MONTHLY
BUSINESS REVIEW
of the FEDERAL RESERVE BANK of Dallas
Volume 35 Dallas, Texas, March 1, 1950 Number III

THE GROWTH OF MANUFACTURING IN THE SOUTHWEST

KEITH W. JOHNSON, *Industrial Economist*
Federal Reserve Bank of Dallas

The rapid growth of manufacturing in the Southwest—Arizona, Louisiana, New Mexico, Oklahoma, and Texas—during the past decade has attracted widespread attention both regionally and nationally. The size of many of the new plants in the area and the numerous and varied products turned out are impressive. The manner in which industry has made use of existing resources to operate the enlarged industrial machine has constituted a real contribution to production and income. The chief interest during the decade has centered around three major movements: (a) the construction and utilization of numerous large facilities for the production of war materials, (b) the use or conversion of some of those plants in the production of civilian goods, and (c) the construction and operation of a diversity of large, new plants designed especially to make use of the area's important resources. The interest was especially keen with respect to those wartime plants which represented new industries such as aircraft, shipbuilding, rubber and rubber products, ordnance, explosives, and metals. Yet, long before the development of these new industries was begun, a feverish expansion was taking place among many of the smaller industries which were reaching out in an effort to supply the needs incident to the rearmament program. As the new wartime plants came into production, they developed a network of smaller plants which functioned as suppliers of parts and semi-manufactured products to the large industrial units. Most of these plants subsequently were able to convert to some peacetime activity and to operate profitably because the managements, through wartime experience, had acquired the "know how" to handle a diversity of operations. Moreover, there was a wide range of choices as to products that might be manufactured since the backlog of demand for virtually every type of consumer goods was very large.

The impressive industrial progress of the Southwest between 1939 and 1947, when placed in its proper perspective with the growth of manufacturing over half a century, shows that the permanent gains of the area were at a rate appreciably greater than that of any previous period of similar length. While part of this increase in manufacturing activity represented war-induced or artificial growth, yet a major portion of it apparently was soundly conceived and was along the lines adaptable to the area's potentialities. The war, to some extent, acted as a catalyst speeding up the industrial development that otherwise might have been accomplished largely at a later date. Of course, those plants having purely military uses were constructed only because of the war stimulus, and some of them have been difficult to absorb into the peacetime economy of the area. There were many new plants useful both in war and in peace, and the acquisition of such plants at an earlier date, as a result of the war, was a very real advantage to the Southwest.

In appraising the prospects for further growth and development of the industrial segment of the economy of the Southwest, it is desirable to look beyond the effect of the war as a cause of industrial growth, and to seek out those factors favorable to industry which so greatly facilitated this rapid wartime expansion. These same favorable factors had made possible in the four decades before the war a

faster rate of growth in the Southwest than in the Nation, and in the future can be counted upon to play a continuing part in the industrial development of the area.

In reviewing the past growth and present status of manufacturing in the area, it is desirable to have reliable measures of the economic importance of manufacturing. In the Census of Manufactures for 1947, recently released, as well as in such censuses for earlier years, a variety of useful data is available. This greatly facilitates the analysis and evaluation of many of the salient factors of the industrial development of the last decade and relates them to the basic features of the expansion that had taken place during the preceding decades.

The economic importance of manufacturing is generally measured by value added by manufacture; that is, by the direct contribution to income through the wages and salaries paid, the remuneration of capital, the rent of land, the taxes paid, and the profits earned. The value added by manufacture is calculated by deducting from the value of the goods shipped the cost of materials, supplies, containers, fuel, purchased electric energy, and contract work. This adding of value to materials through the manufacturing process contributes to the income and employment of an area in several ways. First, it provides a better market for the raw materials produced in the area, with a larger output and often a higher price being achieved. Second, these materials leave the area not as low-priced raw materials but as higher-priced semi-finished or finished products. Third, in an area in which such manufacturing is well developed, there is a better market for the various skills of a larger working population. Fourth, opportunities for the employment of capital in a manufacturing area are greater, more diversified, and often more profitable than would be the case without such manufacturing. And fifth, a manufacturing economy is a dynamic economy in which research, technological changes, accumulation of capital, rising population, increasing skills and managerial "know how," expanding markets, and trade all tend to reinforce each other to increase further both the total income and the income per capita.

VALUE ADDED BY MANUFACTURE IN FIVE SOUTHWESTERN STATES,* BY INDUSTRY, 1939 AND 1947

(Amounts in millions of dollars)

Industry group	1939	1947	Increase	
			Amount	Percent
Food products	$209	$ 582	$ 373	178
Textile	12**	37**	25	208
Apparel	21	93	72	350
Lumber and lumber products	62	209	147	236
Furniture and fixtures	10	33	23	239
Paper	32	134	102	319
Printing and publishing	60	155	95	158
Chemical	63	379	316	499
Petroleum and coal products	158**	562**	404	255
Leather and leather products	1	6	5	348
Stone, clay, and glass products	33	103	70	211
Primary metals	28**	119**	91	327
Fabricated metal	24**	107	83	350
Electrical machinery	2**	12**	10	500
Other machinery	48**	174	126	265
Transportation equipment	15**	133	118	800
Other	11	83	72	654
Total	$789	$2,921	$2,132	270

*Arizona, Louisiana, New Mexico, Oklahoma, and Texas.
**Partly estimated.
SOURCE: United States Bureau of the Census.

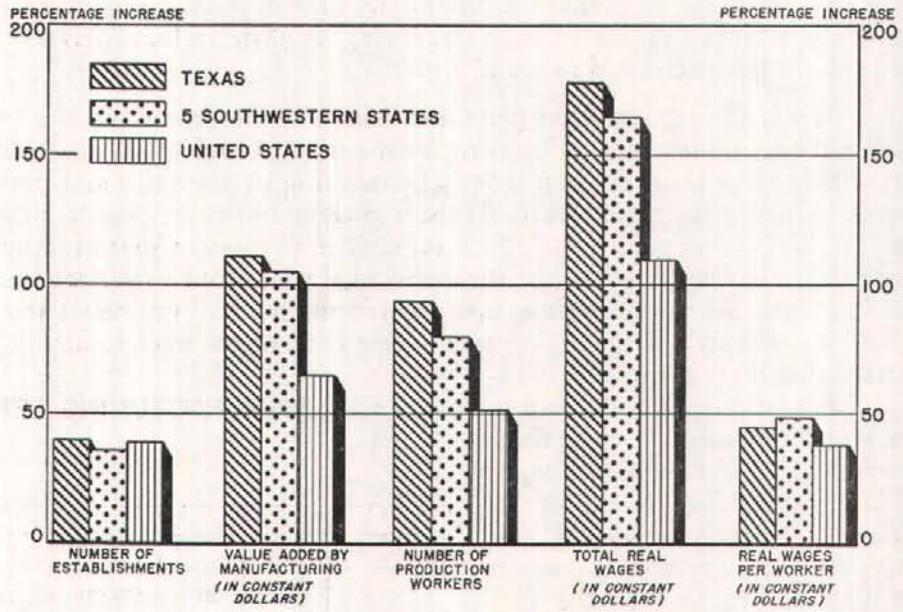
These advantages, which result from adding value through the process of manufacture have been accruing to the Southwest over a long period of years, but they were especially marked during the war period. The 1947 total of $2,922,000,000 was 3.7 times the 1939 figure of $789,000,000. Even after adjusting for price changes, the 1947 figure was 104 percent more than that of the prewar year. This striking increase in manufacturing activity was manifested in most of the major industries of the area. The larger gains in value added by manufacture were in petroleum refining, chemical plants, and food products, the combined gains in these three industry groups totaling $1,093,000,000 or over half of the gain for all groups. The gains in these three major industries reflected not only the intense demand for their larger production during the war period but also substantial increases in prices. In several other industry groups, where the percentage gains were exceedingly large, the increases were stimulated in part by these same factors, but also represented a tremendous new growth in industries where output was very small before the war. The exceptionally large increase in the miscellaneous category indicates that a wide diversity of industries received a pronounced stimulation from the war demand.

The gains in manufacturing employment and in plant facilities from 1939 to 1947 followed the same general directions as those in value added by manufacturing. During this 8-year interval, the number of manufacturing establishments in five southwestern states rose by 36 percent and the number of production workers in manufacturing increased 79 percent. The employment gains were most

pronounced in the food products, transportation equipment, petroleum refining, chemical, and lumber products industries. Percentagewise, the largest gain was in transportation equipment, due to the mushroom growth of aircraft plants and shipyards.

The major war facilities expenditures in the area were concentrated in a relatively few industries and localities. Synthetic rubber and chemical plants accounted for a third of total expenditures, refineries and related installations nearly a quarter, and ordnance, metal, machinery, shipyards, and aircraft plants about 40 percent. Geographically the heaviest construction of the new facilities was in the Gulf Coast area, although numerous war plants were located inland, scattered throughout the Southwest. For illustration, there were carbon black plants in West Texas; aircraft plants in northern Texas; a blast furnace in east Texas; and shell loading, TNT, synthetic rubber, and other types of plants in various parts of the area.

GROWTH OF MANUFACTURING, 1939-1947



SOURCES: U.S. BUREAU OF THE CENSUS.
U.S. BUREAU OF LABOR STATISTICS.

The urgency for new facilities to produce war goods and the huge cost of such projects, amounting to about $1,500,000,000, in the Southwest, largely determined the method of financing them, although the prospective use of the facilities in the postwar period had an important bearing on decisions in numerous instances. Generally, the specialized war plants having little prospect for extensive use after the war or those plants which appeared to be too large for effective use in peacetime operations, were financed with government funds and leased to private industry for operation. On the other hand, those plants which were considered capable of being fitted into a normal peacetime expansion program after the war were privately financed, especially where the operators were in a strong financial position or where it was to the operators' benefit to own the facilities outright. Among the 60 major facilities, which represented 88 percent of the total cost of war facilities, the ordnance, metals, and transportation equipment plants were financed almost wholly with government funds. In the petroleum and chemical industries, there were several very large plants involving huge outlays which had to be publicly financed, yet these industries showed a preference for private financing whenever it was feasible. Consequently, the petroleum industry financed about 40 percent of its plant expansion and

NUMBER OF PRODUCTION WORKERS IN MANUFACTURING IN FIVE SOUTHWESTERN STATES,* BY INDUSTRY, 1939 AND 1947

(Number of workers in thousands)

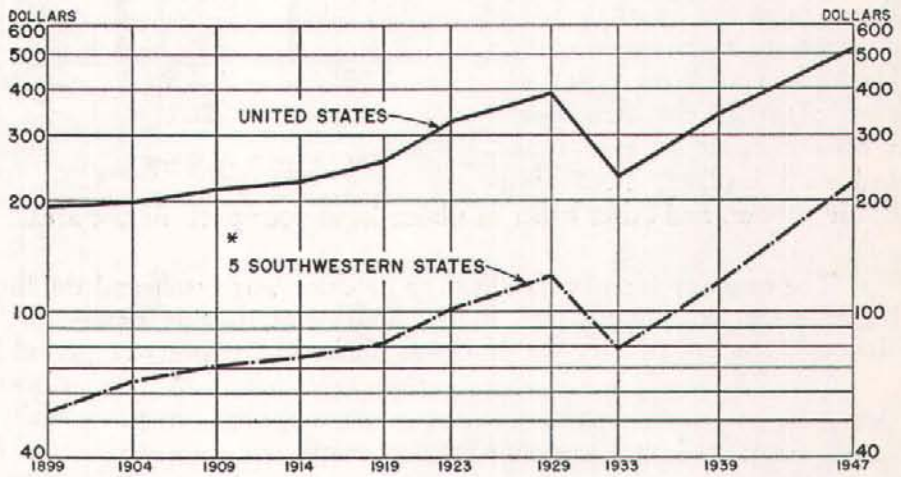
Industry group	1939	1947	Increase	
			Number	Percent
Food products	54.2	80.3	26.1	48
Textile	9.7**	10.1**	.4	4
Apparel	14.6	27.4	12.8	88
Lumber and lumber products	45.2	63.0	17.8	39
Furniture and fixtures	4.5	7.8	3.3	73
Paper	9.1	16.5	7.4	81
Printing and publishing	11.2	18.7	7.5	67
Chemical	12.1	30.1	18.0	149
Petroleum and coal products	26.3**	45.2**	18.9	72
Leather and leather products	.7	1.5	.8	137
Stone, clay, and glass products	9.5	17.2	7.7	81
Primary metal	7.2**	17.7	10.5	146
Fabricated metal	7.1	17.3	10.2	143
Electrical machinery	.5**	2.0**	1.5	300
Other machinery	11.2	25.2	14.0	125
Transportation equipment	4.4	27.9	23.5	540
Other	4.8	7.5	2.7	56
Total	232.3	415.4	183.1	79

