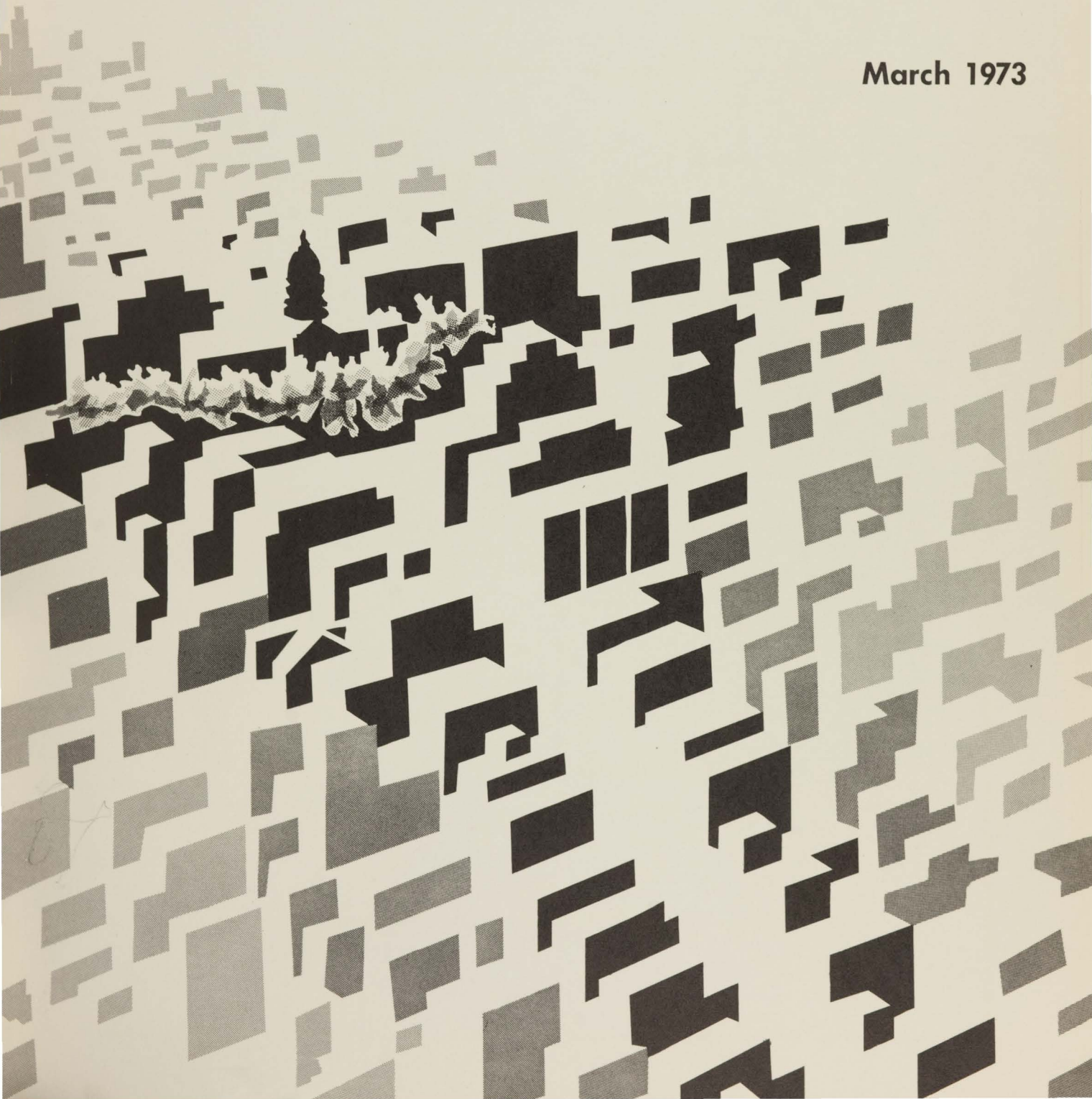
TEXAS BUSINESS REVIEW

Bureau of Business Research • The University of Texas at Austin

March 1973



TEXAS BUSINESS REVIEW

VOL. XLVII, NO. 3, MARCH 1973

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COVER DESIGN BY MARY LANGRIDGE

Reprints of feature articles are available from the Bureau at ten cents each.

The Bureau of Business Research is a member of the Association for University Business and Economic Research.

Published monthly by the Bureau of Business Research, Graduate School of Business, The University of Texas at Austin, Austin, Texas 78712. Second-class postage paid at Austin, Texas. **Subscription, $4.00 a year; individual copies 35 cents.**

THE BUSINESS SITUATION IN TEXAS

Robert M. Lockwood

Fuel shortages and severe weather, which dominated the January news, affected almost every aspect of economic life in Texas during the first month of 1973. The forthright evidence of the senses was generally borne out by the seasonally modified business indicators. The signal exceptions to a general downturning were the seasonally adjusted indexes of bank debits (up 5 percent from December), business activity (up 4 percent), and estimated personal income (2 percent higher after seasonal smoothing).

The adjusted index of building permits issued in urban places was depressed 6 percentage points from December by the 18-percent plunge in new nonresidential issues. The movements of most of the other economic indicators were undramatic. Only the index of insured unemployment, which improved by 3 percent, and that of total unemployment, which rose 6 percent, fluctuated more than a point or two.

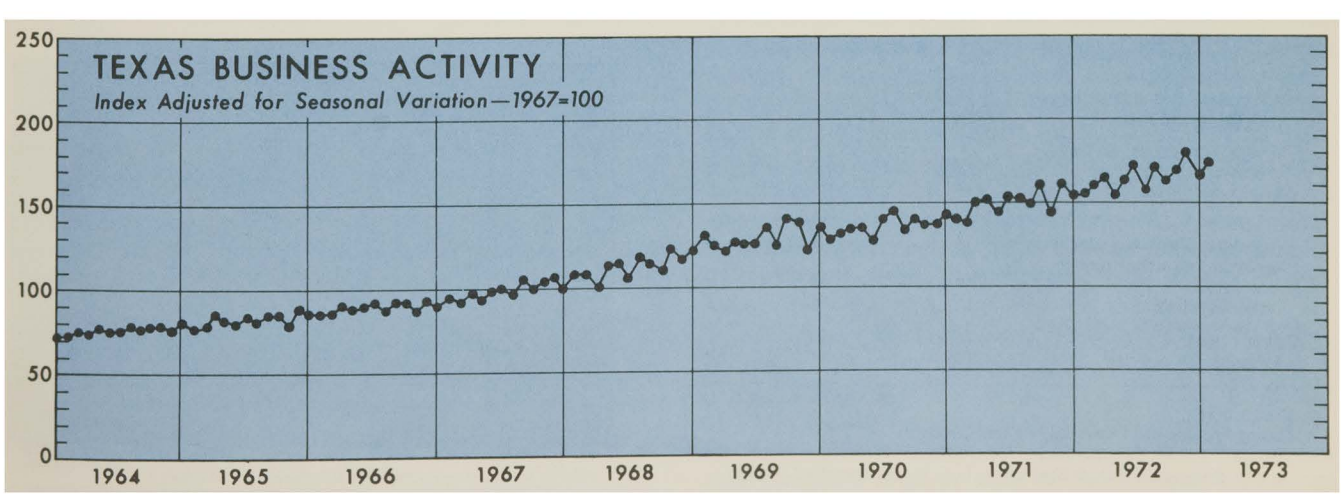
The worst weather of the winter began in the upper Panhandle on January 8 and moved south over most of the state. Among the dozens of towns under snow and ice during the second week of the year, Abilene reported an accumulated 8 inches of snow by January 11. The small town of Burke, near Lufkin, measured 7.5 inches. Receiving its first measurable snow in 13 years, Galveston counted 3-4 inches, the second deepest known on that island. Almost as much fell in Beaumont and Port Arthur, giving those cities their heaviest snowfall in 78 years. Amarillo recorded 162 hours of subfreezing temperature, Lubbock 157 hours, and Austin 90 hours. Heavy rains at other times helped push precipitation totals in most districts far above their normal January levels.

The coincidence of several circumstances was blamed by natural-gas suppliers for the straitened circumstances of gas users in the November-January period. Freezing weather occurred earlier than usual, forcing suppliers to begin drawing down underground storage reservoirs before these vessels were filled. Usually the industry is able to fill these reservoirs before the onset of peak midwinter demands. The severity of the weather in West Texas gas-producing districts caused some wellheads to freeze, rendering them temporarily inoperable. In many instances, the demand for gas rose so abruptly and so steeply that existing pipeline capacities could not accommodate contract customers.

Confronted even before the crisis conditions by gas suppliers desiring to renegotiate higher rates and more liberal contract provisions, local government officials and others began speculating aloud about the genuineness of the plight of the gas suppliers.

A series of apparently minor miscalculations in the liquid-fuels industry brought on the problems involving fuel oil and gasoline, many of which are just taking focus. In summer, refiners attempt to plan their winter, peak-fuel-oil-demand runs to achieve the required stock levels in advance of the peak of demand. These plans must also attempt to anticipate the situation, half-a-year hence, of imported oils and winter temperatures. Collective industry planning for winter 1972-1973 was effectively sabotaged by a cold, early winter. Partly because the entire refining year has now been upset, refiners are still engaged in making up some of the deficit in diesel and home heating oils, even beyond the time when they ordinarily have begun to build toward the peak summer demand for gasoline. Some petroleum industry refiners suffered costly delays and inconvenience through cutbacks in their principal source of process heat, natural gas. They were compelled to use fuel oil to maintain their operations.

One of the tables accompanying this article lists a few dozen of the cities, industries, utilities, and colleges which have suffered natural-gas curtailments since November 1972. During a period extending from November 6 into



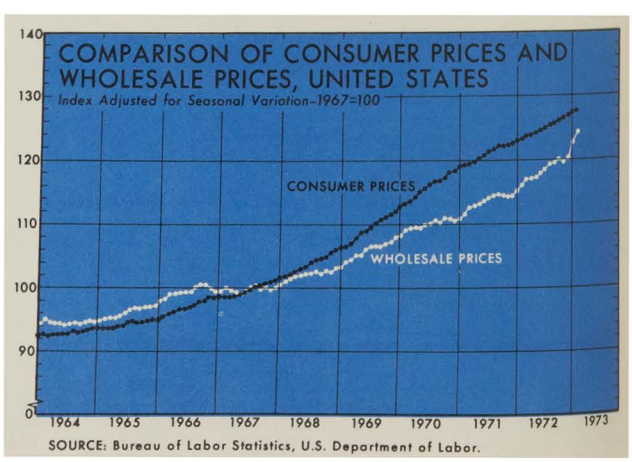
ESTIMATES OF NONAGRICULTURAL EMPLOYMENT IN TEXAS

Industry	Employment Jan[p] 1973 (thousands)	Percent change Jan 1973 from Dec 1972	Percent change Jan 1973 from Jan 1972
Total nonagricultural employment	3,943.6	– 1	5
Manufacturing	755.4	**	6
Durable goods	409.3	**	7
Lumber and wood products	25.3	– 1	7
Furniture and fixtures	19.0	1	4
Stone, clay, and glass products	31.8	– 1	6
Primary-metal industries	35.3	**	7
Fabricated-metal products	59.0	**	7
Machinery, except electrical	76.0	**	12
Oil-field machinery	30.1	**	11
Electrical machinery and equipment	53.9	2	7
Transportation equipment	72.6	– 1	**
Aircraft and parts	36.4	– 2	– 11
Instruments and related products	16.8	**	14
Other durable goods	19.6	– 1	15
Nondurable goods	346.1	– 1	4
Food and kindred products	86.7	– 2	5
Meat products	18.5	– 3	6
Textile-mill products	7.3	– 1	7
Apparel and fabricated textiles	69.3	– 1	5
Paper and allied products	17.5	1	5
Printing and publishing	42.9	**	4
Chemicals and allied products	61.5	**	**
Industrial chemicals	35.3	– 1	– 1
Petroleum and coal products	37.2	– 2	– 3
Other nondurable goods	23.7	**	15
Nonmanufacturing	3,188.2	– 2	5
Mining	101.7	**	– 1
Crude petroleum and natural gas	95.8	– 1	– 1
Contract construction	253.8	– 2	12
Transportation	154.5	– 1	2
Communication	56.7	**	3
Public utilities	51.4	1	5
Trade	967.6	– 4	6
Wholesale trade	275.5	– 1	4
Retail trade	692.1	– 5	6
Building materials, hardware, and farm equipment	37.6	– 1	7
General merchandise	147.2	– 15	6
Food stores	109.6	– 1	6
Automotive dealers and service stations	106.7	**	7
Apparel and accessories	43.9	– 11	5
Other retail trade	247.1	– 2	6
Finance, insurance, and real estate	221.6	**	8
Banking	54.9	**	5
Services	654.8	**	5
Hotels and lodging places	41.9	– 1	6
Medical and other health services	175.1	1	6
Other services	437.8	**	5
Government	726.1	**	3
Federal	159.8	**	**

[p] Preliminary.
** Change is less than one half of one percent.
Source: Texas Employment Commission in cooperation with the Bureau of Labor Statistics, U.S. Department of Labor.

