**	**100.0%**	**100.0%**

SOURCES: Texas Employment Commision and Texas Comptroller of Public Accounts.

Employment by Sector in the Longview MSA

Number of Jobs

Sector	1982	1987	1991	1982-87 Change	1982-87 Percent Change	1987-91 Change	1987-91 Percent Change	1982-91 Change	1982-91 Percent Change
Agriculture, Forestry and Fishing	200	300	500	100	50.0%	200	66.7%	300	150.0%
Mining	5,300	3,600	3,400	-1,700	-32.1	-200	-5.6	-1,900	-35.8
Construction	5,200	3,000	3,500	-2,200	-42.3	500	16.7	-1,700	-32.7
Manufacturing	17,400	15,300	16,300	-2,100	-12.1	1,000	6.5	-1,100	-6.3
Transportation, Communications and Public Utilities	3,900	2,900	3,300	-1,000	-25.6	400	13.8	-600	-15.4
Wholesale Trade	4,400	3,500	3,900	-900	-20.5	400	11.4	-500	-11.4
Retail Trade	13,200	13,100	13,500	-100	-0.8	400	3.1	300	2.3
Finance, Insurance and Real Estate	2,700	3,500	2,500	800	29.6	-1,000	-28.6	-200	-7.4
Services	10,400	10,700	13,800	300	2.9	3,100	29.0	3,400	32.7
Government	7,500	8,300	9,000	800	10.7	700	8.4	1,500	20.0
Total	**70,200**	**64,200**	**69,700**	**-6,000**	**-8.5**	**5,500**	**8.6**	**-500**	**-0.7**

Percent of Total Employment

Sector	1982	1987	1991
Agriculture, Forestry and Fishing	0.3%	0.5%	0.7%
Mining	7.5	5.6	4.9
Construction	7.4	4.7	5.0
Manufacturing	24.8	23.8	23.4
Transportation, Communications and Public Utilities	5.6	4.5	4.7
Wholesale Trade	6.3	5.5	5.6
Retail Trade	18.8	20.4	19.4
Finance, Insurance and Real Estate	3.8	5.5	3.6
Service	14.8	16.7	19.8
Government	10.7	12.9	12.9
Total	**100.0%**	**100.0%**	**100.0%**

Sources: Texas Employment Commision and Texas Comptroller of Public Accounts.

Employment by Sector in the Texarkana MSA

Number of Jobs

Sector	1982	1987	1991	1982-87 Change	1982-87 Percent Change	1987-91 Change	1987-91 Percent Change	1982-91 Change	1982-91 Percent Change
Agriculture, Forestry and Fishing	200	200	200	0	0.0%	0	0.0%	0	0.0%
Mining	0	0	0	0	0.0	0	0.0	0	0.0
Construction	1,100	1,400	1,200	300	27.3	-200	-14.3	100	9.1
Manufacturing	3,900	4,700	4,400	800	20.5	-300	-6.4	500	12.8
Transportation, Communications and Public Utilities	1,100	1,000	1,500	-100	-9.1	500	50.0	400	36.4
Wholesale Trade	1,800	1,500	1,700	-300	-16.7	200	13.3	-100	-5.6
Retail Trade	5,400	6,500	6,200	1,100	20.4	-300	-4.6	800	14.8
Finance, Insurance and Real Estate	1,000	1,200	1,200	200	20.0	0	0.0	200	20.0
Services	4,500	5,200	6,900	700	15.6	1,700	32.7	2,400	53.3
Government	10,500	10,900	9,900	400	3.8	-1,000	-9.2	-600	-5.7
Total	**29,500**	**32,600**	**33,200**	**3,100**	**10.5**	**600**	**1.8**	**3,700**	**12.5**

Percent of Total Employment

Sector	1982	1987	1991
Agriculture, Forestry and Fisheries	0.7%	0.6%	0.6%
Mining	0.0	0.0	0.0
Construction	3.7	4.3	3.6
Manufacturing	13.2	14.4	13.3
Transportation, Communications and Public Utilities	3.7	3.1	4.5
Wholesale Trade	6.1	4.6	5.1
Retail Trade	18.3	19.9	18.7
Finance, Insurance and Real Estate	3.4	3.7	3.6
Services	15.3	16.0	20.8
Government	35.6	33.4	29.8
Total	**100.0%**	**100.0%**	**100.0%**

SOURCES: Texas Employment Commision and Texas Comptroller of Public Accounts.