* Arizona, Louisiana, New Mexico, Oklahoma, and Texas.
** Partly estimated.
SOURCE: United States Bureau of the Census.

the chemical industry about 16 percent. Among the 550 facilities costing less than $5,000,000 each, approximately 60 percent of the $183,000,000 expenditure on plants was financed by private industry. These plants represented a group of industries which, during the rearmament and early war period, built new facilities or expanded existing plants in order to participate in government contract work. It also included numerous small plants which became subcontractors for the larger war plants. The over-all program for building, financing, and disposing of war facilities enabled the area to acquire quickly a large volume of manufacturing facilities which private industry through its own efforts could not have acquired so soon.[1]

While the expansion in plant facilities and the growth in the value added by manufacture highlighted the industrial development between 1939 and 1947, the more important and lasting benefits probably were those derived from a broadening of the skills and perspectives of workers and management. During the period, several hundred thousand tradespeople, professional workers, farmers, housewives, and others gained their first experience in modern manufacturing plants. They not only learned the skills necessary to handle numerous operations and machines but they also acquired skills in precision work. At the same time, operators of many small businesses who through the years had developed the "know how" of managing small-scale enterprises were suddenly confronted with the necessity of managing huge plants and complex operations. In fact, within a relatively short period there was developed a personnel capable of operating in all of its phases, a large, expanding, and dynamic industrial economy. A collateral benefit was the fact that it drew its working force largely from the Southwest, absorbing in the beginning the unemployed portion of the population and later those who by reason of the changing economy became surplus in their former occupations. Thus, it may be said that the skills and habits of mind absorbed by the population of the Southwest during the past decade represent a most important element of the industrial expansion of the period, for upon these skills can be founded a permanent, efficient, growing industrial structure, utilizing most effectively the labor force of the area and its abundant natural resources.

MANUFACTURING PER CAPITA, 1899-1947



SOURCES: U.S. BUREAU OF THE CENSUS.
U.S. BUREAU OF LABOR STATISTICS.
* ARIZONA, LOUISIANA, NEW MEXICO, OKLAHOMA, TEXAS.

The performance of the Southwest in the industrial field between 1939 and 1947 can be better understood after a brief review of some of the important characteristics of manufacturing in the area. As already pointed out, the growth during the war period was phenomenal in many respects; yet, a rapid rate of increase is not new to this area for between 1899 and 1947, value added by manufacture adjusted for price variations rose gradually to a level ten times that at the beginning of the period. This is double the rate for the Nation, which rose to five times the initial level during the same period. Nevertheless, the Southwest still has further great potentialities in its vast natural resources, many of which could be processed profitably within the area and the surplus of finished products shipped to other areas as a means of deriving funds to expand the area's imports; yet over half the exports of the Southwest are raw materials, while a large proportion of the manufactures used in the area is imported.[2]

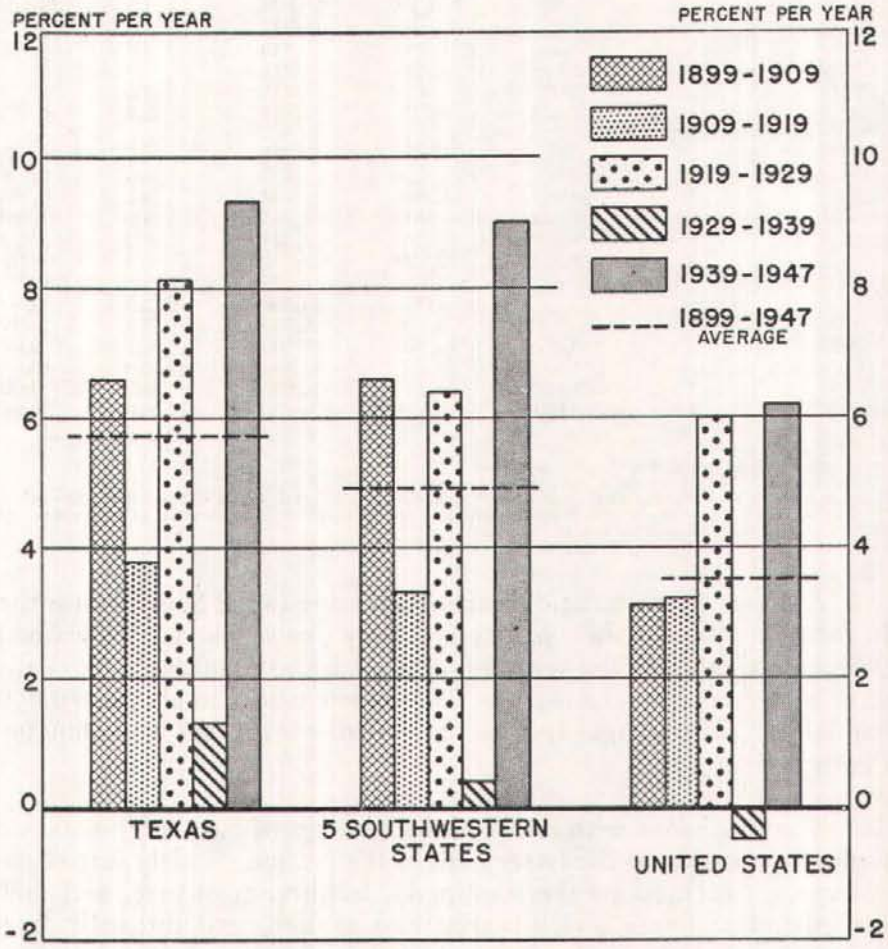
In addition to rapid growth, a prominent characteristic of manufacturing of the Southwest, which is common with newly industrialized regions throughout the world and which distinguishes it from the

[1]For a discussion of the "Disposal and Utilization of War Manufacturing Facilities in the Southwest," see the *Monthly Business Review*, March 1, 1948.

[2]Compare "The Interstate and Foreign Commerce of Texas," in the *Monthly Business Review*, July 1, 1949.

older areas of this country, is the centering of its manufacturng around its natural resources, particularly the petroleum, natural gas, other key chemical raw materials, metallic ores, other materials, and forest and agricultural resources.[3] The great abundance of raw materials offers exceptional opportunities to manufacturing plants carrying on the initial processing operations or to plants where the finished products are the result of a continuous manufacturing process. In such industries as industrial organic chemicals, nonferrous metals, and lumber products, the manufacturing process stops with the production of such intermediate products as rubber, nylon salts, metals, and lumber, leaving the fabrication of finished or end products to subsequent stages of production.[4] Other industries of the area, such as petroleum refining, meat packing, and canning, start with the unmanufactured raw materials and carry the manufacturing process without interruption to the finished product stage. Accordingly, some 63 percent of southwestern manufacturing is of these two types of raw material dependent industries, as compared with about 40 percent in the Nation. The Southwest does have some important industries, such as the bakery, printing and publishing, oil field machinery, and aircraft industries, which use intermediate or previously manufactured materials in turning out finished products; but such industries account for only approximately 37 percent of the total manufacturing in the area, compared to about 60 percent in the Nation.

RATE OF GROWTH OF MANUFACTURING



SOURCE: U.S. BUREAU OF THE CENSUS.

Despite a rate of growth of manufacturing greater than that for the Nation, the Southwest in proportion to its population still has less than its share of the national total. Manufacturing employment in 1950 accounts for about one-eighth of total employment in five southwestern states, or less than half the proportion for the Nation. In 1947, these states had over 9 percent of the population of the country but under 4 percent of the value added by manufacture, so that the people of the area had only 43 percent of their theoretical share of the national total. Back in 1899 this figure had been 27 percent, while from 1909 to 1934 it ranged from 32 to 35 percent. During the 48-year period, 1899-1947, the five southwestern states increased their population by 144 percent and rose to world leadership in oil and gas production. Despite this large population growth, the Southwest more than kept pace with the Nation in the per capita rate of growth of manufacturing. This is a notable achievement, since it was during this period that the United States gained world superiority in manufacturing.

[3]For a discussion of "The Natural Gas Industry and Its Significance to Industrial Development," see the *Monthly Business Review*, March 1, 1949.

[4]For a discussion of "The Synthetic Rubber Industry in the Southwest," see the *Monthly Business Review*, June 1, 1948.

GROWTH OF MANUFACTURING IN TEXAS, FIVE SOUTHWESTERN STATES, AND THE UNITED STATES, 1899–1947

Year	Number of establishments	Value added by manufacturing: in current prices (millions of dollars)	Value added by manufacturing: in 1947 prices (millions of dollars)**	Number of production workers (thousands)	Total wages of production workers: in current prices (millions of dollars)	Total wages of production workers: in 1947 prices (millions of dollars)***	Wages per production worker: in current prices (dollars)	Wages per production worker: in 1947 prices (dollars)***
Texas								
1899	*	$ 39	$ 120	39	$ 17	$ 31	$ 436	$ 795
1909	*	95	227	70	38	59	543	843
1919	5,390	296	330	106	115	158	1,085	1,491
1929	5,198	460	711	134	152	211	1,134	1,575
1939	5,085	449	815	125	126	215	1,008	1,720
1947	7,128	1,727	1,727	242	558	558	2,306	2,306
Five Southwestern States†								
1899	*	92	285	87	36	66	414	759
1909	*	225	537	170	87	135	512	794
1919	10,981	665	743	247	262	359	1,061	1,453
1929	9,443	900	1,385	269	298	413	1,108	1,535
1939	8,969	789	1,434	232	222	379	957	1,634
1947	12,234	2,922	2,922	415	937	937	2,258	2,258
United States								
1899	*	4,662	14,450	4,510	1,896	3,479	420	771
1909	*	8,192	19,580	6,273	3,210	4,992	512	796
1919	210,426	23,770	26,590	8,431	9,673	13,269	1,147	1,574
1929	206,811	30,737	47,500	8,380	10,910	15,111	1,302	1,803
1939	173,802	24,487	44,800	7,808	9,090	15,512	1,164	1,987
1947	240,801p	74,426	74,426	11,916	30,242	30,242	2,538	2,538

p—Preliminary.
† Arizona, Louisiana, New Mexico, Oklahoma, and Texas.
* Earlier data not closely comparable to later data.
** Using Bureau of Labor Statistics wholesale price index for manufactures, 1914–1947, and for all commodities, 1899–1914.
*** Using consumers' price indexes of the Federal Reserve Bank of New York, 1899–1913, and Bureau of Labor Statistics, 1913–1947.
SOURCE: United States Bureau of the Census.

Another characteristic of manufacturing in the Southwest is the extreme range in size of the plants in the area. Some of these plants have only one employee, while one aircraft plant now has 14,000 employees, although at the wartime peak, it had 30,600 workers. Value added by manufacturing ranges from a thousand or so dollars in the smallest plants to about $70,000,000 in the larger plants. Invested capital per plant ranges from a very small sum to the $165,000,000 reported for the twin Chemical Plants at Freeport.