SOME OF THE CITIES, INDUSTRIES, INSTITUTIONS, AND UTILITIES EXPERIENCING NATURAL-GAS CURTAILMENTS DURING NOVEMBER 1972-JANUARY 1973

Amarillo
Athens
Austin
Baylor University
Big Spring
Brownwood
Continental Can Corp.
Cuero
Central Power & Light Company
Dallas-Fort Worth
Dallas Power & Light Company
Diboll
Ethyl Corp.
GAF Corp., Chemical Div.
Frank W. Glitsch
Gonzales
Greenville
Houston Lighting & Power Company
Lockhart
Love Field
Lower Colorado River Authority
Lufkin
Lufkin Industries, Inc.
Luling
Malakoff
Marathon Oil Co., Texas Refining Div.
Midland
North Texas State University
Odessa
Palestine
Public Service Board (San Antonio)
San Antonio
Shiner
Southern Methodist University
Southland Paper Mills, Inc.
Temple
Temple Industries, Inc.
Texas A&M University
Texas City Refining, Inc.
Texas Foundries, Inc.
Texas Instruments, Inc.
Texas Women's University
Tulia
Tyler
Union Carbide Corp.
University of Texas at Austin
University of Texas at Arlington
Waco
Yoakum



TEXAS BUSINESS LOG
JANUARY 1973

1 *Alcoa* announces that Rockdale aluminum smelter, idled since mid-December by natural-gas shortages, will be restarted.
OCAW (Oil, Chemical and Atomic Workers) strikes Port Arthur refinery employing 300 workers.

2 *Major snowstorm* hits Trans-Pecos region.
Austin municipal electric utility and industries experience another natural-gas curtailment, their fifth in three months, to begin wave of gas cutbacks throughout the state.

8-14 *Worst storm* of winter strikes Texas.

8 *Nixon administration* freezes new federal aid to construction of subsidized housing and major community development programs.
Texas Railroad Commission sets priorities for intrastate deliveries of natural gas during shortages.

10 *OCAW* idles 1,500 more employees at refineries in Beaumont and Port Neches.
Texaco resorts to fuel allocation for first time since World War II.

11 *President Nixon* announces Phase III, lifting most mandatory wage and price controls.
OCAW signs two-year pact with Texaco covering about 4,000 workers at Port Arthur refinery.

15 *Federal Reserve* boosts discount rate from 4.5 to 5 percent.

17 *Nixon administration* relaxes oil-import restrictions, raising by 915,000 b/d the ceiling on crude and products imports east of Rockies.
Todd Shipyards selected to build three 380,000-dwt supertankers, for estimated $285 million.
OCAW strikes Lone Star Gas Co. distribution plant, Fort Worth, sending 250 men home.

18 *Texas Railroad Commission*, for eleventh straight month, orders maximum crude-oil production in February.

20-21 *Mobil* and other companies boost fuel prices, especially home heating oils, as much as 8 percent.

21 *OCAW* signs two-year contract, ending strike at Mobil's Beaumont refinery.

24 *Houston Oil and Minerals Corp.* commits Galveston Bay gas discovery—with estimated reserves of 50-100 billion cu. ft.—to Lone Star Gas Co., Dallas.

26 *OCAW* strikes 1,800 workers at Shell refining-petrochemical complex, Pasadena.

29 *Unitization* bill for oil and gas production, requiring mandatory unit operation of reservoir when three fourths of owners and operators agree, introduced in Texas Legislature.

BUSINESS-ACTIVITY INDEXES
FOR TWENTY SELECTED TEXAS CITIES
(Adjusted for seasonal variation—1967=100)

City	Jan 1973	Dec 1972	Jan 1972	Percent change: Jan 1973 from Dec 1972	Percent change: Jan 1973 from Jan 1972
Abilene	131.1	126.1	111.9	4	17
Amarillo	155.4	145.0	127.8	7	22
Austin	223.4	202.2	246.2	10	– 9
Beaumont	102.3	94.0	100.8	9	1
Corpus Christi	160.0	168.3	153.0	– 5	5
Corsicana	149.7	122.2	110.8	23	35
Dallas	179.2	185.1	168.7	– 3	6
El Paso	165.5	150.7	143.4	10	15
Fort Worth	163.3	140.9	141.9	16	15
Galveston	128.6	113.0	127.9	14	1
Houston	189.3	171.0	152.7	11	24
Laredo	169.6	149.5	155.2	13	9
Lubbock	136.5	114.3	126.3	19	8
Port Arthur	114.2	96.1	103.1	19	11
San Angelo	168.8	146.9	140.5	15	20
San Antonio	163.9	152.8	151.3	7	8
Texarkana	118.3	100.9	113.5	17	4
Tyler	179.6	172.6	125.1	4	44
Waco	168.4	142.0	146.3	19	15
Wichita Falls	124.7	122.1	118.9	2	5

January, the Lower Colorado River Authority, which supplies power to 41 counties in central Texas, enjoyed only 12 days free of gas cutbacks. Although the Authority's hydro potential is ordinarily not employed in winter, some of the turbines had to be used.

In addition to the direct effect of natural-gas rationing or loss on electric utilities, many industrial users suspended or curtailed their operations for at least a time during January. These included feedlots, oil mills, cotton compressors, and meat packing plants. Gas cutbacks in the Lufkin area idled about 1,000 workers during several days. Among many enterprises affected in the Dallas area were Continental Can Corp. and Frank W. Glitsch, a large metal fabricator, which sent 500 workers home for a time.

Even before the end of January, Texas Agriculture Commissioner John C. White and some other observers feared that the brutal weather of the second week in January may have cost the lives of 150,000 cattle. Although this total represents no more than about 1 percent of the total number of cattle in Texas on January 1, 1973, the absolute cost of such a loss is staggering and, for some cattlemen, ruinous. Rising already, beef prices have continued to go up since the first Panhandle ice storm

PUMP PRICE, MAJOR-BRAND REGULAR GASOLINE, JANUARY 1973 AND JANUARY 1972

(Cents per gallon, excluding taxes)

Date	Amarillo	Corpus Christi	Dallas	Fort Worth	Houston	San Antonio	Texarkana	Wichita Falls
Jan 2 73	33.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9
Jan 4 72	33.9	30.9	33.9	33.9	33.9	33.9	29.9	28.9
Jan 9 73	33.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9
Jan 11 72	33.9	30.9	23.9	33.9	33.9	33.9	29.9	26.9
Jan 16 73	33.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9
Jan 18 72	33.9	29.6	33.9	33.9	33.9	33.9	29.9	26.9
Jan 23 73	33.9	31.9	31.9	31.9	31.9	31.9	30.9	31.9
Jan 25 72	33.9	29.9	33.9	27.9	33.9	33.9	29.9	33.9
Jan 30 73	33.9	31.9	31.9	31.9	31.9	31.9	30.9	31.9
Feb 1 72	28.9	33.9	33.9	27.9	33.9	29.9	29.9	30.9

Source: *Oil and Gas Journal.*

on October 31. One of the tables accompanying this article illustrates to what an extent citizens of the United States have increased their individual beef consumption between 1962 and 1973. The gain in per capita consumption during these 11 years—32.9 percent—is equivalent to an average annual rise of more than 2 percent. During the last 5 years, however, this rate has stabilized at only about 1 percent, suggesting that prices may eventually rise too high to be sustained.

Rising beef prices are a world-wide phenomenon, the growing appetite for beef having been indulged by rising-income populations. Nor is beef alone among the more costly farm goods in the United States. Record prices for cattle and hogs led a second consecutive 5-percent increase in farm prices in January, and gains were also recorded in the prices paid for eggs, broilers, tomatoes, and potatoes. Falling returns on corn, cotton, and dairy goods failed to check the general upward trend. Harvesting problems and crop and livestock losses attributable to January weather will do nothing to halt rising costs, already encouraged by persistently higher prices for animal feed and feeder livestock.

The prices of industrial commodities generally also rose in January, though much more modestly than the wholesale tags on farm products, processed foods, and feeds. The gain of 1.6 percent in the seasonally adjusted index of the prices of consumer finished goods—including both food and nonfood items—was particularly encouraged by upward movement of the cost of gasoline, male clothing, tires and tubes, and tobacco products.

SELECTED BAROMETERS OF TEXAS BUSINESS

(Indexes—Adjusted for seasonal variation—1967=100)

Index	Jan 1973	Dec 1972	Jan 1972	Percent change: Jan 1973 from Dec 1972	Percent change: Jan 1973 from Jan 1972
Estimated personal income	162.4[p]	159.4[p]	151.3[r]	2	7
Business activity	175.1	168.7	155.8	4	12
Crude-petroleum production	117.0[p]	117.9[p]	103.9[r]	– 1	13
Crude-oil runs to stills	121.4	119.7	115.4	1	5
Total electric-power use	154.7[p]	156.5[p]	141.5[r]	– 1	9
Industrial electric-power use	138.0[p]	136.6[p]	132.2[r]	1	4
Bank debits	218.0	207.3	181.2	5	20
Urban building permits issued	196.9	210.4	163.9[r]	– 6	20
New residential	254.4	263.9	195.6[r]	– 4	30
New nonresidential (unadjusted)	148.9	181.8	140.9[r]	– 18	6
Total industrial production	134.3	133.9[p]	123.6[r]	**	8
Total nonfarm employment	122.9[p]	121.9[p]	116.7[r]	1	5
Manufacturing employment	115.5[p]	115.0[p]	108.8[r]	**	6
Total unemployment	142.3	133.9[r]	169.9	6	– 16
Insured unemployment	141.3	145.3	171.7[r]	– 3	– 18
Average weekly earnings—manufacturing	126.9[p]	127.8[p]	127.1[r]	– 1	**
Average weekly hours—manufacturing	93.6[p]	95.5[p]	99.2	– 2	– 6

[p] Preliminary.
[r] Revised.
** Change is less than one half of 1 percent.

PER CAPITA CONSUMPTION OF BEEF, UNITED STATES, 1962-1973

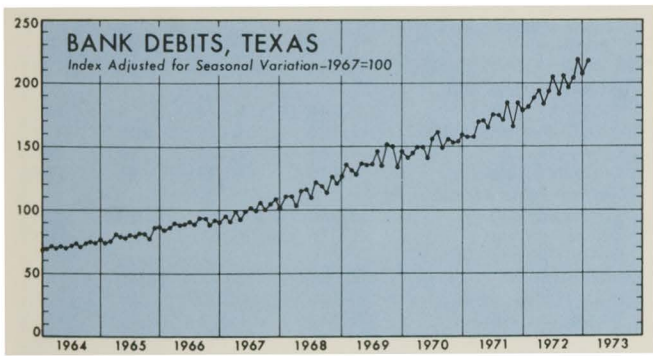
Year	Pounds
1962	88.8
1963	94.5
1964	99.9
1965	99.5
1966	104.2
1967	106.5
1968	109.7
1969	110.8
1970	113.7
1971	113.3
1972[a]	115.5
1973[a]	118.0

[a] Estimated.
Source: *Wall Street Journal.*

More costly foods were generally responsible for January increase of 2.1 percent in consumer prices throughout the United States. The gain was the sharpest in a month since January 1951. Though nonfood items held their own in January and the costs of services rose only minimally, the food increases carried the seasonally adjusted index to a significantly high level, suggesting that the aggressively upward thrust of farm costs and wholesale farm-goods prices wastes little time in seeking out the consumer.

Although total nonfarm employment increased slightly from December, after consideration of seasonal influences, manufacturing employment and average weekly hours and earnings in manufacturing declined slightly or remained unchanged. Among the twenty-one standard metropolitan statistical areas for which data are available—plus Longview-Marshall—only Beaumont-Port Arthur-Orange, Brownsville-Harlingen-San Benito, Laredo, McAllen, and Texarkana indicated January unemployment figures of 5 percent or more. Five SMSA's—notably Austin and Houston at 2.3 percent—reported unemployment amounting to less than 3 percent of the civilian labor force.

The seasonally adjusted business-activity indexes for twenty selected cities, though ranging between two rather violent extremes, generally reflected strong upward movement from December to January and even more favorable comparisons between January 1973 and January 1972. In the January 1973/December 1972 changes, seven cities gained 15 percent or more on their December levels, and another five cities gained more than 10 percent and less than 15 percent over December 1972.



The Texas cotton harvest, delayed by adverse weather in January, was 89 percent complete on February 1, in comparison with 97 percent a year ago.

TEXAS CONSTRUCTION
RISING HOUSING COSTS

Robert H. Ryan

Most Texans are painfully aware that housing costs have surged upward almost constantly for many years. It may not be so widely recognized that today's average single-family house in Texas, priced at more than $22,000, is no better and perhaps even a bit lower in actual value than the typical 1960 house, which cost about half as much. The average new apartment in Texas has even more clearly declined in real value, in spite of its higher cost.

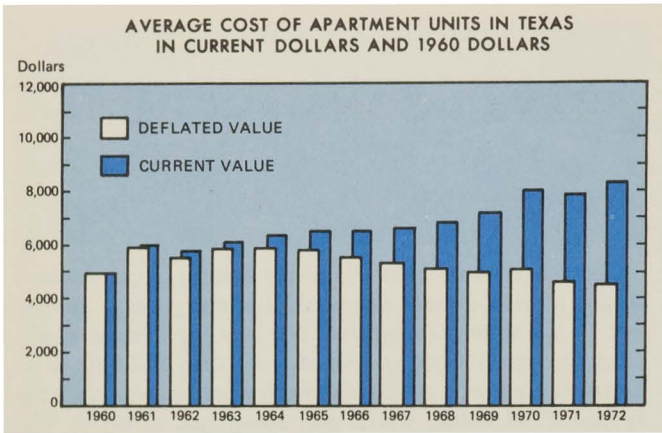
The sharp increase in authorized cost of housing units statewide over the past fourteen years is generally recognized as being due largely to inflation of building costs—building-material prices and labor wage rates. Optimistic buyers and renters, nevertheless, may comfort themselves with the notion that they are getting at least somewhat better housing on the average. Statistics on the housing market seem to belie that notion.

Statewide the average building permit for a one-family home in 1960 indicated a $11,572 price tag, land and furnishings excluded. During every year since 1960, except for 1970, the average house has increased in cost, as the accompanying table and charts illustrate. The one-family house in Texas reached an average price of $20,355 in 1972 and $22,560 by January 1973. Yet after adjustment for rising building costs, the 1972 house was worth only $11,416 in 1960 dollars. In other words it may be a trifle smaller or inferior in some respect to the average home built in 1960.