Employment by Sector in the Tyler MSA

Number of Jobs

Sector	1982	1987	1991	1982-87 Change	1982-87 Percent Change	1987-91 Change	1987-91 Percent Change	1982-91 Change	1982-91 Percent Change
Agriculture, Forestry and Fishing	900	1,200	1,100	300	33.3%	-100	-8.3%	200	22.2%
Mining	4,200	2,000	1,800	-2,200	-52.4	-200	-10.0	-2,400	-57.1
Construction	2,400	2,200	2,300	-200	-8.3	100	4.5	-100	-4.2
Manufacturing	12,200	11,300	11,100	-900	-7.4	-200	-1.8	-1,100	-9.0
Transportation, Communications and Public Utilities	2,400	2,600	3,000	200	8.3	400	15.4	600	25.0
Wholesale Trade	3,200	3,200	2,900	0	0.0	-300	-9.4	-300	-9.4
Retail Trade	11,500	13,100	13,400	1,600	13.9	300	2.3	1,900	16.5
Finance, Insurance and Real Estate	3,000	3,500	3,200	500	16.7	-300	-8.6	200	6.7
Services	10,400	13,000	15,400	2,600	25.0	2,400	18.5	5,000	48.1
Government	7,200	9,000	10,400	1,800	25.0	1,400	15.6	3,200	44.4
Total	**57,400**	**61,100**	**64,600**	**3,700**	**6.4**	**3,500**	**5.7**	**7,200**	**12.5**

Percent of Total Employment

Sector	1982	1987	1991
Agriculture, Forestry and Fishing	1.6%	2.0%	1.7%
Mining	7.3	3.3	2.8
Construction	4.2	3.6	3.6
Manufacturing	21.3	18.5	17.2
Transportation, Communications and Public Utilities	4.2	4.3	4.6
Wholesale Trade	5.6	5.2	4.5
Retail Trade	20.0	21.4	20.7
Finance, Insurance and Real Estate	5.2	5.7	5.0
Services	18.1	21.3	23.8
Government	12.5	14.7	16.1
Total	**100.0%**	**100.0%**	**100.0%**

SOURCES: Texas Employment Commision and Texas Comptroller of Public Accounts.

Upper East Texas Gross Retail Sales 1984-1991

In Millions of Dollars

Year	1984	1985	1986	1987	1984-1986 Change	1984-1986 Percent Change
Region	$ 5,191.8	$ 5,357.6	$ 5,179.7	$ 5,194.1	($12.10)	-0.2%
MSA Total	2,921.9	3,033.7	2,917.1	2,934.1	(4.80)	-0.2
Non-MSA Total	2,269.9	2,323.9	2,262.6	2,260.0	(7.30)	-0.3
Tyler MSA	1,101.0	1,163.6	1,140.4	1,158.8	39.40	3.6
Longview MSA	1,315.2	1,349.1	1,244.0	1,229.5	(71.20)	-5.4
Texarkana MSA	505.7	521.0	532.7	545.8	27.00	5.3
Texas	**$109,373.4**	**$115,426.6**	**$110,089.5**	**$110,728.3**	**$716.10**	**0.7**

Year	1988	1989	1990	1991	1987-1991 Change	1987-1991 Percent Change	1984-1991 Change	1984-1991 Percent Change
Region	$ 5,425.0	$ 5,618.1	$ 5,951.8	$ 6,097.4	$ 903.3	17.4%	$ 905.6	17.4%
MSA Total	3,016.7	3,103.3	3,327.3	3,426.1	492.0	16.8	504.2	17.3
Non-MSA Total	2,408.3	2,514.8	2,624.5	2,671.3	411.3	18.2	401.4	17.7
Tyler MSA	1,155.6	1,188.5	1,279.6	1,357.6	198.8	17.2	256.6	23.3
Longview MSA	1,289.0	1,321.7	1,430.7	1,443.2	213.7	17.4	128.0	9.7
Texarkana MSA	572.1	593.1	617.0	625.3	79.5	14.6	119.6	23.7
Texas	**$116,813.9**	**$123,650.9**	**$133,394.1**	**$139,049.0**	**$28,320.7**	**25.6**	**$29,675.6**	**27.1**

Note: MSA counties are Harrison, Gregg, Bowie and Smith.

SOURCE: Texas Comptroller of Public Accounts.

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