The Southwest with its broad distribution of both large-scale and small-scale industries, has a much higher proportion of the latter than in the Nation. Widely scattered throughout the area are small-scale enterprises, including bakery, apparel, lumber, furniture, and metal fabricating operations. On the other hand, the area is well represented in such predominantly large-scale industries as petroleum refining, industrial organic chemical, and aircraft production. In these industries, the newer and more modern plants, such as many of those in the Southwest, have tended to be appreciably larger than those in older industrial areas. However, the area has less than its share of plants in certain large-scale industries, including those producing primary metals, paper, textiles, tobacco products, electrical machinery, and transportation equipment other than aircraft.

MANUFACTURING ESTABLISHMENTS BY SIZE OF EMPLOYMENT, IN FIVE SOUTHWESTERN STATES,* 1939 AND 1947

Number of employees in plant	Number of plants: 1939	Number of plants: 1947	Increase: Number of plants	Increase: Percent
1–19	6,791	8,291	1,500	22
20–99	1,714	2,990	1,276	74
100 and over	464	953	489	105
Total	8,969	12,234	3,265	36

* Arizona, Louisiana, New Mexico, Oklahoma, and Texas.
SOURCE: United States Bureau of the Census, the breakdown of 1939 data being adjusted to 1947 basis.

During the period between 1939 and 1947 there were increases in the number of plants in all size groups in the Southwest. Numerically the larger gains were among the smaller plants, but percentagewise there was a greater increase in the number of the larger plants, which had been relatively less numerous before the war. During this period, the number of plants with 100 or over employees more than doubled, reaching a total of 953 in 1947; but in the latter year there were 2,990 plants with 20 to 99 employees, and 8,291 plants with less than 20 employees. Thus it appears that, despite the spectacular large plants, the manufacturing of the area is still in considerable part a small plant operation. About 40 percent of all manufacturing workers are in plants having less than 100 employees. Only

one plant in twelve has 100 or more employees, but these larger plants account for about 60 percent of total manufacturing employment in the area.

As to productivity per worker, the statistics for identical industries suggest little difference between the Southwest and the Nation. Value added per production worker is slightly higher in the Southwest in the chemical, meat products, paper, stone, clay, and glass industries, but is somewhat less in the food products, petroleum refining, textile, apparel, furniture, and primary metal industries. However, few of these differences are significant. In the petroleum refineries and chemical plants, in which a high degree of skill is required of workers and in which large investments in capital equipment have directly increased output per worker, the value added per worker is particularly high. In 1947 such value added per worker in the Southwest averaged over $12,400 per year in petroleum refineries and over $12,600 in chemical plants. Due to the Southwest's having a higher proportion of such large plants than the Nation and despite a slightly lower output per worker in such plants, the area had an average of $7,030 of value added per worker in manufacturing, or 13 percent more than in the Nation. Excluding the refinery and chemical plants, productivity per worker averaged about 2 percent less in the Southwest than in the Nation, reflecting the large network of small plants throughout the region where operations are not always extensively mechanized and reflecting the operation of such highly seasonal plants as canning and cottonseed oil. The value added per worker is especially low, under $4,000 per year, in the textile, apparel, and lumber products industries.

VALUE ADDED BY MANUFACTURING, BY INDUSTRY, 1947

(In millions of dollars)

Industry	Arizona	Louisiana	New Mexico	Oklahoma	Texas	Five southwestern states	United States
Food products	$ 21	$139	$ 8	$ 76	$ 338	$ 582	$ 9,022p
Meat products	2	7	1	17	58	85	1,281
Bakery products	4	15	2	11	50	82	1,101p
Other food products	15	117	5	48	230	415	6,640p
Textile	*	8	*	n.a.	29	37p	5,334p
Apparel	*	19	1	2	71	93	4,423p
Lumber and lumber products	13	84	8	8	96	209	2,513p
Furniture and fixtures	1	5	*	4	23	33	1,379p
Paper	*	99	*	2	33	134	2,875p
Printing and publishing	9	23	4	28	92	156	4,269p
Chemical	6	113	14	12	234	379	5,360p
Industrial organic chemicals	n.a.	64	n.a.	n.a.	110	n.a.	1,551
Other chemicals	n.a.	49	n.a.	n.a.	124	n.a.	3,809p
Petroleum and coal products	*	122	n.a.	80	360	562p	2,293
Petroleum refining	*	114	n.a.	78	349	541p	1,494
Other petroleum and coal products	*	8	n.a.	2	11	21p	799
Leather and leather products	*	*	*	*	6	6	1,485p
Stone, clay, and glass products	4	17	1	23	58	103	2,307p
Primary metal	43	2	n.a.	16	58	119p	5,775p
Fabricated metal	4	16	1	19	67	107	4,918p
Electrical machinery	*	n.a.	*	n.a.	12	12p	3,894p
Other machinery	*	7	*	37	130	174	7,814p
Oil field equipment	*	n.a.	*	n.a.	78	n.a.	171p
Other machinery	*	n.a.	*	n.a.	52	n.a.	7,643p
Transportation equipment	1	34	*	6	92	133	5,860p
Instruments	*	*	n.a.	n.a.	4	4p	1,080p
Other	2	6p	18p	28p	24	78p	3,825p
Total	$104	$694	$55	$341	$1,727	$2,921	$74,426

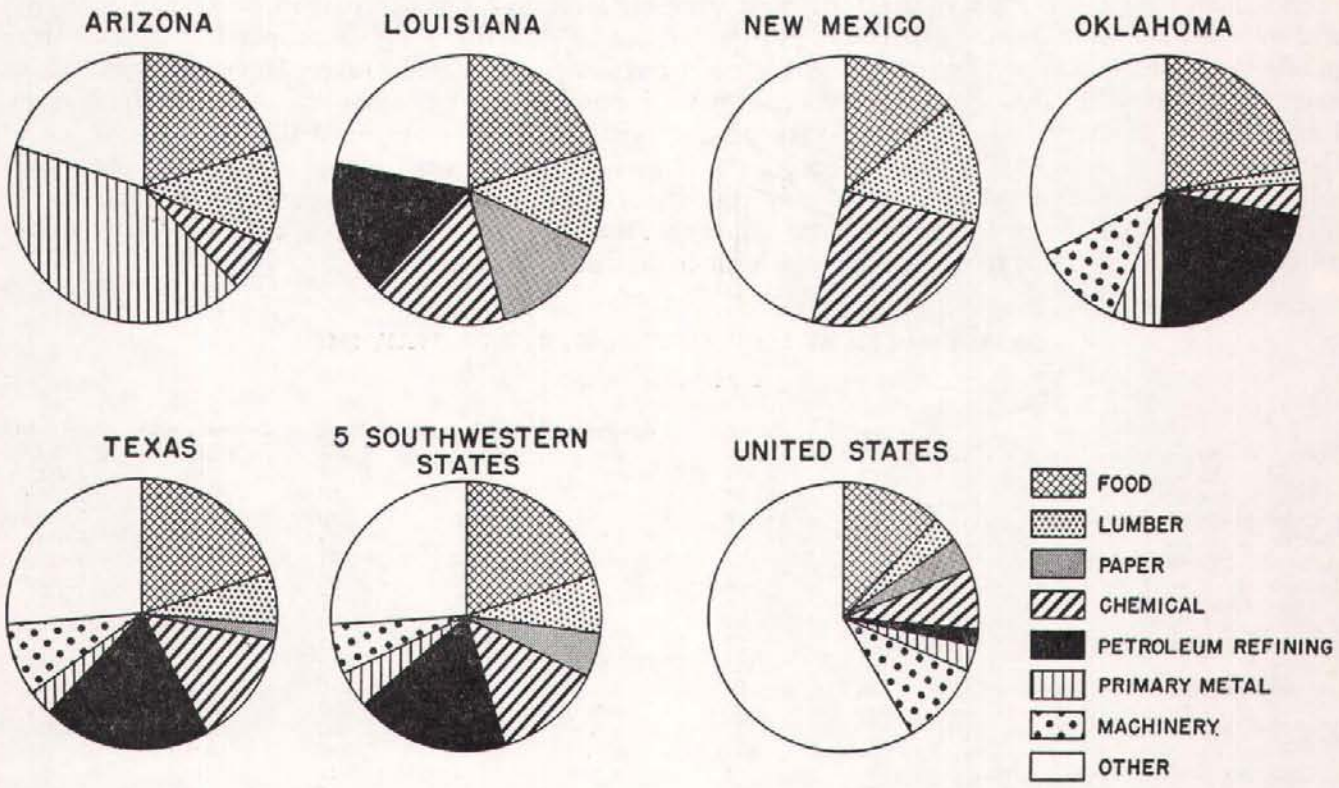
p—Preliminary.
* Under 0.5 million dollars.
n.a.—Not available.
SOURCE: United States Bureau of the Census.

In 1947, 58 percent of the manufacturing in five southwestern states was in Texas; Louisiana was second with 24 percent, and Oklahoma third with 13 percent. Arizona accounted for nearly 4 percent and New Mexico over 1 percent. Not only is there considerable concentration in certain states, but most of the manufacturing in those states is concentrated in a few counties. In 1947, more than half of the manufacturing production workers of Texas were in four counties—Dallas, Tarrant (Fort Worth), Harris (Houston), and Jefferson (Beaumont, Port Arthur). The latter two counties are included in the Gulf Coast area which is one of the outstanding industrial regions of the Nation. Nearly half of the Louisiana manufacturing workers were in the New Orleans Metropolitan Area and East Baton Rouge Parish. In Oklahoma, Tulsa and Oklahoma Counties had half of the State's industrial workers; in New Mexico, Bernalillo (Albuquerque) and Eddy (Carlsbad) Counties had nearly half; while in Arizona, Maricopa County (Phoenix) had over half. Counties in the Eleventh Federal Reserve District having

considerable manufacturing in addition to those already mentioned include: in Texas, Bexar (San Antonio), El Paso, and McLennan (Waco); and in Louisiana, Caddo (Shreveport). Considerable manufacturing is also carried on in the smaller cities, as evidenced by the fact that in 1947 there were 70 counties out of the 440 in these five states which had over 1,000 manufacturing workers.

VALUE ADDED BY MANUFACTURING, BY INDUSTRY, 1947

(PERCENTAGE DISTRIBUTION)



SOURCE: U.S. BUREAU OF THE CENSUS.

There is also a tendency in the Southwest toward concentration in a few industries, with the top two or three industry groups in the state usually accounting for at least half of the total value added by manufacture. While the list of leading industry groups varies some from state to state, the food products group was important in each of the five states in 1947, and accounted for 20 percent of the total. Petroleum refining and chemical industries, which are particularly important in Texas and Louisiana, accounted for 18 percent and 13 percent, respectively, of all manufacturing.

While the Southwest had less than its share of most types of manufacturing in 1947, it had more than its share of petroleum refining, oil field equipment production, and industrial organic chemical production. On the basis of population, the five states of the Southwest had nearly four times their share of petroleum refining, with Texas having over 4.7 times its share. Texas also had over 9 times its share of oil field equipment production. Louisiana had nearly twice its share of lumber and lumber products industry and of the paper and paper products industry. Both of these industry groups are based upon the raw material resources of the area.

The foregoing discussion of industrial growth in the Southwest between 1939 and 1947 and of the present major characteristics of manufacturing in the area has raised certain broad questions concerning the reasons underlying the pattern of industrial development over the first half of the Twentieth Century and the prospects for future development. At the outset, however, it may be stated that the same factors that were conducive to the development of industry prior to 1939 in a large measure were responsible for the war and postwar growth and will be the motivating forces in future growth.