AVERAGE AUTHORIZED COSTS OF TEXAS RESIDENTIAL UNITS IN CURRENT DOLLARS AND 1960 DOLLARS ANNUALLY, 1960–1972

	One-family houses		Apartment units	
Year	Current dollars	1960 dollars	Current dollars	1960 dollars
1960	11,572	11,572	4,955	4,955
1961	11,802	11,767	5,977	5,906
1962	12,470	12,225	5,695	5,497
1963	13,287	12,764	6,114	5,768
1964	13,775	12,862	6,384	5,852
1965	14,522	13,130	6,510	5,766
1966	15,413	13,368	6,512	5,552
1967	15,778	12,901	6,614	5,312
1968	16,338	12,453	6,861	5,151
1969	16,722	11,776	7,219	4,992
1970	15,566	10,405	8,017	5,172
1971	17,164	10,575	7,822	4,656
1972	20,355	11,416	8,284	4,848

Sources: Annual totals of building authorizations in value and in number of units as compiled by the Bureau of Business Research; 1960 values are deflated through the use of the building cost indexes for single-family residences and for apartments, hotels, and office buildings, prepared by E. H. Boeckh and Associates, Inc., a division of the American Appraisal Company, as published by the U.S. Department of Commerce.

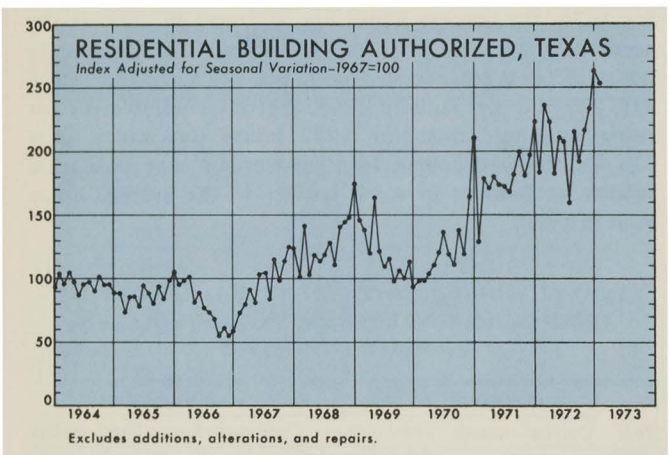


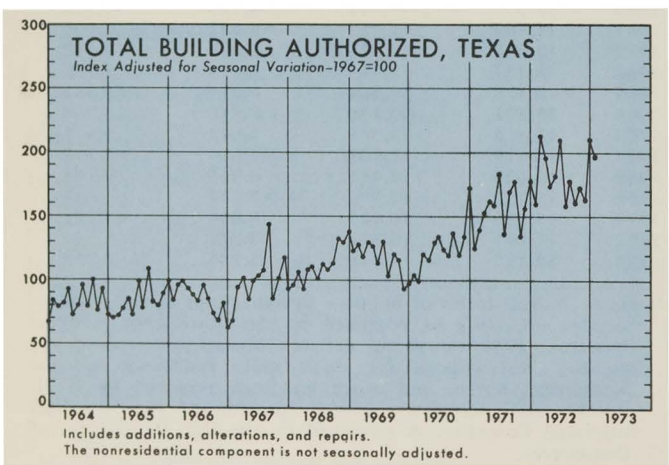
Over the same period of time the average Texas apartment has scaled upward by 67 percent in cost but has declined by about 2 percent in actual value.

The building cost indexes used in computing these actual-value statistics carry the endorsement of the U.S. Department of Commerce. They are composite indexes representing building costs in twenty cities throughout the nation, and it is quite possible that in some parts of Texas construction costs may have risen more or less rapidly than the indexes show. The price indexes, prepared by E. H. Boeckh and Associates, take into account material costs, actual wage rates, and measures of labor efficiency. The index applied to apartment values is a combined measure of apartment, hotel, and office-building construction costs.

In spite of government efforts, building cost inflation apparently is not yet under effective control. The National Association of Home Builders estimates that the rising cost of lumber and wood products alone has added $1,200 to the cost of the average new one-family home over the past six months. No single factor can be blamed for the gains in lumber and plywood prices, but a homebuilding boom in Japan has drained away substantial volumes of West Coast timber products at above-market prices.

Texans may yet be more fortunate than residents of some parts of the nation in terms of housing costs. George Fulton, research director for Walker & Lee, a major California real estate company, recently estimated that the typical 1,500-square-foot house priced at $25,000 in Houston would sell for $32,000 in California. He added that Texas workmanship is commonly better than that seen





ESTIMATED VALUES OF BUILDING AUTHORIZED IN TEXAS*

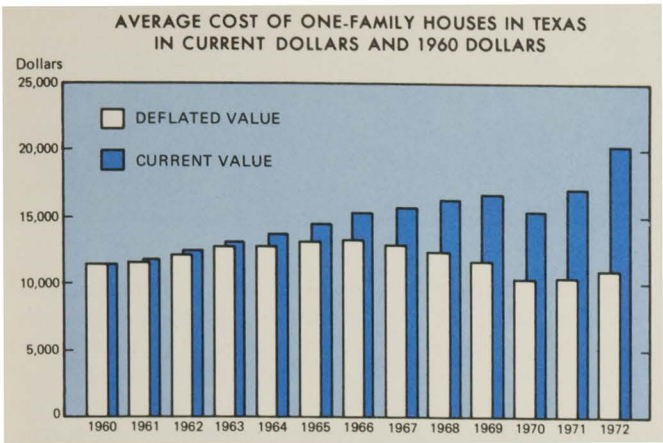
Classification	Jan 1973	Jan 1972	Percent change: Jan 1973 from Dec 1972	Percent change: Jan 1973 from Jan 1972
	(thousands of dollars)			
All permits	302.271	252,940	4	20
New construction	273,574	230,136	1	19
Residential (housekeeping)	165,069	127,447	20	30
One-family dwellings	86,528	86,419	31	**
Multiple-family dwellings	78,541	41,028	10	91
Nonresidential buildings	108,505	102,689	– 18	6
Hotels, motels, and tourist courts	2,448	1,184	– 4	107
Amusement buildings	2,983	3,115	306	– 4
Churches	4,086	2,255	80	81
Industrial buildings	8,470	2,944	57	188
Garages (commercial and private)	3,302	16,080	– 50	– 79
Service stations	1,070	1,381	20	– 23
Hospitals and institutions	8,522	6,817	– 25	25
Office-bank buildings	20,936	11,827	– 58	77
Works and utilities	1,970	4,371	– 48	– 55
Educational buildings	10,497	14,744	– 59	29
Stores and mercantile buildings	38,616	35,775	82	8
Other buildings and structures	5,605	2,196	100	155
Additions, alterations, and repairs	28,697	22,804	47	26
SMSA vs. non-SMSA				
Total SMSA†	278,681	227,317	5	23
Central cities	217,064	156,468	6	39
Outside central cities	61,617	70,849	– 1	– 13
Total non-SMSA	23,590	25,623	2	– 8
10,000 to 50,000 population	13,282	13,067	– 9	2
Less than 10,000 population	10,308	12,556	21	– 18

* Only building for which permits were issued within the incorporated area of a city is included. Federal contracts and public housing are not included.

** Change is less than one half of one percent.

† As defined in 1970 Census.

Source: Bureau of Business Research in cooperation with the Bureau of the Census, U.S. Department of Commerce.



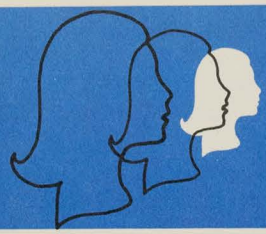
in new California houses. Fulton was also quoted by the *Houston Chronicle* as equating a $50,000 Houston house with a $60,000 California house in real value. These figures should not be understood to mean that Texas has suffered less inflation than California; the fact is, West Coast building has tended to be appreciably more expensive for many years than that in other regions.

Statewide figures on building costs mask wide variations among Texas urban areas. For example, the average new single-family housing permit issued in the high-income Midland SMSA during 1972 was for $32,100. By contrast the 1972 average was $11,100 in Laredo, $12,900 in Brownsville-Harlingen-San Benito, and $14,800 in San Antonio. In most Texas SMSA's the typical 1972 house was authorized at a value between $20,000 and $25,000.

Wholesale price indexes for building materials, computed by the U.S. Bureau of Labor Statistics, profile some of the elements of inflation in construction. Since 1967 construction materials as a whole have increased an average of 28.4 percent in price, as of November 1972. Some goods have been remarkably stable in price: vinyl sheet floor coverings (+2.5 percent) and hardboard and particle board (−2.7 percent). Others have risen dramatically: Douglas fir lumber (+68.1 percent), Southern pine lumber (+56.3 percent), insulation materials (+37.5 percent), and plywood (+33.3 percent).

Inflation in the building market does not appear to have quenched demand for new housing, at least for the moment. The seasonally adjusted index of building authorizations was 20 percent higher in January 1973 than a year earlier, and the residential component of the index was 30 percent higher. While both indexes registered mild dips from December to January, it is not clear that significant long-range building cutbacks are under way. It is widely believed, however, that homebuilding will turn downward at least mildly before the end of the current year.

The significance of January building statistics may be open to some question because inclement weather, especially this winter, may have had some effect on construction planning as well as on actual building activity. Further, in such a mercurial industry as construction, especially nonresidential construction, only hindsight can distinguish between significant trends in the making and the random month-to-month variations that may result from weather changes, the mood of the consumer market, or some unidentifiable influences.



TEXAS POPULATION IN 1970:
6. THE CHANGING STATUS OF WOMEN*

Rosemary Santana Cooney and Dudley L. Poston, Jr.**

In recent years a good amount of attention has been devoted to the position of women in our society. From politicians to newsmen, from the academic community to the housewife, people are concerned with such questions as whether the status of women has improved in this century, and, more importantly, whether the status of women has improved relative to the status of men. But answers to these questions depend considerably upon the aspect of life style or status being addressed. Changes in the status of women have occurred in such diverse areas as life expectancy, educational attainment, sexual behavior, and marital patterns, as well as changes in female participation in the labor force, politics, and voluntary associations.[1] Of the many factors influencing the overall status of women, perhaps none is more crucial than female participation in the labor force. Remunerative work outside the home has given women an economic independence which has been instrumental in achieving social independence. In addition, social scientists have relied heavily on such economic variables as a man's occupation and income as an indicator of his life style and social status.

This paper will examine the status of women with an emphasis on the degree and kind of female involvement in the labor force. Changes over time from 1940 to 1970 will be examined and comparisons will be made between Texas and the nation. The most important findings of the paper are: (1) although the status of women has improved since 1940, the status of men has improved even more rapidly, resulting in an overall decline in the status of women relative to men both in Texas and in the nation; (2) though occupational segregation of the sexes in Texas declined noticeably from 1940 to 1950, overall evidence indicates a remarkable stability of sexual segregation in the labor force; (3) Texas is slightly more segregated by sex occupationally than the nation.

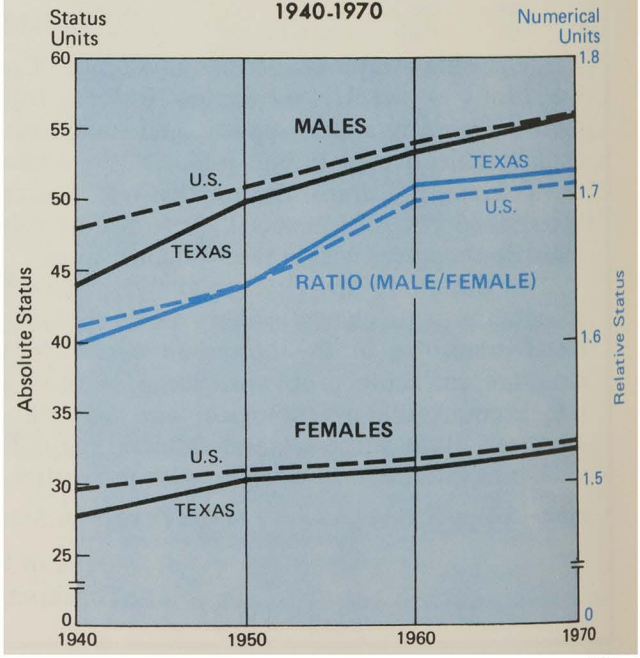
The Measurement of Status

The study of changes in the status of women and men necessitates an index which takes into account differences in the occupational distribution of the sexes. But since occupational groups differ in terms of their importance and social prestige, the groups must be weighted accordingly. The average income for each occupational group is a good measure for indicating this differential evaluation. However, men and women in the same occupational group do not earn the same amount of income; males in similar occupational groups receive higher incomes on the average than females. Therefore the index must weight the occupational distribution of the sexes according to their sex-specific average incomes.

It has been argued that an important reason for the lower median income of employed women is the fact that a far greater proportion of women than men work part time.[2] Working full time is defined here as being in the labor force at least fifty weeks of the year and working at least thirty-five hours a week. By this definition, the percentage of women working full time in 1960 was 44.7 percent, while the percentage for men was 67.1. In order to eliminate the influence of the greater participation of females in part-time work, our index has been constructed so that it includes only full-time workers; further, the average income weights of the occupational groups are based on the earnings of full-time workers only.

An example of the calculation of the status index is set forth in Table 1. Because of the unavailability of occupa-

Figure 1
TRENDS IN THE STATUS OF WOMEN AND MEN: 1940-1970



*This article is the sixth in a series entitled Texas Population in 1970 by members of the staff of the Population Research Center of the University of Texas at Austin. The articles are appearing intermittently in the *Texas Business Review*.