VALUE ADDED BY MANUFACTURING, PERCENTAGE DISTRIBUTION BY INDUSTRY, 1947

(Percentage distribution)

Industry	Arizona	Louisiana	New Mexico	Oklahoma	Texas	Five southwestern states	United States
Food products	20.0	20.0	14.2	22.3	19.6	19.9	12.1
Meat products	2.0	1.0	2.4	5.0	3.4	2.9	1.7
Bakery products	3.6	2.2	3.9	3.2	2.9	2.8	1.5
Other food products	14.4	16.8	7.9	14.1	13.3	14.2	8.9
Textile	.....	1.2	.....	n.a.	1.7	1.3	7.2
Apparel	.3	2.7	1.2	.6	4.1	3.2	5.9
Lumber and lumber products	12.1	12.1	14.9	2.3	5.6	7.2	3.4
Furniture and fixtures	1.0	.7	.8	1.2	1.3	1.1	1.9
Paper	.....	14.3	.....	.6	1.9	4.6	3.9
Printing and publishing	8.4	3.3	6.9	8.2	5.3	5.3	5.7
Chemical	5.6	16.3	24.8	3.5	13.5	13.0	7.2
Industrial organic chemicals	n.a.	9.2	n.a.	n.a.	6.3	n.a.	2.1
Other chemicals	n.a.	7.1	n.a.	n.a.	7.2	n.a.	5.1
Petroleum and coal products	.....	17.6	n.a.	23.4	20.8	19.2	3.1
Petroleum refining	.....	16.4	n.a.	22.8	20.2	18.5	2.0
Other petroleum and coal products	.....	1.2	n.a.	.6	.6	.7	1.1
Leather and leather products	.....	.....	.1	.....	.3	.2	2.0
Stone, clay, and glass products	3.5	2.4	1.9	6.7	3.4	3.5	3.1
Primary metal	41.7	.3	n.a.	4.7	3.4	4.1	7.8
Fabricated metal	3.5	2.3	1.4	5.6	3.9	3.7	6.6
Electrical machinery	.....	n.a.	.....	n.a.	.7	.4	5.2
Other machinery	.....	1.0	.2	10.8	7.5	6.0	10.5
Oil field equipment	.....	n.a.	n.a.	n.a.	4.5	n.a.	.2
Other machinery	.....	n.a.	n.a.	n.a.	3.0	n.a.	10.3
Transportation equipment	.7	4.9	n.a.	1.8	5.3	4.6	7.9
Instruments	.....	.....	n.a.	n.a.	.2	.1	1.5
All other	3.2	.9	33.6	8.3	1.5	2.6	5.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

n.a.—Not available.
SOURCE: United States Bureau of the Census.

As has already been suggested, the past developments and future prospects are closely related to the natural advantages of the area and its wide variety and abundance of raw materials basic to industrial development in any area. Among the natural advantages, the climate and open spaces of the Southwest have been significant attractions for numerous industries and may become even more important in the future. Prior to 1939 oil refineries, chemical plants, and similar structures in the Southwest were built with little or no walls, roofing, weatherproofing, and pipe insulation—much less than were required in most other sections of the country. The resulting savings in costs were important in

MANUFACTURING, IN RELATION TO POPULATION, BY INDUSTRY, 1947

(Percent of U.S. value added by manufacturing for each industry divided by percent of U.S. population)

Industry	Arizona	Louisiana	New Mexico	Oklahoma	Texas	Five southwestern states	United States
Food products	51	87	23	53	76	71	100
Meat products	35	31	27	84	92	73	100
Bakery products	77	77	51	63	92	82	100
Other food products	52	99	17	45	70	67	100
Textile	...	8	...	n.a.	11	8	100
Apparel	1	24	4	3	32	23	100
Lumber and lumber products	112	188	86	20	77	91	100
Furniture and fixtures	17	20	8	18	34	26	100
Paper	...	194	...	4	23	51	100
Printing and publishing	47	30	23	41	43	39	100
Chemical	24	119	68	14	88	77	100
Industrial organic chemicals	...	233	n.a.	n.a.	143	n.a.	100
Other chemicals	n.a.	73	n.a.	n.a.	66	n.a.	100
Petroleum and coal products	...	300	n.a.	219	307	268	100
Petroleum refining	...	430	n.a.	328	472	396	100
Other petroleum and coal products	...	56	n.a.	16	28	29	100
Leather and leather products	...	1	1	...	8	4	100
Stone, clay, and glass products	39	42	12	63	51	49	100
Primary metal	165	2	n.a.	18	20	23	100
Fabricated metal	17	18	4	24	27	24	100
Electrical machinery	...	n.a.	...	...	6	3	100
Other machinery	...	5	...	30	34	24	100
Oil field equipment	...	n.a.	...	n.a.	921	n.a.	100
Other machinery	...	n.a.	...	n.a.	14	n.a.	100
Transportation equipment	3	33	n.a.	6	32	25	100
Instruments	1	1	n.a.	n.a.	7	4	100
Total	31	52	19	29	47	43	100

n.a.—Not available.
SOURCE: United States Bureau of the Census.

peacetime and were doubly so during the war when such costs represented scarce materials, as well as valuable construction time and effort.

Admittedly, such climatic advantages are less important than the availability of petroleum and natural gas; but when the more important factors are about equally balanced, as between two possible locations for such a plant, climate may determine the location.

After the war these same advantages, as well as raw materials, were especially important in attracting and facilitating the erection of numerous installations in the expanding chemical industry. In the case of many other industries, including the large new food products plant at Corpus Christi, the mild climate and ample availability of space have been found similarly advantageous, though raw materials and transportation have been more important locational considerations.

In a slightly different way these factors also were important advantages to the new aircraft industry which was established during the war and retained to a considerable degree after the war. The high proportion of good flying weather, the topography of the area which assured a high degree of visibility and relative freedom from obstruction hazards, and the abundance of land suitable for factory sites and landing fields were important positive attractions which reinforced the desire of the Government to have such new defense plants located away from the great industrial centers of the Northeast.

The large, thinly populated, open spaces of the Southwest were also important during the war in that they permitted the construction and operation of explosive and shell loading plants with relative freedom from hazards from enemy attack and danger to the population in the surrounding area. These factors still operate as a natural advantage to some phases of the chemical industry.

The existence of and access to a wealth of natural resources not only have been basic to the growth of manufacturing in the area but have determined the direction of the industrial development and to a considerable degree its rate of growth. The accompanying table which presents data classified according to industry dependence upon southwestern raw materials is illustrative of the major industrial development of the area. There are two groups of industries accounting for roughly two-thirds of the area's industrial production which are directly related to the availability of raw materials. The first group had its roots primarily in and received its impetus from the fact that the raw materials were too bulky to be transported economically to plants outside the area for processing. It includes the important building materials and supplies industries, such as saw mills and planing mills, cement, cement and gypsum products, brick and other clay products, glass, iron and steel and related products; the important food products industries, such as dairy products, canning, and preserving; the carbon black industry; and cottonseed products industry. The second group is based upon raw materials produced in the area although the materials themselves might be shipped economically to other areas for processing. It includes meatpacking, grain mill products, and bakery products in the foods industry; the important petroleum refining and chemical industries, as well as the industries closely related to them; certain metal industries; and some miscellaneous industries, such as textiles, mill work and other lumber products, furniture and fixtures, paper, and paints. The third and fourth groups are largely independent of southwestern raw materials but they must rely either largely upon the regional market or primarily upon the national market including the distribution within the area. Such industries as beverage, ice, miscellaneous food products, printing and publishing, rubber goods, electrical machinery, oilfield machinery and tools, and motor vehicles are almost wholly dependent upon the area market for their distribution. On the other hand, the output of the apparel, leather, shipbuilding, and aircraft industries is sold on the national market, even though a significant part of the output may be taken within the region.

In the first group of industries, the market for the finished products through the years has been strong enough within the area to bring about an expanding productive machine and to make the growth solid as well as rapid. This past growth has revolved around the expansion of population and the vitality of the construction industry—factors which should continue important. The second group which has been favored by the physical conditions of the area, the type and character of available raw materials and good markets includes some of those very dynamic industries whose operations are associated with intense research for the improvement of existing products and the development of new ones. The third and fourth groups whose operations are largely independent of southwestern raw materials rely wholly or partially on southwestern markets for the distribution of finished products. Their past growth has been related to population, per capita consumption, and income of the area.

This review of the factors behind the development of these various groups of industries suggests the probability of sustained future growth in southwestern manufacturing. While such progress depends upon continued effort by the business community, the rewards should provide sufficient incentive to attract leaders with energy and vision. With the expansion of manufacturing, the farmer, miner,

GROWTH OF MANUFACTURING INDUSTRIES IN FIVE SOUTHWESTERN STATES CLASSIFIED BY DEPENDENCE UPON SOUTHWESTERN RAW MATERIALS, 1939–47

	Number of production workers			Value added by manufacture (thousands of dollars)		
	1939	1947	Percent change	1939	1947	Percent change
I. Industries based on southwestern raw materials	153,455*	295,333*	92	$470,000*	$1,864,667*	297
A. Industries using chiefly raw materials which could not be economically shipped out	61,455*	95,573*	56	145,000*	461,000*	218
Dairy products	2,828	3,228	14	14,655	20,387	39
Canning and preserving	6,434	9,787	52	3,700*	31,737	748
Sawmills and planing mills	32,400*	46,000*	42	43,960	136,000*	210
Cottonseed oil mills	4,800*	4,204	—12	13,111	35,845	173
Carbon black	1,411	2,285	62	6,469	35,726	452
Glass	1,000*	2,690	169	1,595	15,054	843
Cement	1,200*	2,000*	67	8,791	21,000*	139
Cement and gypsum products	1,631	4,542	178	5,184	26,026	401
Brick and other clay products	2,551	3,105	22	3,527	11,114	215
Iron and steel foundries	1,312	3,417	160	n.a.	13,932	n.a.
Primary nonferrous metals	5,888*	14,315	143	n.a.	115,000*	n.a.
B. Industries using chiefly raw materials which could be economically shipped out	92,000*	199,760*	117	325,000*	1,403,667*	332
Meat packing	9,414	14,898	59	52,000*	84,631	63
Grain mill products	5,548	10,092	82	16,300*	108,872	577
Bakery products	11,454	10,690	— 7	35,156	82,634	135
Textile	9,700*	10,100*	4	12,030*	37,000*	208
Millwork and other lumber products	12,800*	17,000*	33	18,265*	73,000*	300
Furniture and fixtures	4,546	7,760	73	9,616	33,487	239
Paper	9,084	16,547	81	31,937	134,000*	319
Industrial chemicals, organic	n.a.	10,782	n.a.	n.a.	174,000*	n.a.
Industrial chemicals, inorganic	1,349	3,850	185	n.a.	33,852	n.a.
Fertilizer	716	1,397	95	1,995	12,971	550
Soap	40	573	1,332	37	15,092	40,689
Paint	370	871	135	2,852	73,128	2,460
Petroleum refining	26,300*	45,200*	72	153,000*	541,000*	254
II. Industries largely independent of southwestern raw materials	78,879*	120,052*	52	319,097*	1,057,342*	232
A. Dependent on southwestern market	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Beverages	4,016	7,357	83	40,100*	82,475	106
Ice	2,700*	5,600*	107	16,657	38,700*	135
Other food products	11,816	18,638	58	30,647	131,938	330
Printing and publishing	11,235	18,705	67	60,237	155,504	158
Rubber goods	n.a.	989	n.a.	n.a.	n.a.	n.a.
Electrical machinery	500*	2,000*	300	2,000*	12,000*	500
Oil field machinery and tools	6,000*	11,000*	83	33,784	80,000*	137
Motor vehicles	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Fabricated metal products	7,109	17,732	143	23,700*	106,110	350
Instruments	160*	830*	418	350*	5,000*	1,329
Machinery, other	5,160*	14,174*	174	13,716*	94,000*	585
Miscellaneous	4,800*	7,500*	56	11,000*	85,000*	673
B. Dependent on national market	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Apparel	14,625	27,426	88	20,567	93,499	350
Leather	657	1,530	137	1,434	6,222	333
Shipbuilding	1,200*	10,208	750	5,674	46,808	725
Aircraft	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
All manufactures	232,334	415,385	79	789,097	2,922,009	270

n.a.—Not available.
* Partly estimated.
SOURCE: United States Bureau of the Census.

oil producer, and lumberman each will find within the area a larger and more profitable market for his products. The skills of a larger working population will tend to find the most profitable employment, while capital and managerial ability reap greater rewards. The trade and financial community generally will grow with the industry of the area. As more of the wealth of southwestern raw materials is made into semi-finished or finished products within the area, a well-rounded and diversified economy will result. Moreover, as manufacturing plays a greater part in the economic life of the area, the economy of the Southwest will become even more dynamic—research, technological progress, capital accumulation, rising population, increasing skills and "know how," expanding markets, and trade will all reinforce each other to increase further the income and standard of living of the people.