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Table 1

ILLUSTRATIVE COMPUTATION OF STATUS INDEX, TEXAS, 1970

Occupational group (1)	Number of employed males (2)	Proportion full-time K_m	Adjusted total (4)	Percentage distribution (5)	Average income for full-time I_m	Product ÷ 100 $[(5) \times I_m] \div 100$
Professional	340,081	.75	255,061	15.2	$7115.	10.81
Managerial	293,226	.86	252,174	15.0	6648.	9.97
Sales	192,919	.69	133,114	7.9	5842.	4.62
Clerical	179,035	.75	134,276	8.0	5291.	4.23
Craftsmen	527,585	.68	358,758	21.4	5826.	12.47
Operatives	449,482	.61	274,184	16.4	4997.	8.20
Laborers (exc. farm)	173,572	.44	76,372	4.6	4017.	1.85
Farmers	73,494	.72	52,916	3.1	2004.	.62
Farm laborers	68,860	.39	26,855	1.6	1686.	.27
Service	175,887	.63	110,809	6.6	4088.	2.70
Private household	2,566	.42	1,078	.1	1907.	.02
Total						55.76
(1)	Number of employed females (2)	K_f	(4)	(5)	I_f	$[(5) \times I_f] \div 100$
Professional	228,749	.32	73,200	11.1	$4358.	4.84
Managerial	61,434	.69	42,389	6.4	3514.	2.25
Sales	116,396	.39	45,394	6.9	2389.	1.65
Clerical	507,270	.59	299,289	45.4	3575.	16.23
Craftsmen	26,625	.57	15,176	2.3	3531.	.81
Operatives	137,001	.44	60,280	9.2	2969.	2.73
Laborers (exc. farm)	14,647	.39	5,712	.9	2434.	.22
Farmers	3,698	.40	1,479	.2	1214.	.02
Farm laborers	7,748	.30	2,324	.4	1022.	.04
Service	253,328	.37	93,731	14.2	2340.	3.32
Private household	79,413	.24	19,059	2.9	1156.	.34
Total						32.45
Ratio of males to females	$\frac{55.76}{32.45} = 1.72$					

Source: U.S. Bureau of the Census, *Census of Population: 1970, General Social and Economic Characteristics, Final Report PC(1)-C 45, Texas.*

tional data with full-time and part-time distinctions before 1960, a constant, K, based on the percent of full-time workers by sex and by occupational group in 1960 was used. Income, I, was derived separately for full-time males and females by occupational group in 1960. Both constants are based on national samples.[3] The status index as constructed[4] asks what would be the changes in the status of men and women if the proportion of full-time workers in each occupational group remained constant for males and females and if each occupational group was weighted by a constant indicator of differential importance, separately for males and females.[5] In the sample computation, the average status score of males is greater than that of females, a value of 55.91 in comparison with 32.44. In other words, average male status is 1.72 times higher than average female status.

Trends in the Status of Women and Men

Because of the different income and occupation distributions of males and females, the average status of males is substantially higher than that of females, both in Texas and in the nation, during any time periods, 1940 through 1970 (see Figure 1). The status of males in Texas is lower than the status of males in the nation, and the status of women in Texas is also lower than the status of females in the nation. However, a convergence between Texas and the nation is apparent over the decades. The initial disparity in 1940 decreased over the years so that in 1970 the status of males and females in Texas was largely the same as the status of males and females in the nation.

As a result of the general upgrading of the labor force which has occurred with increasing industrialization, the status of both males and females has improved since 1940. In answer to our initial question—Has the status of women improved over the years?—one can assert that females in 1970, as measured by our index, are better off than they were in 1940. But comparison of their status with that of males reveals a relative decline. From 1940 to 1970 the status of males increased *more rapidly* than that of females. In other words, in comparison with males, females have failed to keep pace with their status gains; in a very real sense, this failure may be interpreted as relative decline.

The decline in female status relative to male status may be indicated by a ratio. If the two statuses are similar, the ratio would be one. The greater the disparity between male and female statuses, the higher the ratio: a ratio of two would indicate that the status of males was, on the average, twice the status of females. The status discrepancy increased from 1.59 in Texas in 1940 to 1.72 in 1970. And the pattern for the nation is similar. While the magnitude of the increase is only .13, the pattern of slightly increasing disparity is noticeable. If the ratio fluctuated slightly over time, one might well argue for the essential stability of the

status discrepancies. But that is not the case here; the ratio shown in Figure 1 reflects increasing status differentials since 1940.

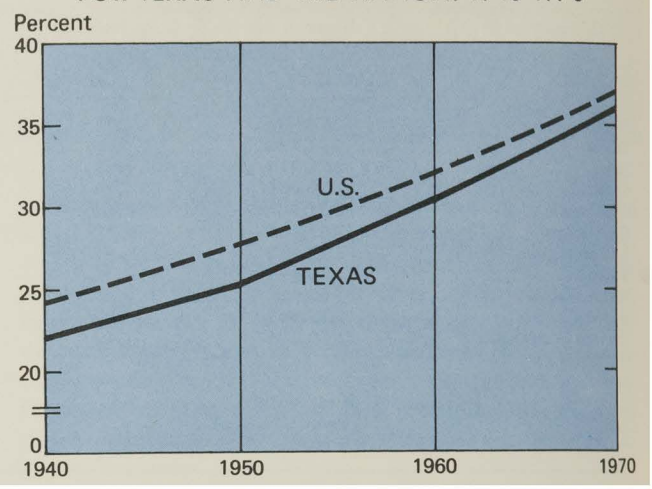
Degree and Sex Typing of Labor-Force Participation

One of the most documented findings about female labor-force behavior in the United States is the remarkable rise in female participation in the labor force since the beginning of the twentieth century. This same rise is also evident in Texas (see Figure 2). From 1940 to 1970 the percent of the labor force which was female rose from 22.1 to 36.0. Again a type of convergence is evident in comparisons made with the nation. Although the utilization of females in the labor force has been lower in Texas than in the nation, the differences are lessening.

Occupational segregation by sex refers to the extent to which males and females are distributed differently among the occupations in the labor force. High segregation occurs if females, and only females, are located in certain occupations, and only males in other occupations. A study of occupational segregation by sex thus permits investigation of the extent to which "sex typing" is present in the labor force.

One measure of occupational segregation is the index of dissimilarity.[6] In the standardized version of the index used in this paper, each occupational group is given the same weight in the determination of the segregation score. The computation of this index is illustrated in Table 2. In order to control for the size of the occupational group, one thousand persons are assigned to each occupational group, with the same sexual proportion actually found in the census data (columns 4 and 5). Percentage distributions for the males and females in the eleven occupational groups are then computed (columns 6 and 7). The difference between these percentages in each occupational group is then obtained (column 8); the absolute values of the differences are then summed and divided by two. If no differences

Figure 2
PERCENTAGE OF FEMALES IN THE LABOR FORCE FOR TEXAS AND THE NATION: 1940-1970



exist between the percentage distributions of males and females in the occupations; that is, if proportionately there are as many males in each occupation as there are females, then there is no occupational segregation, and the value of the index is zero. Conversely, if maximum segregation exists; that is, if only females are found in certain occupational groups, with males in the remaining occupational categories, the index value is 100.[7]

Occupational segregation indexes computed for Texas and for the United States for each census year since 1940 (see Figure 3) show a marked decline in Texas from 1940 to 1950. Thereafter through 1970 the degree of occupational segregation remained relatively stable at 55 percent. A similar but less dramatic decline also occurred in the nation in 1950, but 1960 and 1970 witnessed increases to previous 1940 levels. Part of the reason for the decline during the 1940s was the labor shortage associated with World War II. Females are more segregated from males in the occupational structure in Texas than in the United

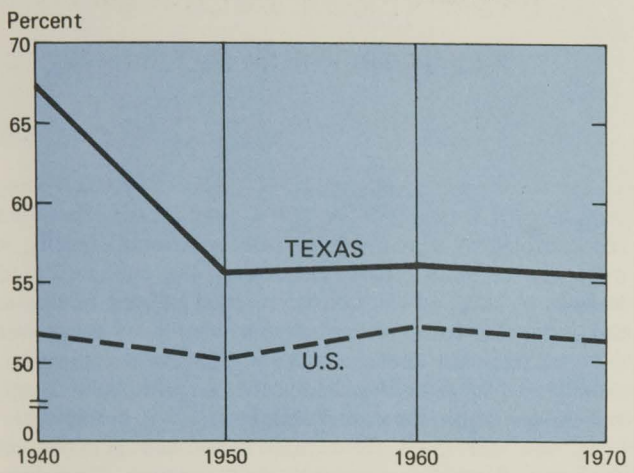
Table 2

ILLUSTRATIVE COMPUTATION OF OCCUPATIONAL SEGREGATION INDEX, TEXAS, 1970

Occupational group	Males (1)	Females (2)	Males and females (3)	Prop. males x 1000 (4)	Prop. female x 1000 (5)	Std. prop. male (6)	Std. prop. female (7)	Absolute difference (6)-(7)
Professional	340,081	228,749	568,830	597.9	402.1	8.26	10.7	2.44
Managerial	293,226	61,434	354,660	826.8	173.2	11.42	4.61	6.81
Sales	192,919	116,396	309,315	623.7	376.3	8.61	10.01	1.40
Clerical	179,035	507,270	686,305	260.8	739.2	3.60	19.67	16.07
Craftsmen	527,585	26,625	554,210	952.0	48.0	13.14	1.28	11.86
Operatives	449,482	137,001	586,483	766.4	233.6	10.58	6.21	4.37
Laborers (exc. farm)	173,572	14,647	188,219	922.2	77.8	12.73	2.07	10.66
Farmers	73,494	3,698	77,192	952.1	47.9	13.15	1.27	11.88
Farm laborers	68,860	7,748	76,608	898.9	101.1	12.41	2.70	9.71
Service	175,887	253,328	429,215	409.8	590.2	5.66	15.70	10.04
Private household	2,566	79,413	81,979	31.3	968.7	.43	25.77	25.34
								110.58 ÷ 2 = 55.29

Source: U.S. Bureau of the Census, *Census of Population: 1970, General Social and Economic Characteristics Final Report PC (1)-C 45, Texas.*

Figure 3
OCCUPATIONAL SEGREGATION TRENDS IN TEXAS AND THE NATION: 1940-1970



States, but the differences are small. The most notable finding is the relative stability of the segregation index in both the nation and in Texas after 1950.

What Does It All Mean?

Changes in the occupational structure over the past three decades have shown distinct patterns for males and females. The largest differences in the full-time occupational distribution of women was the decline in domestic service from 16 percent in Texas in 1940 to 3 percent in 1970, and a rise in clerical occupations from 26 percent to 45 percent. The major trend for males in Texas has been a movement out of farming, from 33 percent in 1940 to 5 percent in 1970, and a rise in skilled craftsmen from 12 percent to 21 percent. As both males and females were moving out of less financially rewarding occupations into more rewarding ones, the status of both men and women rose.

The more dramatic rise in male status as compared to female status is due partly to the greater income advantages resulting from the upgrading of male labor, in comparison with those of female labor. The monetary advantage for females resulting from movement out of domestic service and into clerical work is approximately $2400, while the advantage for males in their shift from the occupational group of farmers to that of craftsmen is approximately $3800, or almost $1400 more than that for females. Another reason for the sharper rise in male status is the increased participation of males in the professional occupations, the highest remunerated occupational group for both sexes. The full-time participation of men in the professions in Texas has risen dramatically from 6 percent in 1940 to 15 percent in 1970, while the full-time participation of women has remained constant.

These occupational differences are also reflected in sexual differences in educational attainment in Texas. Educational attainment involves a high-school diploma more often for females than for males, while more males than females obtain college degrees. The sexual difference in attaining a college degree has *increased* since 1940. Today males are even more likely to characterized by a college degree than females.

In 1940 the greatest amount of sex typing both in the nation and in Texas was found among private household workers and clerical workers, categories in which much larger proportions of female workers than male workers were concentrated. Sex typing was also found among farmers and craftsmen, classifications in which larger proportions of male workers than female workers were concentrated. Of the four occupational groups, private household workers and farmers were characterized by the largest differences. By 1970 the degree of sex typing among clerical workers and craftsmen had increased substantially, and today the largest differences are found in these two groups. However, the differentiation among private household workers and farmers still remains high.

The much greater degree of segregation in Texas in 1940 as compared to the nation is partly due to the more agriculturally oriented occupational structure in Texas.

[1]An excellent reference for those interested in a broader approach is Abbott L. Ferriss, *Indicators of Trends in the Status of American Women* (New York: Russell Sage Foundation, 1971).

[2]See *Womanpower*, a statement of the National Manpower Council (New York: Columbia University Press, 1957).

[3]The full-time constant was constructed from data contained in a 1/100 Public Use Sample from the 1960 U.S. Census of Population and Housing (see U.S. Bureau of the Census, *One in a 100: A Public Use Sample of Basic Records from the 1960 Census, Description and Technical Documentation* (Washington, D.C.: U.S. Government Printing Office, March 16, 1971). The income weights were taken from U.S. Bureau of the Census, *Current Population Reports*, Series P-60, No. 37, "Consumer Income, Income of Families and Persons in the United States: 1960" (January 1962).

[4]The first step in the calculation of the status index is to adjust the number of employed males according to K_m. As a result of multiplication, a new male total for each occupational group is derived. The same is done for females. Since the status index is meant to reflect the status of the average male or female worker, we are not interested in the absolute number of males or females involved. Therefore a percentage distribution of males and females is created. The percentage of males in each occupational group is weighted by the average full-time income, I_m, for workers in that group. These weighted values are divided by 100 to make the numbers more manageable. The products are then summed. The absolute number of the index is interpretable only when compared to another status index.

[5]The index developed here is a variation on an index developed by Dale L. Hiestand in *Economic Growth and Employment Opportunities for Minorities* (New York: Columbia University Press, 1964).

[6]In an earlier analysis of residential segregation by race in Texas cities, the index of dissimilarity was employed. See Dudley L. Poston, Jr., and Jeffrey Passel, "Texas Population in 1970: 3. Residential Segregation in Cities," *Texas Business Review* 46 (July 1972): 142-147.

[7]Since the segregation index is based on differences in the percent distribution of males and females, it involves a control for differences in their participation rates. Thus the interpretation of no differences in sex typing when the segregation index is zero involves a prior control for participation rate differences.