Review of Business, Industrial, Agricultural, and Financial Conditions

DISTRICT SUMMARY

The strong demand for merchandise at department stores in the Eleventh Federal Reserve District which became evident in December persisted through January and the first half of February. Although sales in January were off slightly more than seasonally from the record December volume, they exceeded the total for January last year by 5 percent. The demand for durable goods, which was very slow a year ago, was at a high level in January this year. Furniture store sales were also sharply higher than in January 1949.

The value of construction contracts awarded in the District declined 7 percent from the large amount reported in December, but exceeded the relatively small volume in January 1949 by 44 percent. Residential awards, while smaller than in December, were only slightly below the relatively high monthly average for the last six months of 1949 and were nearly double the volume in January last year. There was a substantial increase in awards for public works and public utilities projects.

Petroleum production and refinery operations in the District and in the Nation during January reflected only moderate changes from those in the preceding month, but operations were sharply lower than in January 1949. The over-all demand for petroleum products, which has been fairly well sustained for this season of the year, exceeded production during January causing a further reduction in supplies on hand at refineries. Crude oil stocks also declined in January, dropping to the lowest level since the fall of 1948.

Heavy precipitation over most of the District during January and early February greatly benefited winter cover crops, pastures and ranges, but delayed field work. In the winter wheat belt, where crops and ranges are still suffering from inadequate moisture, rains are urgently needed. In other areas, such crops as oats, flax, and commercial vegetables generally are making fair to good progress, despite the effects of unfavorable weather. Harvesting of citrus fruits in the lower Rio Grande Valley is virtually completed. Livestock are in good condition in most areas where grazing is available. Substantially larger stocks of wheat and feed grains were on hand in the District on January 1 this year than a year earlier. Meanwhile, more sheep and lambs and fewer cattle were on feed in this section. The average of farm commodity prices in Texas continued to hold relatively stable through January, although seasonal changes in prices of individual commodities were evident.

Aggregate deposits of weekly reporting member banks in the District showed relatively little net change during the period between January 11 and February 15. Although the loans of these banks showed a further moderate increase during the period, the gain was largely offset by a reduction in their investments.

BUSINESS

The improved tone in consumer buying which developed in December carried over into January. Although department store sales in the Eleventh Federal Reserve District showed a little greater-than-seasonal decline from the record December sales, the dollar volume in January was 5 percent larger than in the corresponding month of last year and almost equaled the peak January volume reached in 1948. Last month was thus the second successive month in which sales exceeded year-earlier levels, following the year-to-year decline which had prevailed in the first 11 months of 1949. The favorable showing in January tended to confirm the optimistic forecasts which generally have been made regarding prospective department store sales during the first 6 months of this year. It should be noted that department stores in this District did better than in the Nation as a whole, although sales in other districts, for the most part, were not discouraging.

Veterans' insurance refunds, the distribution of which was begun at the middle of January, undoubtedly helped buoy department store sales in January, and their stimulative effect can be expected to be most noticeable during the next 3 or 4 months. Nevertheless, it is not unlikely that the insurance refunds will tend to have a favorable effect on retail sales during most of the current year. Veterans apparently intend to use more than half of their refunds to pay off debts or to increase their bank accounts, according to recent surveys of the National Industrial Conference Board and *The New York Times*. While such action, if it occurs, would not immediately increase sales, the resulting improvement in the veterans' financial position might lead ultimately to heavier buying.

WHOLESALE AND RETAIL TRADE STATISTICS

	Percentage change in Net sales: Jan. 1950 from Jan. 1949	Net sales: Jan. 1950 from Dec. 1949	Stocks‡: Jan. 1950 from Jan. 1949	Stocks‡: Jan. 1950 from Dec. 1949
Retail trade:				
Department stores:				
Total Eleventh District	5	—55	— 1	4
Corpus Christi	7	—57	6	3
Dallas	6	—55	— 5	11
Fort Worth	11	—55	— 4	— #
Houston	— 4	—56	7	3
San Antonio	2	—49	7	— 3
Shreveport, La.	— 2	—62	....	....
Other cities	13	—57	— 6	4
Furniture stores:				
Total Eleventh District	21	—39	— 7	— 1
Dallas	23	—37	—28	—13
Houston	— 3	—43	....	....
Port Arthur	3	—20	—26	4
San Antonio	16	—45	....	....
Wichita Falls	30	—32	—16	2
Wholesale trade:*				
Automotive supplies	10	— 3	—20	2
Drugs and sundries	1	12	6	— 2
Dry goods	—12	41	17	8
Grocery (full-line wholesalers not sponsoring groups)	— 2	7	— #	12
Hardware	5	7	—13	12
Machinery equip. and supplies except elect.	—21	38	21	7
Tobacco	— 1	—17	—18	— 4
Wines and liquors	—38	—49	—27	2
Wiring supplies, construction materials distr.	14	— 6	1	22

# Indicates change of less than one-half of 1 percent.
* Preliminary data. Compiled by United States Bureau of Census.
‡ Stocks at end of month.

INDEXES OF DEPARTMENT STORE SALES AND STOCKS
Daily average sales — (1935-39=100)

	Unadjusted*: Jan. 1950	Dec. 1949	Nov. 1949	Jan. 1949	Adjusted: Jan. 1950	Dec. 1949	Nov. 1949	Jan. 1949
Eleventh District	315	662r	442	307r	398	404r	371r	388r
Dallas	291	602	405	277	355	381	335	338
Houston	347	730r	483	364r	445	459	400	467r

STOCKS — (1935-39=100)

	Unadjusted*: Jan. 1950	Dec. 1949	Nov. 1949	Jan. 1949	Adjusted: Jan. 1950	Dec. 1949	Nov. 1949	Jan. 1949
Eleventh District	331	323	405	346	356	351	365r	372r

* Unadjusted for seasonal variation.
r—Revised.

In contrast with the widespread and general clearance sales which marked the efforts of merchants in January 1949 to reduce and balance their stocks, promotional and clearance

sales this January were confined largely to miscellaneous items and to the usual sales of the season on white goods, furniture, and housefurnishings. Furniture promotions, in particular, appear to have been very well received, with the volume of consumer purchases at reporting department stores in the District attaining the highest level on record, exceeding December sales by 21 percent and January a year ago by 39 percent. In fact, sales of most consumer durable goods made a very good showing in January. Major household appliance sales were up 49 percent from year-earlier levels; radio, phonograph and television were up 42 percent, and domestic floor coverings, 17 percent. While a major factor in these large increases was the sharply depressed level of consumer durable sales at this time a year ago, nevertheless, durable sales this year may be characterized as good according to any standard.

Soft goods departments, which a year ago had not shown the weakness evident in the durable goods departments, failed to reveal the spectacular increases in January noted for the hard goods. On the whole, however, sales of soft goods were generally satisfactory. Sales of women's dresses were up 5 percent, in contrast with substantial year-to-year declines apparent in the previous 9 months. Moreover, men's clothing sales showed an increase of 2 percent over the relatively high volume of January a year ago. On the other hand, women's and misses' coats and suits continued to show weakness, with sales down 12 percent from a year ago, and basement store sales were off the same percent, continuing the softness which developed in the last half of 1949.

Instalment selling at District department stores continued in heavy volume in January, reflecting the sustained high sales volume of consumer durable goods which are usually sold on a deferred payment basis. The proportion of instalment to total sales was 11 percent, as compared with only 6 percent in January 1949. Instalment sales a year ago, however, were restricted by tighter credit terms under Regulation W, as well as by a slump in consumer durable goods purchases. Collections dropped to 14 percent of instalment accounts outstanding from 16 percent in December. While a decline in the collection ratio is usual at this time of year, a lengthening in terms and a slowing in collections is evident in the fact that the January collection ratio was 4 percentage points lower than in the same month a year ago, and was the lowest for any month since February 1942. The proportions of cash sales and regular account sales to total sales were off moderately from a year ago, while the ratio of collections to regular accounts outstanding showed the usual decline for January, and was the same as a year ago.

Department store stocks at the end of January were approximately at the same level as on the corresponding date of last year and orders outstanding were 6 percent higher. January marked the first month in the past year that stocks were not below year-earlier levels, as well as the first in the past 18 months in which orders outstanding were above the levels of the same date of the previous year. These developments indicate the change which has occurred in the department store inventory position during the past year. A year ago, stocks were unbalanced and excessive in light of the declining sales trend; this year stocks appear to be in much better balance, and with the immediate outlook for sales more favorable, the stock position of stores generally appears to be sound. It should be noted that both stocks and orders outstanding, after adjustment for seasonal variation, are considerably lower than the peak postwar levels.

Furniture store sales in the District, although declining seasonally in January, were about one-fifth larger than the depressed level of January a year ago and only 1 percent lower than the January 1948 volume, which was the highest for that month on record. A significant development was a moderate increase in cash sales in January as compared with the same month a year ago, the first such increase in 2 years. Moreover, the proportion of total sales represented by cash sales, 16 percent, was higher than in any month during the past year, and may reflect in part the influence of the veterans' insurance refunds. Instalment sales, however, continued in heavy volume, exceeding the level of a year ago by 25 percent. Moreover, although collections were up slightly from December, accounts receivables outstanding continued to rise, reaching a new peak at a level 31 percent above that of a year ago. Furniture store stocks were down for the third successive month and at the end of January were 7 percent less than on the same date of last year.

AGRICULTURE

The January and early February rains, snow, or sleet which covered most of the farming areas in the Eleventh Federal Reserve District delayed land preparation and the planting of early spring crops. On the other hand, the abundant moisture supply resulting from the rains and snows benefited greatly the winter cover crops. In the important winter wheat belt of northwest Texas and adjacent areas of New Mexico, near-drought conditions continue to adversely affect winter wheat and livestock ranges. While no serious damage to the wheat crop has resulted thus far from the lack of moisture, rain is urgently needed to insure a satisfactory wheat crop. Small grains generally are making excellent developments in other areas although there has been some green bug damage to oats in north central Texas. The Texas flax crop is making satisfactory progress with good yields in prospect. Cover crops and grain pastures in the central and eastern parts of the District are supplying good grazing for livestock, and animals in these areas are holding up fairly well.

Conditions in the commercial vegetable areas were mostly unfavorable during January and the first week of February; moisture supplies were inadequate in some areas and temperatures at times were too warm for some of the hardy type, leafy vegetables. Cloudy and misty weather at other times was unfavorable for some spring planted crops while blight caused considerable damage to onions and tomatoes. At mid-February, however, conditions were beginning to improve following the generally heavy rains over the non-irrigated commercial vegetable areas near Corpus Christi and Raymondville and in the western part of the Lower Valley. The improvement in moisture supplies greatly benefited leafy and root crops and is expected to result in better seed germination in some of the early planted tomato and watermelon fields. Meanwhile, the planting of cantaloupes and cucumbers also is expected to start soon. Most tomato seed beds in the East Texas area had been planted and some sweet potatoes were bedded. Transplanting of the north Texas onion crop was delayed further by wet fields in practically all areas.

The Texas grapefruit production is estimated at 6,500,000 boxes, compared with 11,300,000 boxes harvested last season and a 1947-48 crop of 23,200,000 boxes. Reports show that some 80 percent of the crop was harvested by February 1 and harvesting should be completed by the end of that month. Grapefruit prices, which for this season have been running

well above those in comparable months of last season, are expected to remain relatively high for some time as available supplies are smaller than a year ago. Orange production in Texas is estimated at 1,600,000 boxes—less than one-half last season's harvest and less than one-third of the 1947-48 crop. Growing conditions in the citrus producing areas were favorable during January and early February with irrigation and light rains supplying adequate moisture. Most groves that had been pruned since the January 1949 freeze and had received good care have made excellent recovery. Trees began blooming in late January, signaling the prolific blooming period which usually occurs around the first of March.