Females in Texas were overrepresented in private household work and underrepresented in the sales and operative occupational groups. By 1950 the occupational structures of Texas and the nation had become more similar, although Texas still remained less oriented toward manufacturing than the nation. Female employment in domestic services and sales is now much closer to national female employment patterns. However, the lack of opportunity for employment in manufacturing in Texas has resulted in an underrepresentation of females in the operative occupational group. This is a major reason for the greater occupational segregation in Texas than in the nation.

The status of women today relative to their status in 1940 has improved, but the status of the working female has declined with respect to that of the working male. The "meaning" of the decline in female status relative to male status becomes more apparent when seen in conjunction with the dramatic increase in female participation in the labor force. Despite the increasing utilization of female labor, the status of women has continued to decline. Moreover, the degree of occupational segregation by sex has remained relatively stable, except for a marked decline in Texas in the 1940s. Though none would deny that increasing participation of females in the labor force has given them an economic independence which is crucially important in affecting their social independence, the benefits of increasing participation for the average working woman have been achieved largely outside the labor force—within the labor force her relative status has declined.

TEXAS MANUFACTURING ACTIVITY
1970 AND 1964

	1970	1964	Percent change
All employees			
Total number (thousands)	724.9	535.9	35
Payroll (million dollars)	5,576.7	3,130.5	78
Production workers			
Total number (thousands)	505.9	375.9	35
Man-hours (millions)	1,012.6	782.5	29
Wages (million dollars)	3,239.3	1,894.6	71
Value added by manufacture (million dollars)	12,978.5	7,864.8	65
Cost of materials (million dollars)	18,686.1	11,603.9	61
Value of shipments (million dollars)	31,455.0	19,350.9	63
Capital expenditures, new (million dollars)	1,622.5	745.6	118

Source: *Annual Survey of Manufactures*, U.S. Department of Commerce, Bureau of the Census.

THE ENERGY ECONOMY

TEXAS PETROLEUM REFINING

Francis B. May

The historical development of Texas into the leading producer of petroleum in the United States has been accompanied by a growth in petroleum refining capacity. A discovery of oil in East Texas near the community of Melrose in 1867 led to the first recorded refining activity in the state—the construction of a still intended to extract lamp oil from the crude petroleum. The shallow formation soon ceased to yield a feedstock for the primitive refinery, and the operation was abandoned.

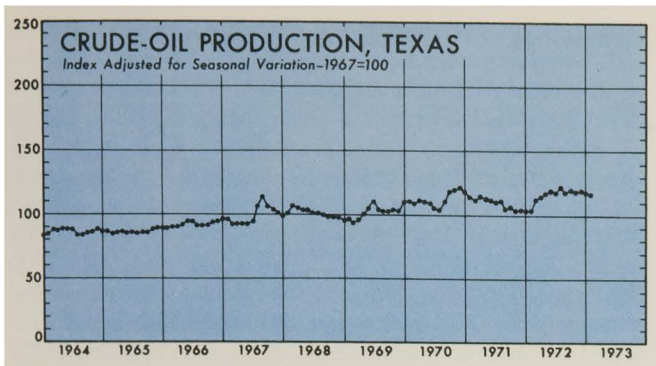
It was not until 1894 that Texas had a major oil discovery. A luckless water-well drilling contractor seeking a new source of water for the city of Corsicana drilled into a large, shallow oil reservoir. The resulting fires and other problems caused abandonment of this well. In 1895, however, a company formed to drill for oil in the area was successful in bringing in several producing oil wells.

Soon enough oil was being produced near Corsicana to support a local refinery, with the result that on Christmas Day in 1898 the J. S. Cullinan Company fired the still in its refinery. The first well-equipped refinery constructed in the state, it is generally referred to as the first refinery in Texas despite previous refinery activity near the Melrose petroleum discovery. The Cullinan refinery was subsequently acquired and enlarged by the Magnolia Petroleum Company, which continued to operate it for several decades.

On January 10, 1901, the discovery well of the Spindletop field blew in, producing more than 100,000 barrels of crude oil a day and placing Texas in the forefront of oil-producing states. By 1902 Texas production had increased to 18.1 million barrels of petroleum, making it the second-largest producing state. Ohio was in the lead with a production of 21.0 million barrels. Construction of refineries soon followed this new oil discovery at Spindletop, establishing the Texas Gulf Coast as a major refining area. It has held that position for more than seventy years.

Other discoveries in Texas followed Spindletop. Another water-well drilling crew struck oil in 1911 on the W. T. Waggoner ranch in Wichita County, bringing in the Electra field. The Ranger field, in Eastland County, was discovered in 1917. By 1918 Texas' oil production had grown to 38.8 million barrels. The resultant expansion in refining raised the total capacity of the oil refineries in the state to 212,050 barrels a day, placing Texas in third position. California was in first place, with a total refining capacity of 280,870 barrels a day; Oklahoma was second, with a total capacity of 233,300 barrels a day.

The period between 1918 and the discovery of the East Texas field in 1930 was one of growth and expansion of demand for the refined products of petroleum. After the gasoline-powered truck and passenger car proved their



worth in World War I, there followed a great increase in demand for all kinds of gasoline-powered vehicles during the "roaring twenties." Automobile production increased from 943,436 in 1918 to 2,784,745 in 1930. During the same period truck production increased from 227,250 to 571,241. Production of civil aircraft, the newest transportation medium, increased from a total of 29 in 1918 to 2,601 in 1930. Petroleum refineries found it necessary to expand both the volume and the variety of their products in order to satisfy the increased volume and variety of demand.

Between 1918 and 1930 the total capacity of petroleum refineries expanded from 1,295,115 barrels to 3,706,610 barrels a day. Texas, as a major crude-oil producing state, found it necessary to increase petroleum refining capacity from 212,050 barrels a day in 1918 to 795,600 barrels a day in 1930. Texas refining capacity was 16.4 percent of the United States total in 1918. By 1930 it had grown to 21.5 percent of the national total.

Between 1918 and 1930 important technological innovations altered the nature of the refining process. Nineteenth-century refineries simply boiled petroleum in large kettles called "cheese-box" stills. Lamp oil to illuminate homes was their most important product, and next in importance was lubricating oil. Gasoline was an unwanted by-product. The rise in demand for gasoline-powered vehicles changed the economics of petroleum refining as radically as it changed the transportation industry. Gasoline became—and remains—the single most valuable petroleum product.

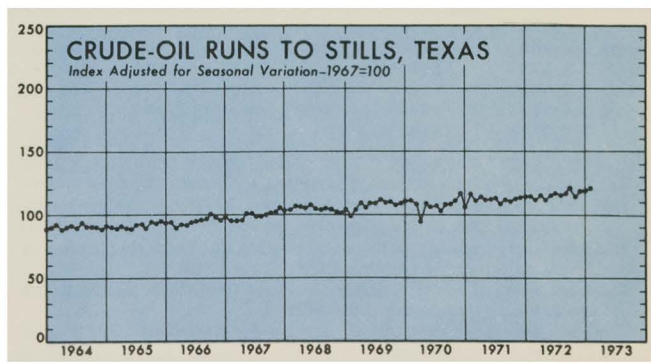
Many major refining innovations were introduced between 1910 and 1920 in order to increase the amount of gasoline that could be extracted from a barrel of crude oil. The pipe still, which conducted the oil through a maze of pipes directly exposed to flames, increased the efficiency of refining. By thermal cracking, large hydrocarbon molecules could be broken into small molecules with boiling points within the temperature range of the petroleum fractions used for gasoline, increasing the number of gallons of gasoline obtained from a barrel of oil. It was not until the late 1930s that catalytic cracking revolutionized the refining process.

Between 1929 and the beginning of World War II, the greatest event in the history of the domestic oil industry was the discovery in 1930 of the giant East Texas oil field, which placed the United States in the position of being a substantial net exporter of oil. It greatly reduced the price of oil, making economical the production of gasoline by skimming plants, which used the simple technology of an earlier day to boil off the gasoline fractions. Such gasoline found a ready market at a price to the consumer of ten cents a gallon. Major innovations in refining did not occur until 1930, with the introduction of the Houdry process of cracking oil in the presence of a catalyst. Application of the Houdry method increased both the quantity and the quality of the gasoline extracted from each barrel of oil. Texas refineries were quick to begin using the new process.

World War II placed an enormous strain on producers as well as refineries in this country. The United States became a major supplier of refined petroleum products to its allies, particularly high-octane aviation gasoline refined by the Houdry catalytic cracking process. Some historians maintain that without the high-octane aviation gasoline supplied to the Royal Air Force by this country the Battle of Britain could not have been won by the Allies. Development of the fluid bed catalytic cracking process in 1941 further expanded capacity to produce high-octane fuels, greatly needed after Pearl Harbor.

World War II altered the growth curve of the petrochemical industry, which had existed for several decades. Synthetic rubber was needed to replace the natural rubber lost when the Japanese seized the rubber plantations of southeast Asia. Petroleum-based butadiene was used to make synthetic rubber. The feedstock for the process came from the refinery by-product ethylene and other refined products of crude oil. Growth of the refinery-dependent petrochemical industry, concentrated on the Texas Gulf Coast, has been enormous since World War II.

Further improvements in petroleum refining technique after World War II included platinum reforming, which rearranges molecules to produce more of the desirable fractions of refined products, such as gasoline. Hydroforming techniques further increased output of desirable end-products. These new processes also increased the output of refined products needed as feedstock for petrochemical manufacturers. The processes that supplied wartime demand for aviation gasoline and synthetic rubber were converted to peace-time applications in the automotive field. High-compression automobile engines required the 100-octane gasoline that had powered B-17's and P-47's. Synthetic rubber tires worked as well on automobiles as they did on aircraft landing gear. Enormous expansion in automobile production and civil air transportation required the construction of more and larger



TEXAS AND UNITED STATES REFINING CAPACITY
FOR SELECTED YEARS BETWEEN 1945 AND 1970
(Thousands of barrels a day)

Year	Texas	United States	Texas as a percentage of U.S. capacity
1945	1,436	5,086	28.2
1950	1,803	6,702	26.9
1955	2,284	8,381	27.3
1960	2,546	9,543	26.7
1965	2,732	10,161	26.9
1970	3,235	11,882	27.2

Source: American Petroleum Institute, *Petroleum Facts and Figures, 1971 Edition.*

refineries, and much of their new refining capacity was constructed in Texas.

An accompanying table shows how Texas and United States refining capacity expanded between 1945 and 1970. During the twenty-five year period covered by the table, Texas refining capacity has been about 27 percent of United States capacity. It was slightly higher (28 percent) in 1945. Refining capacity in the state is the largest in the country by a substantial margin. This dominant position is a result of the fact that Texas has been for many years the largest oil-producing state.

Between 1945 and 1970 total United States refining capacity increased from over 5 million barrels a day to under 12 million barrels, a 135-percent increase. Texas output increased 125 percent during the same period. This remarkable growth resulted primarily from increased demand for motor vehicle fuel, aircraft fuel, and home heating oil.

Gasoline output almost tripled between 1945 and 1969, reflecting the increase in the number, size, and use of automobiles. By 1972 gasoline demand had grown to 6.4 million barrels a day, up 5.9 percent over the 1971 level. Growth in the combined output of kerosine and other jet fuels used to power civil and military aircraft reflects the demand for air transportation. Kerosine demand in 1972 averaged 1.0 million barrels a day, up 4.2 percent over the 1971 level of demand.

Distillate fuel oil, a light oil used for home heating, is sometimes used as industrial boiler fuel, but residual fuel oil is preferred for industrial heating because it is cheaper. Demand for distillate averaged 2.9 million barrels a day in 1972, up 8.4 percent over 1971. Much of the nation's residual fuel oil is imported. These imports averaged 1.8 million barrels a day in 1972, up 10.6 percent over 1971 imports. Domestic demand for residual increased 9.4 percent in 1972 to an average of 2.6 million barrels a day. Total demand for petroleum products in 1972 averaged 7.1 percent above the 1971 total. Total crude oil refined in the United States in 1972 averaged 11,677 barrels a day. In December 1972 refinery runs averaged 11,881 barrels a day, a figure close to maximum capacity of the refineries.

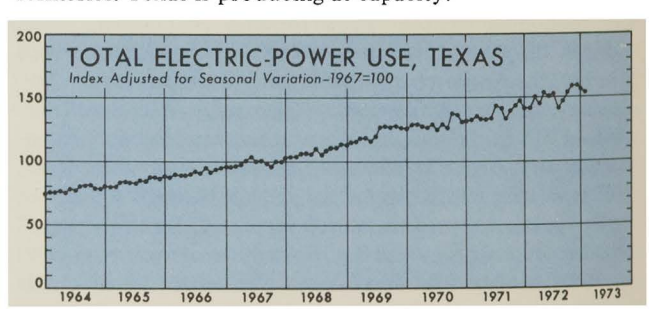
With shortages of fuel oil, threatened shortages of gasoline, and refinery production at capacity, it is clear that either more refineries must be built or the consumption of refinery products must be curtailed. No user of refined products wishes to drastically curtail his privileges of automobile usage, home heat, or air transportation.

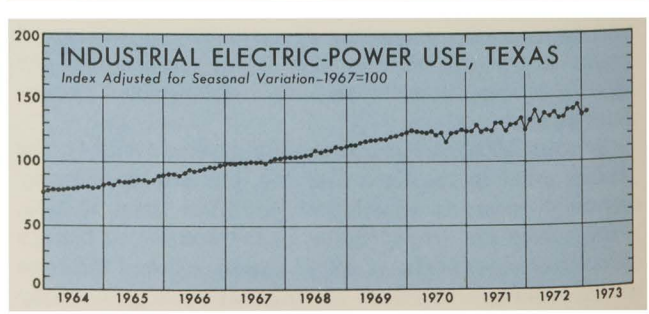
One solution, construction of more refinery capacity, seems logical to many people—so long as the refinery is not built near their homes. Refineries, nuclear (and other) power plants, and large industrial installations generally encounter environmental objections whenever they announce plans to construct a new facility to serve the consumer. Some analysts estimate that by 1980 the country will need to refine 4 to 5 million more barrels of oil each day than are presently being refined. Some Middle Eastern countries have suggested that their oil be refined there and the products shipped to the United States. This arrangement would not assure either a cheap or a dependable supply of refined products to American consumers. Texas would welcome the refineries, but we must assure exploration incentives to find the oil for these new refineries. Texas is producing at capacity.