STOCKS OF WHEAT IN ALL POSITIONS, JANUARY 1, 1950
(In thousands of bushels)

State	On farms		Off farms		Total stocks	
	1950	1949	1950	1949	1950	1949
Arizona	84	129	300	268	384	397
Louisiana	.....	.....	841	1,220	841	1,220
New Mexico	445	697	1,695	747	2,140	1,444
Oklahoma	10,647	10,886	50,927	38,745	61,574	49,631
Texas	11,313	8,866	57,913	38,580	69,226	47,446
Total	22,489	20,578	111,676	79,560	134,165	100,138
United States	327,230	391,379	580,876	477,095	908,106	868,474

SOURCE: United States Department of Agriculture.

Total stocks of wheat in the states lying wholly or partly within the Eleventh Federal Reserve District were 34 percent higher on January 1 than those of the same date in 1949, as shown in the accompanying table. Increases occurred in each of the states except Arizona and Louisiana where small declines were reported. Stocks of wheat on farms were up 9 percent but represented only 17 percent of all stocks, as compared with 21 percent last year. The five-state total of wheat stocks in off-farm positions—mills, elevators, warehouses, etc.—was up 40 percent as compared with a year earlier. Total stocks of wheat in the United States on January 1 were up 5 percent —the net result of an increase of 22 percent in off-farm stocks and a decline of 16 percent in stocks stored on farms.

STOCKS OF SELECTED FEED GRAINS IN OFF-FARM POSITIONS
JANUARY 1, 1950
(In thousands of bushels)

State	Corn		Oats		Grain sorghums	
	1950	1949	1950	1949	1950	1949
Arizona	16	15	55	28	1,355	1,150
Louisiana	1,249	1,449	62	4	0	0
New Mexico	17	35	25	75	2,278	615
Oklahoma	562	451	335	375	2,409	1,116
Texas	2,431	1,690	1,308	787	30,945	19,756
Total	4,275	3,640	1,785	1,269	36,987	22,637
United States	428,385	93,418	56,325	46,167	51,618	33,235

SOURCE: United States Department of Agriculture.

Combined stocks of feed grains in off-farm positions in the five states on January 1 were considerably larger than a year earlier. Stocks of corn were up 17 percent, due almost entirely to increases in Oklahoma and Texas. Stocks of grain sorghums were up 63 percent, with increases reported in each of the states except Louisiana. Total stocks of oats and barley in the five states were up 9 percent although most of the increase resulted from the larger stocks in Texas. The increase in stocks of feed grains in the United States, which on January 1 were two and one-half times as large as a year earlier, was reflected entirely in off-farm positions since stocks of feed grains stored on farms were slightly smaller.

Spring range feed prospects improved over most of the District during January and early February as a result of the increased moisture supplies, the principal exception being in the High Plains of Texas and New Mexico. Small grains, rescue grass, and clovers are making good growth in central, eastern, and southern parts of the District. Hay, grain, and roughage supplies are adequate to abundant in most areas. In the dry High Plains counties, it has become necessary for many farmers and ranchers to reduce the number of livestock because of insufficient grazing.

Livestock have held up well this winter in most sections of the District having had the benefit of generally favorable weather and adequate feed supplies. Supplemental feeding became general during the period of cold weather around the first of February but later was confined largely to the dry areas of the High Plains. Losses of livestock resulting from weather conditions have been negligible. Ranchers are holding back large numbers of heifers and young ewes for restocking.

CATTLE AND SHEEP ON FEED, JANUARY 1, 1950
(Thousands of head)

State	Cattle on feed		Sheep on feed	
	1950	1949	1950	1949
Arizona	59	62	10	15
Louisiana	0	0	0	0
New Mexico	17	33	28	30
Oklahoma	55	70	50	30
Texas	161	144	118	105
Total	292	309	206	180
United States	4,552	4,530	3,733	4,003

SOURCE: United States Department of Agriculture.

The total number of cattle on feed in the five states of the District on January 1 was 6 percent below that of the same date last year, as shown in the accompanying table. An increase of 17,000 head in Texas was more than offset by declines in other states. In the United States the total number of cattle on feed was slightly larger than a year earlier and was the largest on record. All of the increase in number on feed occurred in the Corn Belt States and Texas.

The total number of sheep and lambs on feed in the five states on January 1 reflected an increase of 14 percent over last year, although increases occurred only in Oklahoma and Texas. The increase in this area was in marked contrast to the 7 percent decline in the United States. The 3,733,000 head reported on feed in the United States was the smallest number since 1922.

LIVESTOCK RECEIPTS
(Number)

Class	Fort Worth market			San Antonio market		
	Jan. 1950	Jan. 1949	Dec. 1949	Jan. 1950	Jan. 1949	Dec. 1949
Cattle	30,562	39,018	32,677	24,306	24,699	19,718
Calves	15,049	20,737	20,011	15,884	14,111	14,808
Hogs	63,277	52,693	57,785	8,105	7,535	12,167
Sheep	25,546	35,064	19,159	16,165	16,853	12,980

TOP LIVESTOCK PRICES
(Dollars per hundredweight)

Class	Fort Worth market			San Antonio market		
	Jan. 1950	Jan. 1949	Dec. 1949	Jan. 1950	Jan. 1949	Dec. 1949
Slaughter steers	$27.00	$26.00	$28.50	$26.00	$23.50	.....
Stocker steers	24.00	25.50	23.00	.....	.....	.....
Slaughter cows	18.00	20.50	17.50	19.50	20.50	.....
Slaughter heifers and yearlings	27.50	27.00	28.50	26.00	24.00	.....
Slaughter calves	25.50	25.75	25.00	26.00	25.25	.....
Stocker calves	26.00	24.50	24.50	27.00	25.00	.....
Slaughter lambs	24.00	24.00	23.00	23.25	24.25	.....
Hogs	17.75	22.00	16.50	17.50	21.00	.....

The movement of livestock into the Fort Worth and San Antonio markets in January was 5 percent above that of December, as increases in receipts of cattle, hogs, and sheep more than offset a decline in marketings of calves. In comparison with January 1949, however, total marketings were down 6 percent as the 19 percent increase in receipts of hogs failed to match declines of from 10 to 20 percent for other classes.

Prices received by Texas farmers for all agricultural commodities at mid-January averaged near the same level as during the past 7 months. Moderate price increases during the month then ended were recorded for beef cattle and calves while limited gains were noted for other meat animals and most crops. These increases were virtually offset by sharp reductions in prices of poultry and eggs. Chickens fell from 28 cents per pound to 22.3 cents, and eggs at 32.2 cents per dozen were off almost one-third from a month earlier.

CASH RECEIPTS FROM FARM MARKETINGS

(In thousands of dollars)

State	November 1949			November 1948	Cumulative receipts January 1 to November 30	
	Crops	Livestock	Total	Total	1949	1948
Arizona	$ 29,085	$ 8,633	$ 37,718	$ 26,894	$ 198,964	$ 195,371
Louisiana	43,355	9,650	53,005	51,208	297,385	306,988
New Mexico	18,027	20,111	38,138	39,530	174,632	172,354
Oklahoma	46,175	25,457	71,632	69,804	573,307	626,904
Texas	295,620	65,227	360,847	244,074	1,905,182	1,818,923
Total	$432,262	$129,078	$561,340	$431,510	$3,149,470	$3,120,540

SOURCE: United States Department of Agriculture.

Reports from spot commodity markets indicate that from January 15 to mid-February, prices of grains, poultry, eggs, and most classes of cattle, fluctuated within narrow ranges. Prices of hogs and lambs made slight seasonal increases, while cotton prices advanced to the highest level since July.

Balance Sheet of Agriculture

The value of assets belonging to the Nation's farmers declined 3 percent, proprietors' equities fell 3 percent, and liabilities increased 7 percent during 1949, according to estimates of the Bureau of Agricultural Economics. This is the first time farmers' assets and equities have declined since 1940, when these data first became available. There was an increase of 20 percent in value of machinery and motor vehicles, as well as smaller increases in investment in cooperatives, household equipment, and United States savings bonds. These gains were more than offset by declines of 6 percent for real estate, 10 percent for livestock, 9 percent for crops on hand, and 5 percent for deposits and currency. All classes of liabilities increased; real-estate mortgages were up 6 percent and nonreal-estate debts increased 7 percent.

These changes in the balance sheet of agriculture are largely the result of (1) sharply lower prices of agricultural commodities, which are reflected in lower values of crops, livestock, and real estate, and (2) continued high costs of farming operations, which led to an increase in short-term indebtedness. Another factor which has contributed to the increase in real-estate mortgages has been the trend toward a lower down payment made in the purchase of farms. The smaller amounts of deposits and currency on hand, and the increased amount of nonreal-estate debt, suggest that farmers are willing to use savings and credit to modernize their farm equipment and improve their standard of living.

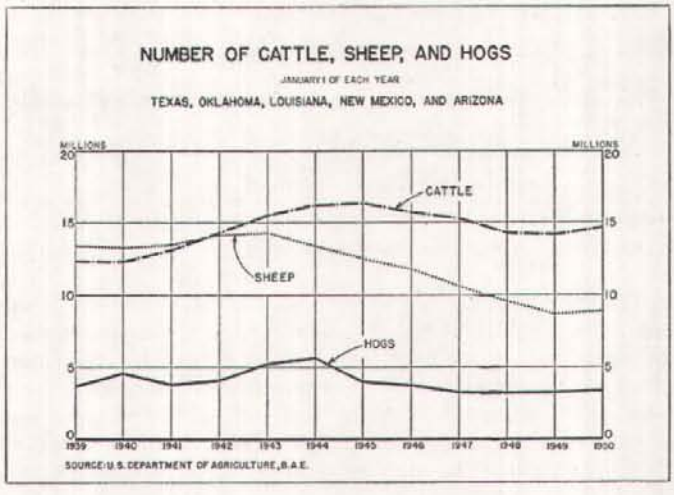
As a group, farmers owned 90 percent of their total assets on January 1, compared with 92 percent a year ago and 82 percent in 1940. The ratio of liquid assets (livestock, crops, cash, and bonds) to short-term and intermediate-term debt (nonreal-estate debt) was 6.4 to 1 as of January 1, which indicates a high degree of liquidity. Moreover, the ratio of the value of real estate, machinery, and motor vehicles to real-estate debt (indicative of long-term indebtedness) was 13.6 to 1.

These nationwide data, however, can be misleading when applied to individual areas or farms since there are very wide variations in the financial status of individual farmers. For example, the equities of many persons who have recently purchased farms probably average less than 50 percent. Futhermore, many farmers, although free of long-term indebtedness, have failed to improve their cash position during the recent period of high prices for agricultural products, and some farmers continue the practice of operating from year to year on borrowed capital. Such farmers, when they encounter crop failures, family sickness, or declines in agricultural prices, frequently suffer hardships or are forced to liquidate assets, if owned, to meet their current obligations.

Changes in Numbers and Values of Livestock on Farms in the Southwest During 1949

The January 1 estimate of 30,390,000 head of livestock on farms in the five southwestern states lying wholly or partly within the Eleventh Federal Reserve District reflects an increase of 2 percent during 1949, the same as in the United States. In the Southwest, increases occurred last year in the numbers of cattle and sheep, reversing the downward trends that had been under way since the wartime peaks, and hog numbers increased for the second consecutive year. The numbers of horses and mules, on the other hand, continued to decline.

Cattle numbers increased about 3 percent in Texas, 4 percent in the five states, and 3 percent in the United States in 1949. In each instance, the increase was due chiefly to an expansion in beef cattle numbers as only minor increases occurred in the numbers of milk cows and heifers 2 years old and over. The 16,786,000 head of beef cows 2 years old and over on the Nation's farms was 5 percent above a year earlier and the largest on record. The increase in numbers of milk cows ended the decline which started about 5 years ago. Indications pointing to more milk cows in the future are a 2 percent increase in 1 to 2 year old heifers, and a 6 percent increase in heifer calves being kept for milk cow replacements.