UNITED STATES PRODUCTION
OF MAJOR REFINED PRODUCTS
AND TOTAL REFINERY OUTPUT, 1945-1969
(Millions of barrels)

Year	Gasoline[1]	Kerosine[1&2]	Jet fuel[3]	Distillate[1]	Residual	Total output[4]
1945	774	81	...	249	469	1,790
1950	998	119	...	399	425	2,190
1955	1,331	117	57	603	420	2,857
1960	1,508	136	88	667	332	3,119
1965	1,722	202	82	765	269	3,527
1969	2,051	319	105	846	266	4,148

1 Jet fuel components excluded after 1951.
2 Includes commercial jet fuel beginning in 1960; beginning in 1965, data include kerosine-type jet fuel.
3 Includes only military jet fuel beginning in 1960; beginning in 1965, data include only naphtha-type jet fuel.
4 Includes other types of refinery products than those shown in the table, e.g., petrochemical feedstocks.
Source: American Petroleum Institute, *Petroleum Facts and Figures, 1971 Edition.*





LOCAL BUSINESS CONDITIONS

Statistical data compiled by Mildred Anderson, statistical associate, *Constance Cooledge*, statistical assistant, *and Kay Davis*, statistical technician.

The indicators of local business conditions in Texas which are included in this section are statistics on bank debits, urban building permits, and employment. The data are reported by metropolitan areas in the first table below and by municipalities within counties in the second table.

Standard metropolitan statistical areas (SMSA's) in Texas are defined by county lines; in the first table the counties included in the area are listed under each SMSA. Since the Longview-Marshall area is functioning as a significant metropolitan complex in its region, although not officially designated as an SMSA by the Bureau of the Census, data for this area have been included in the table for SMSA's. In both tables the populations shown for the SMSA's and for the counties are the population counts of the 1970 Census. In the second table the population values for individual municipalities are also counts of the 1970 Census, unless otherwise indicated. Population estimates made for municipalities in noncensus years are commonly based on utility connections, and these estimates are subject to the errors inherent in a process dependent on base ratios derived in 1960.

The values of urban building permits have been collected from participating municipal authorities by the Bureau of Business Research in cooperation with the Bureau of the Census of the U.S. Department of Commerce. Inasmuch as building permits are not required by county authorities, it must be emphasized that the reported permits reflect construction intentions only in incorporated places. Permits are reported for residential and nonresidential building only, and do not include public-works projects such as roadways, waterways, or reservoirs; nor do they include construction let under federal contracts.

The values of bank debits for all SMSA's and for most central cities of the SMSA's have been collected by the Federal Reserve Bank of Dallas. Bank debits for the remaining municipalities have been collected from cooperating banks by the Bureau of Business Research.

Employment estimates are compiled by the Texas Employment Commission in cooperation with the Bureau of Labor Statistics of the U.S. Department of Labor.

Footnote symbols are defined on pp. 72 and 80.

INDICATORS OF LOCAL BUSINESS CONDITIONS FOR STANDARD METROPOLITAN STATISTICAL AREAS

Reported area and indicator	Jan 1973	Percent change from Dec 1972	Percent change from Jan 1972
ABILENE SMSA			
Jones and Taylor Counties; population 113,959			
Urban building permits	5,046,821	599	692
Bank debits, seas. adj. ($1,000)	230,720	− 2	16
Nonfarm employment	40,150	− 1	2
Manufacturing employment	5,760	− 2	2
Unemployed (percent)	3.0	25	− 9
AMARILLO SMSA			
Potter and Randall Counties; population 144,396			
Urban building permits (dollars)	7,192,946	111	217
Bank debits, seas, adj. ($1,000)	676,541	− 3	20
Nonfarm employment	59,800	− 5	− 4
Manufacturing employment	8,290	**	− 1
Unemployed (percent)	4.1	28	− 2
AUSTIN SMSA			
Travis County; population 295,516			
Urban building permits (dollars)	15,391,515	− 28	− 8
Bank debits, seas. adj. ($1,000)	1,164,379	15	− 3
Nonfarm employment	151,500	2	7
Manufacturing employment	13,360	− 3	4
Unemployed (percent)	2.3	− 4	**
BEAUMONT-PORT ARTHUR-ORANGE SMSA			
Jefferson and Orange Counties; population 315,943			
Urban building permits (dollars)	4,735,565	− 18	126
Bank debits, seas. adj. ($1,000)	636,805	9	6
Nonfarm employment	122,000	− 1	2
Manufacturing employment	37,300	− 1	− 1
Unemployed (percent)	5.6	24	− 10
BROWNSVILLE-HARLINGEN-SAN BENITO SMSA			
Cameron County; population 140,368			
Urban building permits (dollars)	1,670,181	− 64	56
Bank debits, seas. adj. ($1,000)	228,567	7	15
Nonfarm employment	45,200	1	8
Manufacturing employment	8,240	4	16
Unemployed (percent)	7.6	17	10
BRYAN-COLLEGE STATION SMSA			
Brazos County; population 57,978			
Urban building permits (dollars)	2,972,435	23	498
Bank debits, seas. adj. ($1,000)	109,905	2	13
(Monthly employment reports are not available for the Bryan-College Station SMSA).			
CORPUS CHRISTI SMSA			
Nueces and San Patricio Counties; population 284,832			
Urban building permits (dollars)	8,345,867	98	51
Bank debits, seas. adj. ($1,000)	645,943	− 3	7
Nonfarm employment	101,200	**	1
Manufacturing employment	11,140	**	1
Unemployed (percent)	3.6	− 12	− 16
DALLAS SMSA			
Collin, Dallas, Denton, Ellis, Kaufman, and Rockwall Counties; population 1,555,950			
Urban building permits (dollars)	54,252,389	33	− 7
Bank debits, seas. adj. ($1,000)	12,700,859	− 15	8
Nonfarm employment	764,200	**	5
Manufacturing employment	157,725	2	8
Unemployed (percent)	2.3	15	− 23
FORT WORTH SMSA			
Johnson and Tarrant Counties; population 762,086			
Urban building permits (dollars)	18,612,167	− 31	− 5
Bank debits, seas. adj. ($1,000)	2,605,187	8	14
Nonfarm employment	302,100	2	5
Manufacturing employment	73,350	2	4
Unemployed (percent)	3.2	− 6	− 37
SOUTHWEST METROPLEX: DALLAS/FORT WORTH			
Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Rockwall, and Tarrant Counties; population 2,318,036			
Urban building permits (dollars)	72,864,556	7	− 7
Bank debits, seas. adj. ($1,000)	15,306,046	− 12	9
Nonfarm employment	1,066,300	1	5
Manufacturing employment	231,075	2	7
Unemployed (percent)	2.6	8	− 28
EL PASO SMSA			
El Paso County; population 359,291			
Urban building permits (dollars)	11,136,800	− 2	− 54
Bank debits, seas. adj. ($1,000)	848,077	2	14
Nonfarm employment	131,500	1	5
Manufacturing employment	27,450	− 3	2
Unemployed (percent)	3.9	− 11	− 7

Reported area and indicator	Jan 1973	Percent change from Dec 1972	Percent change from Jan 1972
GALVESTON-TEXAS CITY SMSA			
Galveston County; population 169,812			
Urban building permits (dollars)	1,000,116	− 63	− 72
Bank debits, seas, adj. ($1,000)	292,953	8	12
Nonfarm employment	61,800	− 2	**
Manufacturing employment	10,950	3	**
Unemployed (percent)	4.9	17	− 13
HOUSTON SMSA			
Brazoria, Fort Bend, Harris, Liberty, and Montgomery Counties; population 1,985,031			
Urban building permits (dollars)	79,603,233	− 9	47
Bank debits, seas. adj. ($1,000)	13,250,564	6	25
Nonfarm employment	912,700	− 2	3
Manufacturing employment	153,900	1	4
Unemployed (percent)	2.3	**	− 26
KILLEEN-TEMPLE SMSA			
Bell and Coryell Counties; population 159,794			
Urban building permits (dollars)	4,422,440	19	52
Bank debits, seas. adj. ($1,000)	195,026	13	27
(Monthly employment reports are not available for the Killeen-Temple SMSA.)			
LAREDO SMSA			
Webb County; population 72,859			
Urban building permits (dollars)	447,250	9	− 82
Bank debits, seas. adj. ($1,000)	111,274	12	11
Nonfarm employment	25,900	− 1	3
Manufacturing employment	1,670	1	14
Unemployed (percent)	12.9	14	− 7
LONGVIEW-MARSHALL METROPOLITAN AREA			
(formerly Longview-Kilgore-Gladewater Metropolitan Area)			
Gregg and Harrison Counties; population 120,770			
(formerly only Gregg County; population 75,929)			
Urban building permits (dollars)	1,825,062	− 50	− 2
Bank debits ($1,000)	202,711	16	19
Nonfarm employment	50,800	− 1	4
Manufacturing employment	15,440	**	10
Unemployed (percent)	3.8	9	− 31
(Building permits and bank debits are included for those portions of Kilgore and Gladewater in Rusk County and Upshur County.)			
LUBBOCK SMSA			
Lubbock County; population 179,295			
Urban building permits (dollars)	7,218,439	20	135
Bank debits, seas. adj. ($1,000)	511,480	13	15
Nonfarm employment	75,300	2	7
Manufacturing employment	8,160	4	6
Unemployed (percent)	2.3	28	− 21
McALLEN-PHARR-EDINBURG SMSA			
Hidalgo County; population 181,535			
Urban building permits (dollars)	4,546,827	133	194
Bank debits, seas. adj. ($1,000)	236,854	3	9
Nonfarm employment	45,500	− 2	4
Manufacturing employment	4,400	− 7	5
Unemployed (percent)	8.1	13	3
MIDLAND SMSA			
Midland County; population 65,433			
Urban building permits (dollars)	782,247	104	− 52
Bank debits, seas. adj. ($1,000)	193,975	− 1	9
Nonfarm employment	60,300	− 2	− 2
Manufacturing employment	5,520	**	5
Unemployed (percent)	3.4	21	− 11
(Employment data are reported for the combined Midland and Odessa SMSA's since employment figures for Midland and Ector Counties, composing one labor-market area, are recorded in combined form by the Texas Employment Commission.)			
ODESSA SMSA			
Ector County; population 91,805			
Urban building permits (dollars)	1,201,590	1	68
Bank debits, seas. adj. ($1,000)	156,911	− 3	6
Nonfarm employment	60,300	− 2	− 2
Manufacturing employment	5,520	**	5
Unemployed (percent)	3.4	21	− 11
(Employment data are reported for the combined Midland and Odessa SMSA's since employment figures for Midland and Ector Counties, composing one labor-market area, are recorded in combined form by the Texas Employment Commission.)			
SAN ANGELO SMSA			
Tom Green County; population 71,047			
Urban building permits (dollars)	1,349,484	145	130
Bank debits, seas. adj. ($1,000)	152,681	6	18
Nonfarm employment	24,350	**	1
Manufacturing employment	4,370	**	6
Unemployed (percent)	4.4	33	7
SAN ANTONIO SMSA			
Bexar and Guadalupe Counties; population 864,014			
Urban building permits (dollars)	21,437,837	40	71
Bank debits, seas. adj. ($1,000)	2,044,155	**	9
Nonfarm employment	314,200	1	3
Manufacturing employment	35,950	− 1	2
Unemployed (percent)	2.9	− 12	− 28
SHERMAN-DENISON SMSA			
Grayson County; population 83,225			
Urban building permits (dollars)	1,578,034	194	74
Bank debits, seas. adj. ($1,000)	109,320	4	8
(Monthly employment reports are not available for the Sherman-Denison SMSA.)			
TEXARKANA SMSA			
Bowie County, Texas, and Miller County, Arkansas; population 101,198			
Urban building permits (dollars)	333,111	3	− 51
Bank debits, seas. adj. ($1,000)	158,039	19	8
Nonfarm employment	41,100	− 1	3
Manufacturing employment	9,870	− 1	10
Unemployed (percent)	5.4	23	**
(Since the Texarkana SMSA includes Bowie County in Texas and Miller County in Arkansas, all data, including population, refer to the two-county region.)			
TYLER SMSA			
Smith County; population 97,096			
Urban building permits (dollars)	2,124,633	208	216
Bank debits, seas. adj. ($1,000)	295,640	− 3	41
Nonfarm employment	41,250	**	4
Manufacturing employment	13,130	− 1	6
Unemployed (percent)	4.1	17	8
WACO SMSA			
McLennan County; population 147,553			
Urban building permits (dollars)	6,283,955	− 3	363
Bank debits, seas. adj. ($1,000)	377,659	17	19
Nonfarm employment	62,600	3	7
Manufacturing employment	14,190	5	17
Unemployed (percent)	3.3	18	− 34
WICHITA FALLS SMSA			
Archer and Wichita Counties; population 127,621			
Urban building permits (dollars)	2,472,464	42	139
Bank debits, seas. adj. ($1,000)	248,538	− 6	4
Nonfarm employment	44,400	**	3
Manufacturing employment	5,525	− 1	8
Unemployed (percent)	3.0	3	7

** Absolute change is less than one half of 1 percent.
Urban building-permit data are preliminary and subject to revision.

INDICATORS OF LOCAL BUSINESS CONDITIONS FOR INDIVIDUAL MUNICIPALITIES

COUNTY City	Population	Urban building permits			Bank debits		
		Jan 1973 (dollars)	Percent change from Dec 1972	Percent change from Jan 1972	Jan 1973 (thousands of dollars)	Percent change from Dec 1972	Percent change from Jan 1972
ANDERSON	27,789						
Palestine	14,525	38,250	– 97	84	27,555	18	9
ANDREWS	10,372						
Andrews	8,625	0	...	...	14,725	62	49
ANGELINA	49,349						
Lufkin	23,049	330,464	– 72	– 25	...	...	...
ARANSAS	8,902						
Aransas Pass	5,813	72,100	...	– 63	11,618	16	**
ATASCOSA	18,696						
Pleasanton	5,407	...	...	...	6,578	11	– 12
AUSTIN	13,831						
Bellville	2,371	39,500	– 30	339	11,056	42	10
BAILEY	8,487						
Muleshoe	4,525	...	...	...	26,735	52	9
BASTROP	17,297						
Smithville	2,959	25,925	– 54	297	3,337	8	10
BEE	22,737						
Beeville	13,506	121,935	65	2	28,666	23	27
BELL	124,483						
(In Killeen-Temple SMSA)							
Bartlett	1,622	...	...	...	2,189	38	31
Belton	8,696	211,170	...	20	...	...	...
Harker Heights	4,216	118,631	118	– 34	...	...	...
Killeen	35,507	1,180,401	– 50	74	45,830	1	11
Temple	33,431	2,211,219	278	208	97,962	21	28
BEXAR	830,460						
(In San Antonio SMSA)							
San Antonio	654,153	20,363,909	38	77	2,161,239	10	15
BOWIE	67,813						
(In Texarkana SMSA)							
Texarkana	52,179	288,111	3	– 53	150,829	20	11
BRAZORIA	108,312						
(In Houston SMSA)							
Angleton	9,770	9,150	– 92	– 86	26,105	9	35
Clute	6,023	89,680	223	925	6,658	11	15
Freeport	11,997	295,438	327	...	40,679	13	35
Pearland	6,444	824,025	– 39	110	10,885	16	10
BRAZOS	57,978						
(Constitutes Bryan-College Station SMSA)							
Bryan	33,719	1,431,499	– 35	423	103,787	11	17
College Station	17,676	1,540,936	667	590	16,399	21	20
BREWSTER	7,780						
Alpine	5,971	3,000	...	– 96	6,838	**	– 4
BROWN	25,877						
Brownwood	17,368	318,505	24	115	...	...	...
BURLESON	9,999						
Caldwell	2,308	...	...	...	5,588	4	9
BURNET	11,420						
Marble Falls	2,209	...	...	...	10,196	5	23
CALDWELL	21,178						
Lockhart	6,489	173,050	20	249	13,841	25	30

COUNTY City	Population	Urban building permits			Bank debits		
		Jan 1973 (dollars)	Percent change from Dec 1972	Percent change from Jan 1972	Jan 1973 (thousands of dollars)	Percent change from Dec 1972	Percent change from Jan 1972
CAMERON	140,368						
(Constitutes Brownsville-Harlingen-San Benito SMSA)							
Brownsville	52,522	1,069,823	− 61	69	91,072	6	10
Harlingen	33,503	490,075	− 69	92	111,417	21	24
La Feria	2,642	0	...	...	3,567	1	9
Los Fresnos	1,297	...	...	...	2,867	23	30
Port Isabel	3,067	5,625	− 49	...	...	...	...
San Benito	15,176	87,358	− 67	− 7	10,337	5	11
CASTRO	10,394						
Dimmitt	4,327	...	...	...	38,442	19	29
CHEROKEE	32,008						
Jacksonville	9,734	6,200	− 94	− 90	33,710	22	23
COLEMAN	10,288						
Coleman	5,608	45,800	− 73	...	22,076	...	1
COLLIN	66,920						
(In Dallas SMSA)							
McKinney	15,193	869,790	...	847	20,730	27	28
Plano	17,872	2,456,850	− 28	− 11	33,420	− 12	39
COLORADO	17,638						
Eagle Lake	3,587	...	...	...	6,366	− 4	3
COMAL	24,165						
New Braunfels	17,859	373,000	113	− 19	34,375	19	21
COOKE	23,471						
Gainesville	13,830	213,300	50	41	28,345	24	22
Muenster	1,411	38,000	...	...	...	...	...
CORYELL	35,311						
(In Killeen-Temple SMSA)							
Copperas Cove	10,818	817,950	19	− 29	5,901	− 8	18
Gatesville	4,683	...	...	...	14,707	44	28
CRANE	4,172						
Crane	3,427	0	...	...	2,979	27	5
DALLAS	1,327,321						
(In Dallas SMSA)							
Carrollton	13,855	2,020,405	11	5	25,448	24	37
Dallas	844,401	32,812,395	53	12	14,287,905	− 3	15
Farmers Branch	27,492	...	...	...	26,701	6	18
Garland	81,437	...	...	...	100,292	24	34
Grand Prairie	50,904	1,404,546	− 28	2	42,158	6	9
Irving	97,260	6,051,108	274	48	121,050	23	34
Lancaster	10,522	198,500	− 42	− 1	12,688	9	38
Mesquite	55,131	2,004,838	164	70	...	...	...
Richardson	48,582	1,582,260	− 34	8	102,630	29	5
Seagoville	4,390	...	...	...	9,692	− 5	31
DAWSON	16,604						
Lamesa	11,559	2,625	− 94	− 95	46,978	55	− 1
DEAF SMITH	18,999						
Hereford	13,414	343,000	47	231	...	...	...
DENTON	75,633						
(In Dallas SMSA)							
Denton	39,874	1,749,970	27	− 2	91,394	17	20
Justin	741	37,500	...	...	2,060	33	46
Lewisville	9,264	1,828,210	51	− 34	37,437	51	106
Pilot Point	1,663	5,400	− 80	− 90	4,186	30	23
DE WITT	18,660						
Yoakum	5,755	138,925	226	− 74	17,250	17	13
EASTLAND	18,092						
Cisco	4,160	...	...	...	7,343	15	49

COUNTY City	Population	Urban building permits			Bank debits		
		Jan 1973 (dollars)	Percent change from Dec 1972	Percent change from Jan 1972	Jan 1973 (thousands of dollars)	Percent change from Dec 1972	Percent change from Jan 1972
ECTOR	91,805						
(Constitutes Odessa SMSA)							
Odessa	78,380	1,201,590	1	68	175,263	15	7
ELLIS	46,638						
(In Dallas SMSA)							
Midlothian	2,322	40,500	76	– 84	3,598	35	16
Waxahachie	13,452	261,700	7	317	29,518	15	33
EL PASO	359,291						
(Constitutes El Paso SMSA)							
El Paso	322,261	11,136,800	– 2	– 54	980,844	9	23
ERATH	18,191						
Stephenville	9,277	97,760	– 66	37	22,323	25	16
FANNIN	22,705						
Bonham	7,698	641,279	...	864	18,917	22	41
FAYETTE	17,650						
Schulenburg	2,294	71,000	241	255	...	...	...
FORT BEND	52,314						
(In Houston SMSA)							
Richmond	5,777	629,454	342	...	18,664	20	23
Rosenberg	12,098	789,960	190	709	...	...	...
GAINES	11,593						
Seagraves	2,440	17,200	...	43	6,361	42	10
Seminole	5,007	325	– 99	– 98	17,876	74	36
GALVESTON	169,812						
(Constitutes Galveston-Texas City SMSA)							
Dickinson	10,776	...	...	...	21,459	15	31
Galveston	61,809	487,761	– 82	99	208,212	29	17
La Marque	16,131	...	...	...	20,965	18	– 1
Texas City	38,908	512,355	589	– 62	44,687	23	21
GILLESPIE	10,553						
Fredericksburg	5,326	135,940	17	97	24,980	19	36
GONZALES	16,375						
Nixon	1,925	0	...	...	...	...	...
GRAY	26,949						
Pampa	21,726	47,550	...	– 42	54,826	29	9
GRAYSON	83,225						
(Constitutes Sherman-Denison SMSA)							
Denison	24,923	620,389	613	94	36,961	16	5
Sherman	29,061	449,945	26	– 10	78,503	36	17
GREGG	75,929						
(In Longview-Marshall Metropolitan Area)							
Gladewater	5,574	850	– 99	– 99	7,873	– 8	10
Kilgore	9,495	111,200	– 49	– 37	27,648	25	25
Longview	45,547	1,496,000	– 31	– 2	127,055	19	17
GUADALUPE	33,554						
(In San Antonio SMSA)							
Schertz	4,061	46,212	– 90	– 45	2,360	15	67
Seguin	15,934	435,362	...	165	33,750	15	29
HALE	34,137						
Hale Center	1,964	0	...	...	...	...	...
Plainview	19,096	110,750	– 86	14	110,915	42	21
HARDEMAN	6,795						
Quanah	3,948	0	...	...	...	...	...

COUNTY City	Population	Urban building permits Jan 1973 (dollars)	Percent change from Dec 1972	Percent change from Jan 1972	Bank debits Jan 1973 (thousands of dollars)	Percent change from Dec 1972	Percent change from Jan 1972
HARDIN	29,996						
Silsbee	7,271	...	...	...	16,069	10	10
HARRIS	1,741,912						
(In Houston SMSA)							
Baytown	43,980	208,591	– 20	– 78	94,232	33	**
Bellaire	19,009	331,173	195	– 5	90,017	16	12
Deer Park	12,773	621,173	– 39	– 89	23,868	19	3
Houston	1,232,802	71,687,267	– 12	74	13,567,951	10	32
Humble	3,278	507,000	345	– 46	15,063	10	24
La Porte	7,149	51,575	...	– 78	6,573	16	44
Pasadena	89,277	872,484	– 21	– 39	178,894	11	29
South Houston	11,527	73,500	48	– 22	...	...	...
Tomball	2,734	...	...	...	32,312	46	42
HARRISON	44,841						
(In Longview-Marshall Metropolitan Area)							
Hallsville	1,038	...	...	...	2,067	28	28
Marshall	22,937	217,012	– 81	117	38,068	9	21
HASKELL	8,512						
Haskell	3,655	0	...	...	8,278	37	32
HAYS	27,642						
San Marcos	18,860	...	...	...	20,267	20	17
HENDERSON	26,466						
Athens	9,582	188,325	173	– 27	25,842	26	39
HIDALGO	181,535						
(Constitutes McAllen-Pharr-Edinburg SMSA)							
Alamo	4,291	...	...	...	3,256	– 37	– 26
Donna	7,365	13,611	– 79	– 85	6,518	26	– 1
Edinburg	17,163	2,339,632	583	424	37,256	14	35
Elsa	4,400	143,774	242	712	9,165	13	162
McAllen	37,636	1,002,050	19	86	97,663	12	24
Mercedes	9,355	128,780	135	132	...	...	...
Mission	13,043	645,492	133	344	29,736	30	11
Pharr	15,829	101,790	220	65	9,684	7	17
Weslaco	15,313	171,698	– 41	6	26,152	22	14
HOCKLEY	20,396						
Levelland	11,445	191,900	231	– 11	48,263	45	15
HOOD	6,368						
Granbury	2,473	...	...	...	4,224	1	36
HOPKINS	20,710						
Sulphur Springs	10,642	109,050	– 83	– 50	...	...	...
HOWARD	37,796						
Big Spring	28,735	1,832,649	...	...	79,565	25	3
HUNT	47,948						
Greenville	22,043	175,550	– 30	– 14	40,341	14	38
HUTCHINSON	24,443						
Borger	14,195	7,000	25	– 53	...	...	...
JACKSON	12,975						
Edna	5,332	59,375	29	– 88	11,570	19	4
JASPER	24,692						
Jasper	6,251	12,500	...	– 59	24,453	23	24
Kirbyville	1,869	...	...	...	3,951	3	25
JEFFERSON	244,773						
(In Beaumont-Port Arthur-Orange SMSA)							
Beaumont	115,919	3,296,405	– 37	153	421,291	15	10
Groves	18,067	210,592	571	168	22,101	6	– 15

COUNTY City	Population	Urban building permits Jan 1973 (dollars)	Percent change from Dec 1972	Percent change from Jan 1972	Bank debits Jan 1973 (thousands of dollars)	Percent change from Dec 1972	Percent change from Jan 1972
JEFFERSON (continued)							
Nederland	16,810	16,900	– 82	– 88	17,325	20	37
Port Arthur	57,371	487,914	22	45	110,765	20	17
Port Neches	10,894	228,900	384	129	19,461	– 2	3
JIM WELLS	33,032						
Alice	20,121	755,026	134	102	...	...	...
JOHNSON	45,769						
(In Fort Worth SMSA)							
Burleson	7,713	108,181	– 19	...	10,585	6	26
Cleburne	16,015	371,225	398	37	33,231	23	16
KARNES	13,462						
Karnes City	2,926	32,500	...	106	6,366	18	30
KAUFMAN	32,392						
(In Dallas SMSA)							
Terrell	14,182	36,650	– 84	– 46	...	...	...
KIMBLE	3,904						
Junction	2,654	0	...	...	4,176	5	18
KLEBERG	33,166						
Kingsville	28,711	290,035	462	– 84	34,657	12	20
LAMAR	36,062						
Paris	23,441	336,523	42	– 13	...	...	...
LAMB	17,770						
Littlefield	6,738	...	...	...	18,510	48	6
LAMPASAS	9,323						
Lampasas	5,922	412,250	219	117	17,088	11	29
LAVACA	17,903						
Hallettsville	2,712	15,350	279	– 89	8,833	39	44
Yoakum	5,755	138,925	226	– 74	17,250	17	13
LEE	8,048						
Giddings	2,783	1,640	– 81	– 94	9,388	5	19
LIBERTY	33,014						
(In Houston SMSA)							
Dayton	3,804	31,200	– 72	14	12,178	33	26
Liberty	5,591	74,900	...	– 50	21,160	20	16
LIMESTONE	18,100						
Mexia	5,943	13,350	– 41	– 44	12,864	16	20
LLANO	6,979						
Kingsland	1,262	...	...	...	10,066	22	**
Llano	2,608	68,500	96	357	12,690	45	106
LUBBOCK	179,295						
(Constitutes Lubbock SMSA)							
Lubbock	149,101	7,178,439	20	137	715,885	40	22
Slaton	6,583	25,000	– 29	– 42	10,352	23	11
LYNN	9,107						
Tahoka	2,956	0	...	...	13,468	63	28
McCULLOCH	8,571						
Brady	5,557	18,480	– 75	– 46	14,128	25	30
McLENNAN	147,553						
(Constitutes Waco SMSA)							
McGregor	4,365	44,000	– 4	49	7,816	26	33
Waco	95,326	6,140,155	– 4	385	378,045	24	22
MATAGORDA	27,913						
Bay City	11,733	428,245	973	957	32,457	21	7