The 3 percent increase in the number of sheep on farms and ranches in Texas during 1949 accounts for most of the 2 percent increase in the five southwestern states, and compares with a decline of 3 percent in the United States. Estimates of sheep population by classes indicate that the five-

state total of ewes, 1 year old and over, declined 3 percent during 1949, while the total number of stock sheep, reflecting restocking of farms and ranches, increased by the same percentage. The number of sheep on farms and ranches in the United States on January 1 showed the smallest decrease since the decline began in 1942 but was the lowest in 83 years of record and 45 percent below the recent peak. Slaughter of sheep and lambs in 1949 was the lowest since 1918 and about 21 percent below 1948. The proportion of ewes in the 1949 slaughter was less than in any year since 1941. The number of ewe lambs held indicates that the downward trend in the number of stock sheep in the United States may be near an end. The increase in sheep numbers in the Southwest was largely in response to improved range conditions.

The number of goats in Texas on January 1 of this year was down 8 percent from a year earlier, which compares with a decline of 20 percent in 1948. The kid crop percentage in 1949 was larger than in the previous year. There was a marked decrease in marketing and slaughter of goats last year but the volume was still large enough to reduce inventories. The announcement of a price support program for mohair in 1950 has been one factor encouraging ranchers to reduce marketings of goats.

LIVESTOCK ON FARMS, JANUARY 1, 1950

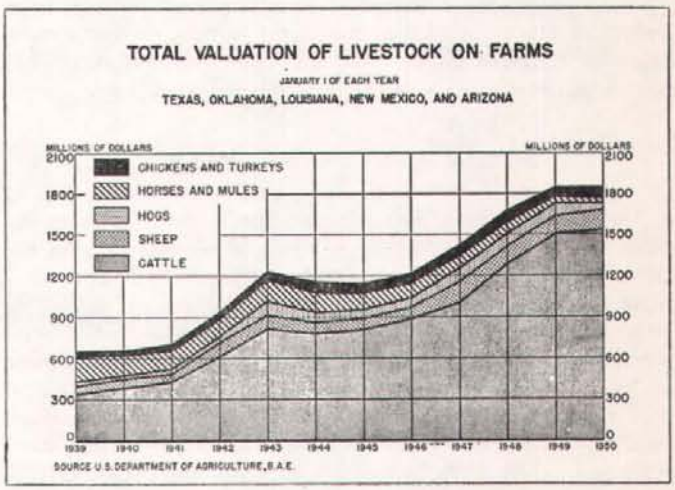
	Texas		Southwestern states*		United States	
	1950p	1949	1950p	1949	1950p	1949
	Number — (Thousands of head)					
Horses and colts	352	387	820	883	5,310	5,898
Mules and colts	139	160	293	331	2,153	2,348
All cattle and calves	8,658	8,406	14,767	14,246	80,277	78,298
Milk cows†	1,296	1,283	2,388	2,355	24,625	24,416
Hogs, including pigs	1,701	1,701	3,364	3,337	60,424	57,128
Sows and gilts‡	236	225	504	494	10,783	10,033
All sheep and lambs	6,821	6,613	8,900	8,699	30,797	31,654
Ewes one yr. old and over+	4,380	4,516	5,927	6,089	20,718	21,525
Goats®	2,246	2,441	2,246	2,441	2,246	2,441
Total above species	19,917	19,708	30,390	29,937	181,207	177,767
Chickens	27,384	25,771	45,258	42,890	481,190	448,676
Turkeys	755	770	920	910	6,120	5,540
	Valuation — (In thousands of dollars)					
Horses and colts	$ 12,320	$ 15,480	$ 29,473	$ 35,605	$ 242,879	$ 308,682
Mules and colts	6,672	8,320	17,568	21,783	214,018	274,012
All cattle and calves	900,432	865,818	1,532,565	1,510,728	9,873,710	10,552,421
Milk cows†	180,144	173,205	334,566	332,023	4,350,936	4,715,844
Hogs, including pigs	35,381	46,437	64,606	87,105	1,638,964	2,183,553
All sheep and lambs	104,878	85,213	141,484	119,455	548,248	543,862
Goats®	12,802	11,473	12,802	11,473	12,802	11,473
Total above species	$1,072,485	$1,032,741	$1,798,498	$1,786,149	$12,530,621	$13,874,003
Chickens	30,396	32,471	51,220	56,636	655,210	745,929
Turkeys	3,624	5,544	4,503	6,561	38,193	48,172
Total farm value, including chickens and turkeys	$1,106,505	$1,070,756	$1,854,221	$1,849,346	$13,224,024	$14,668,104

p—Preliminary.
* Texas, Arizona, Louisiana, New Mexico, and Oklahoma.
† Milk cows included in "All cattle and calves."
‡ Sows and gilts included in "Hogs, including pigs."
+ Ewes one year old and over included in "All sheep and lambs."
® Goat numbers and value shown for Texas only, since estimates for other states are not available and most of the goats are on ranges in Texas.

SOURCE: United States Department of Agriculture.

The estimated number of hogs in the five states on January 1 was slightly above the number reported a year earlier, although the estimate of numbers in Texas remained unchanged. The number of hogs in the United States, the largest since 1946, was up 6 percent. Nearly all of the increase was in hogs under 6 months old and this reflects the increase in the fall pig crop. The number of hogs over 6 months old was about 1 percent higher than last year; however, all of this increase was in the number of sows and gilts being held for spring farrowing. The number of other hogs 6 months old was down 3 percent from last year. Marketings of hogs from the spring pig crop started early and were very rapid during the fall months. This was made possible by earlier farrowings, marketing at lighter weights, and a heavy rate of feeding to reach marketable weights earlier. The estimated numbers of sows and gilts in Texas and in the five states on January 1 were up fractionally from a year earlier.

The increase of 6 percent in the number of chickens in the five southwestern states during 1949, which was due to an increase in each of the states except Louisiana, compares with an increase of 7 percent in the United States. The Nation's farmers produced 17 percent more chickens in 1949 than in 1948 and pullet holdings on January 1 were up 12 percent, but the number of hens on hand was 2 percent below the large hold-over of a year ago. In contrast to the substantial expansion in the number of chickens on farms in the five southwestern states, the turkey population made only a fractional increase and the number in Texas was down about 2 percent. The number of turkeys in the United States was up 10 percent from a year earlier, reflecting increases of 9 percent for breeder hens and 13 percent for toms and market birds. On February 1 farmers in the United States expressed an intention to raise slightly more turkeys this year than they raised in 1949.



The total value of livestock in Texas, and in the five southwestern states as a group, increased fractionally during 1949 as increases in numbers more than compensated for declines in prices. This contrasts with a decline of 10 percent in the United States. The average value of $103.78 per head of cattle in the five states on January 1 was $2.27 below the average of the previous January, and compares with a national average value of $123.00. The value of sheep in the five-state area averaged $15.90 per head at the beginning of 1950, compared with a national average of $17.80. Hogs in this area had an average value of $19.21 per head, which compares with $26.10 in 1949 and with the 1950 United States average of $27.10 per head.

FINANCE

During the four-week period ended February 8, 1950, weekly reporting member banks in the Eleventh Federal Reserve District showed increases in all loan accounts, with the exception of loans to banks, which did not change, and loans to brokers and dealers in securities, which declined slightly. During the last week of the period, however, declines occurred from the total loan volume of $1,203,314,000, a record high attained on February 1 after a period of almost uninterrupted growth beginning in mid-August 1949. The down-

ward trend in volume during the most recent week for which figures are available might indicate the beginning of a seasonal decline in lending activity which is normally expected during the first part of the year.

Approximately three-fourths of the $12,443,000 growth in total loans during the period January 11 to February 8 is accounted for by the expansion which occurred in loans to commerce, industry, and agriculture. After reaching an all-time high of $852,016,000 on February 1, loans for these purposes fell to $845,016,000 during the succeeding week. Other changes during the four-week period include an increase of $1,347,000 in real-estate loans; an increase of $1,326,000 in "all other loans"; a decrease of $86,000 in loans to brokers and security dealers; and an increase of $372,000 in other loans for security trading.

Total investments of these selected member banks declined during the period to $1,354,459,000 as the result of the combined effect of a $10,669,000 decrease in holdings of United States Government obligations and an increase of $3,029,000 in holdings of other securities. With the exception of Treasury notes, these banks were net sellers of Government obligations. Treasury refunding operations on February 1 account for the greater portion of a $25,069,000 decrease in certificate holdings and a $41,213,000 increase in note portfolios. Net sales or redemptions of $14,643,000 in Treasury bills and $12,170,000 in Treasury bonds, however, were effected at the banks' discretion.

The greatest change in the condition of weekly reporting member banks during the latest 4-week period consists of a $117,797,000 decrease in total deposits. Contractions in demand deposits of individuals, partnerships, and corporations, amounting to $67,729,000, and of interbank deposits, amounting to $61,950,000, more than accounted for this shrinkage. Slight increases in demand deposits of states and their political subdivisions and in total time deposits, together with an $11,588,000 increase in United States Government deposits, arrested somewhat the downward trend.

CONDITION STATISTICS OF WEEKLY REPORTING MEMBER BANKS IN LEADING CITIES — Eleventh Federal Reserve District

(In thousands of dollars)

Item	February 8, 1950	February 9, 1949	January 11, 1950
Total loans and investments	$2,553,411	$2,294,876	$2,548,608
Total loans—net†	1,187,489	1,111,477	1,174,980
Total loans—gross	1,198,952	1,120,088	1,186,509
Commercial, industrial, and agricultural loans	845,016	783,182	835,532
Loans to brokers and dealers in securities	5,830	5,552	5,916
Other loans for purchasing or carrying securities	48,059	56,570	47,687
Real-estate loans	95,062	88,738	93,715
Loans to banks	79	35	79
All other loans	204,906	186,011	203,580
Total investments	1,354,459	1,174,788	1,362,099
U. S. Treasury bills	104,146	26,183	118,789
U. S. Treasury certificates of indebtedness	320,639	274,224	345,708
U. S. Treasury notes	136,295	41,543	95,082
U. S. Government bonds (inc. gtd. obligations)	663,608	712,351	675,778
Other securities	129,771	120,487	126,742
Reserves with Federal Reserve Bank	463,193	546,237	492,942
Balances with domestic banks	277,844	233,633	349,228
Demand deposits-adjusted*	1,969,957	1,932,769	2,019,276
Time deposits except Government	453,366	417,865	452,157
United States Government deposits	60,729	46,903	49,151
Interbank demand deposits	662,317	534,839	724,267
Borrowings from Federal Reserve Bank	0	4,000	0

* Includes all demand deposits other than interbank and United States Government, less cash items reported as on hand or in process of collection.
† After deductions for reserves and unallocated charge-offs.

As individuals and others in the District drew down their demand deposits at weekly reporting banks, largely during the last 3 weeks of the period, member banks experienced a loss of funds. Country member banks met this demand by drawing down their deposits with banks in the larger cities. Thus, the weekly reporting banks experienced a twofold demand by depositors, that of individuals and businesses and that of banks, and were put under the necessity of drawing on their reserve balances at the Federal Reserve Bank and their own deposits at other banks. Reserves with the Federal Reserve Bank were drawn down by $29,749,000, while balances with other banks declined by $71,384,000.