COUNTY City	Population	Urban building permits Jan 1973 (dollars)	Percent change from Dec 1972	Percent change from Jan 1972	Bank debits Jan 1973 (thousands of dollars)	Percent change from Dec 1972	Percent change from Jan 1972
MAVERICK	18,093						
Eagle Pass	15,364	572,075	375	349	20,332	24	36
MEDINA	20,249						
Castroville	1,893	...	...	...	2,142	34	37
Hondo	5,487	60,500	...	– 60	...	...	...
MIDLAND	65,433						
(Constitutes Midland SMSA)							
Midland	59,463	782,247	104	– 52	227,732	9	13
MILAM	20,028						
Cameron	5,546	...	...	...	12,337	45	13
Rockdale	4,655	3,130	– 98	– 91	10,015	23	9
MILLS	4,212						
Goldthwaite	1,693	...	...	...	8,484	14	29
MITCHELL	9,073						
Colorado City	5,227	...	...	...	9,241	28	10
MONTGOMERY	49,479						
(In Houston SMSA)							
Conroe	11,969	370,800	28	31	82,580	38	50
MOORE	14,060						
Dumas	9,771	275,900	510	209	...	...	...
NACOGDOCHES	36,362						
Nacogdoches	22,544	201,700	– 84	– 23	...	...	...
NAVARRO	31,150						
Corsicana	19,972	1,299,196	52	...	54,433	29	41
NOLAN	16,220						
Sweetwater	12,020	501,195	...	997	33,363	24	14
NUECES	237,544						
(In Corpus Christi SMSA)							
Corpus Christi	204,525	7,851,253	121	77	621,823	2	10
Port Aransas	1,218	...	...	...	995	...	7
Robstown	11,217	34,853	– 90	– 68	22,509	16	10
ORANGE	71,170						
(In Beaumont-Port Arthur-Orange SMSA)							
Orange	24,457	487,434	...	229	75,528	18	15
PALO PINTO	28,962						
Mineral Wells	18,411	80,350	41	187	32,882	5	17
PANOLA	15,894						
Carthage	5,392	27,200	127	– 80	7,332	13	8
PARKER	33,888						
Weatherford	11,750	2,250	– 98	– 91	31,768	11	27
PARMER	10,509						
Friona	3,111	500	...	– 37	47,038	30	41
PECOS	13,748						
Fort Stockton	8,283	84,030	– 73	100	18,193	27	41
POTTER	90,511						
(In Amarillo SMSA)							
Amarillo	127,010	7,065,896	115	214	764,530	14	27
RANDALL	53,885						
(In Amarillo SMSA)							
Amarillo (See Potter)							
Canyon	8,333	127,050	6	441	17,180	9	37

COUNTY City	Population	Urban building permits Jan 1973 (dollars)	Percent change from Dec 1972	Percent change from Jan 1972	Bank debits Jan 1973 (thousands of dollars)	Percent change from Dec 1972	Percent change from Jan 1972
REEVES	16,526						
Pecos	12,682	...	...	...	38,336	8	12
REFUGIO	9,494						
Refugio	4,340	900	– 82	– 98	6,895	25	16
RUSK	34,102						
Henderson	10,187	228,000	329	55	31,170	32	24
Kilgore	9,495	111,200	– 49	– 37	27,648	25	25
SAN PATRICIO	47,288						
(In Corpus Christi SMSA)							
Aransas Pass	5,813	72,100	...	– 63	11,618	16	**
Sinton	5,563	23,915	– 87	– 76	11,936	6	10
SAN SABA	5,540						
San Saba	2,555	47,708	377	377	14,928	14	50
SCURRY	15,760						
Snyder	11,171	454,219	...	506	28,255	23	24
SHACKELFORD	3,323						
Albany	1,978	...	...	...	3,891	**	– 12
SHERMAN	3,657						
Stratford	2,139	0	...	...	36,184	17	93
SMITH	97,096						
(Constitutes Tyler SMSA)							
Tyler	57,770	1,422,633	133	116	322,196	16	53
STEPHENS	8,414						
Breckenridge	5,944	61,150	72	114	...	...	...
SUTTON	3,175						
Sonora	2,149	10,200	– 25	...	5,056	2	24
TARRANT	716,317						
(In Fort Worth SMSA)							
Arlington	90,643	6,774,449	– 54	– 24	129,210	7	9
Bedford	10,049	456,364	– 8	– 20	15,135	27	...
Burleson	7,713	108,181	– 19	...	10,585	6	26
Euless	19,316	968,637	154	467	...	...	...
Fort Worth	393,476	7,279,581	– 16	17	2,429,153	9	20
Grapevine	7,023	140,390	8	– 11	13,119	27	6
North Richland Hills	16,514	565,500	60	50	23,363	11	10
White Settlement	13,449	31,140	37	– 55	...	...	...
TAYLOR	97,853						
(In Abilene SMSA)							
Abilene	89,653	5,046,221	599	722	234,484	11	23
TERRY	14,118						
Brownfield	9,647	127,100	32	– 1	52,156	55	20
TITUS	16,702						
Mount Pleasant	8,877	372,638	110	10	28,205	– 5	...
TOM GREEN	71,047						
(Constitutes San Angelo SMSA)							
San Angelo	63,884	1,349,484	145	130	176,618	25	24
TRAVIS	295,516						
(Constitutes Austin SMSA)							
Austin	251,808	15,341,515	– 28	– 9	1,143,178	20	– 1
UPSHUR	20,976						
Gladewater	5,574	850	– 99	– 99	7,873	– 8	10
UPTON	4,697						
McCamey	2,647	...	...	...	2,682	16	14

COUNTY City	Population	Urban building permits Jan 1973 (dollars)	Percent change from Dec 1972	Percent change from Jan 1972	Bank debits Jan 1973 (thousands of dollars)	Percent change from Dec 1972	Percent change from Jan 1972
UVALDE	17,348						
Uvalde	10,764	184,268	752	37	37,626	2	38
VAL VERDE	27,471						
Del Rio	21,330	319,620	65	6	31,226	– 2	26
VICTORIA	53,766						
Victoria	41,349	480,727	– 49	– 22	155,680	19	23
WALKER	27,680						
Huntsville	17,610	553,122	269	– 81	33,901	15	15
WARD	13,019						
Monahans	8,333	15,000	103	443	15,671	5	9
WASHINGTON	18,842						
Brenham	8,922	163,103	– 50	– 23	34,458	20	10
WEBB	72,859						
(Constitutes Laredo SMSA)							
Laredo	69,024	447,250	9	– 82	115,654	12	16
WHARTON	36,729						
El Campo	8,563	88,230	511	**	29,589	33	8
WICHITA	121,862						
(In Wichita Falls SMSA)							
Burkburnett	9,230	2,000	– 93	– 88	11,605	5	10
Iowa Park	5,796	598,435	...	316	5,125	12	14
Wichita Falls	97,564	1,872,029	10	114	267,894	13	13
WILBARGER	15,355						
Vernon	11,454	171,245	95	61	52,184	...	29
WILLACY	15,570						
Raymondville	7,987	162,400	571	– 40	15,407	23	15
WILLIAMSON	37,305						
Bartlett	1,622	...	...	...	2,189	38	31
Georgetown	6,395	312,800	712	– 75	14,249	– 8	2
Taylor	9,616	575,132	285	283	21,814	28	25
WINKLER	9,640						
Kermit	7,884	2,900	16	26	...	...	...
WISE	19,687						
Decatur	3,240	44,400	...	...	10,354	44	50
YOUNG	15,400						
Graham	7,477	80,800	224	6	23,706	27	36
Olney	3,624	18,087	– 49	...	9,002	27	25
ZAVALA	11,370						
Crystal City	8,104	122,379	107	...	9,715	34	29

** Absolute change is less than one half of 1 percent.
... No data, or inadequate basis for reporting.

BAROMETERS OF TEXAS BUSINESS

(All figures are for Texas unless otherwise indicated.)

All indexes are based on the average months for 1967=100 except where other specification is made; all except annual indexes are adjusted for seasonal variation unless otherwise noted. Employment estimates are compiled by the Texas Employment Commission in cooperation with the Bureau of Labor Statistics of the U.S. Department of Labor. The symbols used below impose qualifications as indicated here: p preliminary data subject to revision; r–revised data; *–dollar totals for the fiscal year to date; †–employment data for wage and salary workers only.

	Jan 1973	Dec 1972	Jan 1972
GENERAL BUSINESS ACTIVITY			
Texas business activity (index)	175.1	168.7	155.8
Estimates of personal income (millions of dollars, seasonally adjusted)	$ 4,063p	$ 3,988p	$ 3,784r
Income payments to individuals in U.S. (billions, at seasonally adjusted annual rate)	$ 985.4p	$ 982.9p	$ 898.9r
Wholesale prices in U.S. (unadjusted index)	124.5	122.9	116.3
Consumer prices in Houston (unadjusted index)	127.2	...	123.2
Consumer prices in U.S. (unadjusted index)	127.7	127.3	123.2
Business failures (number)	...	63	69
Business failures (liabilities, thousands)	$ ...	$ 7,609	$ 11,750
Sales of ordinary life insurance (index)	...	170.6	151.9
PRODUCTION			
Total electric-power use (index)	154.7p	156.5p	141.5r
Industrial electric-power use (index)	138.0p	136.6p	132.2r
Crude-oil production (index)	117.0p	117.9p	103.9r
Average daily production per oil well (bbl.)	19.0	18.7	17.3
Crude-oil runs to stills (index)	121.4	119.7	115.4
Industrial production in U.S. (index)	119.8p	119.2p	108.7r
Texas industrial production–total (index)	134.3p	133.9p	123.6r
Texas industrial production–total manufactures (index)	137.9p	137.3p	127.2r
Texas industrial production–durable manufactures (index)	149.0p	148.2p	137.2r
Texas industrial production–nondurable manufactures (index)	129.9p	129.4p	119.9r
Texas industrial production–mining (index)	119.6p	119.2p	109.2r
Texas industrial production–utilities (index)	157.5p	158.6p	145.8r
Urban building permits issued (index)	196.9	210.4	163.9r
New residential building authorized (index)	254.4	263.9	195.6r
New residential units authorized (index)	191.3p	204.2	154.9
New nonresidential building authorized (unadjusted index)	148.9	181.8	140.9r
AGRICULTURE			
Prices received by farmers (unadjusted index, 1910-14=100)	386	370	334
Prices paid by farmers in U.S. (unadjusted index, 1910-14=100)	458	449	420
Ratio of Texas farm prices received to U.S. prices paid by farmers	84	82	80
FINANCE			
Bank debits (index)	218.0	207.3	181.2
Bank debits, U.S. (index)	...	198.0	184.7
Bank commercial loans outstanding (index)	146.2	143.6	122.8
Reporting member banks, Dallas Federal Reserve District			
Loans (millions)	$ 8,842	$ 8,795	$ 7,397
Loans and investments (millions)	$ 12,975	$ 12,697	$ 10,886
Adjusted demand deposits (millions)	$ 4,249	$ 4,447	$ 3,656
Revenue receipts of the state comptroller (thousands)	$ 330,629	$256,954	$ 259,198
Federal Internal Revenue collections (thousands)	$1,171,636	$588,017	$1,071,562
Securities registrations–original applications			
Mutual investment companies (thousands)	$ 58,691	$ 46,336	$ 33,786
All other corporate securities			
Texas companies (thousands)	$ 13,517	$ 39,297	$ 22,500
Other companies (thousands)	$ 13,609	$ 24,556	$ 38,260
Securities registration–renewals			
Mutual investment companies (thousands)	$ 25,057	$ 47,881	$ 20,857
Other corporate securities (thousands)	$ 0	$ 0	$ 1,618
LABOR			
Total nonagricultural employment in Texas (index)†	122.9p	121.9p	116.7r
Manufacturing employment in Texas (index)†	115.5p	115.0p	108.8r
Average weekly hours–manufacturing (index)†	93.6p	95.5p	99.2
Average weekly earnings–manufacturing (index)†	126.9p	127.8p	127.1r
Total nonagricultural employment (thousands)†	3,943.6p	3,996.2p	3,745.8r
Total manufacturing employment (thousands)†	755.4p	757.9p	715.6r
Durable-goods employment (thousands)†	409.3p	409.2p	382.4r
Nondurable-goods employment (thousands)†	346.1p	348.7p	333.2r
Percent of total labor force unemployed	3.1	2.7r	3.9
Total civilian labor force in selected labor-market areas (thousands)	3,665.4	3,649.3	3,552.9
Nonagricultural employment in selected labor-market areas (thousands)	3,477.9	3,468.1	3,340.4
Manufacturing employment in selected labor-market areas (thousands)	625.7	615.8	592.0
Total unemployment in selected labor-market areas (thousands)	115.9	108.7	138.3
Percent of labor force unemployed in selected labor-market areas	3.2	3.0	3.9

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