SAVINGS DEPOSITS

City	Number of reporting banks	January 31, 1950: Number of savings depositors	January 31, 1950: Amount of savings deposits	Percentage change in savings deposits from: Jan. 31, 1949	Percentage change in savings deposits from: Dec. 31, 1949
Louisiana:					
Shreveport	3	43,522	$ 24,967,041	—0.5	0.3
Texas:					
Beaumont	3	12,073	5,957,389	—3.2	—1.7
Dallas	8	142,484	77,528,736	—0.9	—1.4
El Paso	2	31,061	22,683,241	0.9	—0.2
Fort Worth	4	43,910	35,581,593	1.7	—1.0
Galveston	4	22,301	21,017,170	—1.2	—0.7
Houston	8	94,739	75,058,228	1.9	—0.4
Lubbock	2	1,976	3,409,499	—5.5	—0.9
Port Arthur	2	5,816	4,435,576	—5.3	—0.1
San Antonio	5	40,972	43,901,043	—3.1	—1.2
Waco	3	10,003	10,257,733	2.1	—1.0
Wichita Falls	3	7,928	4,486,485	0.5	—0.8
All other	55	65,583	55,998,127	3.0	0.6
Total	102	522,368	$385,281,861	0.2	—0.6

The trend of gross demand deposits of all member banks in the District showed a further increase during January, continuing the uninterrupted growth which goes back as far as May 1949. With demand deposits reaching peak levels during the first 3 weeks in January and showing a tendency to level off or decline only in the fourth week, gross demand deposits of all member banks averaged $5,733,218,000 during the month as compared with $5,612,558,000 in December 1949, and $5,430,929,000 in January 1949. This growth in demand deposits in January was approximately twice as great at country banks as at Reserve city banks, while the growth in time deposits was somewhat greater at the latter institutions.

GROSS DEMAND AND TIME DEPOSITS OF MEMBER BANKS

Eleventh Federal Reserve District

(Averages of daily figures. In thousands of dollars)

Date	Combined total: Gross demand	Combined total: Time	Reserve city banks: Gross demand	Reserve city banks: Time	Country banks: Gross demand	Country banks: Time
January 1948	$5,319,138	$557,571	$2,527,706	$349,429	$2,791,432	$208,142
January 1949	5,430,929	607,167	2,612,025	390,682	2,818,904	216,485
September 1949	5,146,942	648,045	2,503,549	421,452	2,643,393	226,593
October 1949	5,278,671	652,043	2,573,396	421,811	2,705,275	230,232
November 1949	5,482,103	636,996	2,666,217	408,479	2,815,886	228,517
December 1949	5,612,558	648,676	2,712,547	417,067	2,900,011	231,609
January 1950	5,733,218	659,140	2,752,603	423,289	2,980,615	235,851

Bank debits as reported by banks in 24 cities of the District and the annual rate of turnover of deposits at these banks showed seasonal changes during January. Partly indicative of the diminished tempo of business and other economic activity during the month, as compared to December, bank debits declined 9 percent, although they remained slightly above the figure reported for the comparable month last year. The annual rate of deposit turnover declined from 14.8 in December to 13.3 in January, with the latter rate slightly below that for January 1949. Largest increases in bank debits were reported from Corpus Christi and Roswell; Corsicana reported the greatest decline, approximately 27 percent.

For the month ended February 15 the Federal Reserve Bank of Dallas reported decreases in all its principal accounts, with the exception of member bank discounts, which increased by $2,060,000. Decreases of $76,820,000 in member bank

BANK DEBITS, END-OF-MONTH DEPOSITS, AND ANNUAL RATE OF TURNOVER OF DEPOSITS

(Amounts in thousands of dollars)

City	Debits† January 1950	Debits† Pctg. change over Jan. 1949	Debits† Pctg. change over Dec. 1949	End-of-month deposits* Jan. 31, 1950	Annual rate of turnover Jan. 1950	Annual rate of turnover Jan. 1949	Annual rate of turnover Dec. 1949
Arizona:							
Tucson®	$ 58,883	— 4	5	$ 85,560	8.6	8.3	8.6
Louisiana:							
Monroe	40,573	7	1	46,491	10.6	10.2	10.9
Shreveport®	150,331	1	— 9	173,696	10.4	10.8	11.5
New Mexico:							
Roswell®	18,526	21	12	22,634	10.4	9.5	10.0
Texas:							
Abilene	39,877	24	1	40,059	11.6	9.1	11.8
Amarillo	104,164	18	3	96,636	13.1	12.5	12.8
Austin	147,712	— 4	— 1	111,519	16.2	17.4	16.7
Beaumont	99,296	— 2	—13	94,797	12.7	11.9	14.8
Corpus Christi®	91,663	17	13	89,314	12.8	11.8	12.0
Corsicana	10,609	—11	—27	20,989	6.1	6.8	8.4
Dallas	1,139,997	— #	—15	803,521	17.0	18.0	20.3
El Paso	164,453	23	3	129,188	15.1	13.3	15.2
Fort Worth	352,304	11	—11	307,805	13.7	12.8	15.4
Galveston	72,120	— 8	— 1	94,250	9.1	9.7	9.2
Houston	1,085,405	—10	—11	972,773	13.3	15.6	15.0
Laredo	17,203	— 9	— 2	21,799	9.5	10.2	9.7
Lubbock®	115,203	72	11	82,073	17.2	11.5	16.9
Port Arthur	33,994	— 5	— 7	40,787	10.1	10.8	10.9
San Angelo	34,653	20	— 7	44,171	9.5	8.6	10.7
San Antonio®	280,035	10	— 5	340,836	10.2	9.5	11.0
Texarkana‡	14,962	— 5	—11	23,542	7.6	8.0	8.4
Tyler	44,524	— 1	— 4	51,712	10.1	10.2	10.6
Waco	54,092	15	— 8	66,442	9.6	8.4	10.2
Wichita Falls	63,553	11	— 6	89,944	8.5	8.3	9.4
Total—24 cities	$4,234,132	1	— 9	$3,850,538	13.3	13.6	14.8

# Indicates change of less than one-half of 1 percent.
† Debits to deposit accounts except interbank accounts.
* Demand and time deposits at the end of the month include certified and officers' checks outstanding but exclude deposits to the credit of banks.
‡ This figure includes only one bank in Texarkana, Texas. Total debits for all banks in Texarkana, Texas-Arkansas, including two banks located in the Eighth District, amounted to $25,790.
® Figures for six centers in this District include debits of additional reporting banks beginning with the current month. Back figures have not been revised, but it is estimated that the totals reported for 1949 would be increased by approximately 8 percent in Tucson, 4 percent in Shreveport, 11 percent in Roswell, 13 percent in Corpus Christi, and 6 percent in Lubbock and San Antonio.

reserve deposits and of $26,983,000 in gold certificates were accompanied by decreases of $8,222,000 in United States Government securities; $7,380,000 in Federal Reserve notes in circulation; $6,512,000 in total earning assets; and a minor decline of $350,000 in foreign loans on gold. The abatement of seasonal requirements for currency and the decline in deposits at member banks account, respectively, for the shrinkage in notes in circulation and reserve deposits. Smaller holdings of United States Government securities reflect sales of Treasury bonds from the System portfolio.

CONDITION OF THE FEDERAL RESERVE BANK OF DALLAS

(In thousands of dollars)

Item	February 15, 1950	February 15, 1949	January 15, 1950
Total gold certificate reserves	$660,873	$702,540	$687,856
Discounts for member banks	2,060	1,000	0
Foreign loans on gold	2,041	6,064	2,391
U. S. Government securities	807,187	966,282	815,409
Total earning assets	811,288	973,346	817,800
Member bank reserve deposits	777,731	944,521	854,551
Federal Reserve notes in actual circulation	617,029	599,612	624,409

On February 14 the Secretary of the Treasury announced that the 1¼ percent certificates of indebtedness maturing on March 1, 1950, and the 1¼ percent certificates of indebtedness maturing on April 1, 1950, would be refunded into 1¼ percent Treasury notes maturing on July 1, 1951. At the same time it was also announced that the 2 percent Treasury bonds called earlier for redemption on March 15, 1950, and the 1⅜ percent Treasury notes maturing on April 1, 1950, would be refunded into a 1½ percent Treasury note maturing on March 15, 1955. This announcement, together with the previous announcement concerning the certificate maturity of February 1, is of particular significance.

The frequency with which the Treasury has been faced with the necessity of refinancing maturing issues as a result of the past practice of offering 12-month certificate issues has complicated considerably the System's problem with respect to monetary and credit management. Consequently, as the Treasury tends to shift its certificate maturities to a quarterly schedule and makes more frequent use of longer term notes having more widely spaced maturities, flexibility of the instruments of administration of the System's monetary and credit policy is improved and the probability of more successful effectuation of policy is strengthened.

Moreover, recent refunding announcements involve a slight firming in short-term rates and, in addition, tend to satisfy at least partially the demand for intermediate-term securities. The slight firming in short-term rates is evidenced by the fact that the weekly offering of Treasury bills dated February 16 sold at an average discount of 1.131 percent, while the January 1, 1951, certificate issue has sold fractionally below par. In addition, Government bonds have shown a tendency to drift downward in price from recent high levels.

NEW MEMBER BANK

The First State Bank, Pittsburg, Texas, became a member of the Federal Reserve System on February 24, 1950. This bank, which was organized in 1911, has capital of $50,000, surplus of $21,000, undivided profits of $14,000, and total resources of approximately $1,300,000. The officers are: R. A. Swain, President; R. Y. Lacy, Vice President; G. C. Hopkins, Active Vice President; and J. H. Bland, Cashier.

INDUSTRY

Nonagricultural employment in Texas, which had reached a new peak at 2,375,300 persons in December 1949, declined by less than the usual seasonal amount in January. In consequence, employment in January is estimated at a level about 4 percent higher than in January 1949, whereas the year-to-year gain in December 1949 was under 2 percent. The decline from December to January reflected primarily the release of temporary workers in retail trade and the seasonal decreases in employment in construction, transportation and allied services, and utilities, as well as in some of the service establishments. The decreases in these lines, however, were partially offset by stronger employment demands from certain manufacturing lines where workers are being added to turn out goods needed for spring delivery. The demand has been especially strong in plants manufacturing fine apparel and allied products as well as at cotton textile mills. Increased employment was also reported by certain durable goods manufacturers where output is not keeping pace with the strong consumer demand for the products.

VALUE OF CONSTRUCTION CONTRACTS AWARDED

(In thousands of dollars)

	January 1950	January 1949	December 1949
Eleventh District—total	$ 63,718	$ 44,349	$ 68,207
Residential	27,187	14,174	30,838
All other	36,531	30,175	37,369
United States*—total	730,855	482,984	929,030
Residential	343,501	159,128	419,051
All other	387,354	323,856	509,979

* 37 states east of the Rocky Mountains.
SOURCE: F. W. Dodge Corporation.

The value of construction contracts awarded in the Eleventh Federal Reserve District during January totaled

about $64,000,000, reflecting a decrease of 7 percent from the large December total, but an increase of 44 percent over the relatively low volume in January 1949. The decrease from the preceding month was very small in comparison with the 46 percent decline that occurred during the corresponding period a year earlier. The chief factor accounting for the large volume of construction contract awards in January this year was the substantial increase in awards for public works and public utilities. Awards for all types of construction other than residential decreased only 2 percent from December to January, and were 21 percent higher than in the corresponding month of 1949. Of particular note was the increase over a year ago of nearly 100 percent in awards for public works and public utilities, which in January this year constituted about one-fourth of total awards. Contract awards for nonresidential building were slightly lower than in either December or January 1949.

BUILDING PERMITS

City	January 1950 Number	January 1950 Valuation	Percentage change valuation from Jan. 1949	Percentage change valuation from Dec. 1949
Louisiana:				
Shreveport	300	$ 1,114,624	42	— 31
Texas:				
Abilene	187	847,323	70	149
Amarillo	262	1,358,587	316	4
Austin	452	3,108,450	75	70
Beaumont	318	1,847,376	151	240
Corpus Christi	388	1,776,334	99	15
Dallas	1,570	7,615,882	31	18
El Paso	262	1,343,054	79	— 55
Fort Worth	633	2,668,160	63	— 25
Galveston	142	572,373	— 12	86
Houston	821	10,948,435	182	134
Lubbock	272	1,465,916	472	— 40
Port Arthur	164	390,353	72	87
San Antonio	1,564	4,667,551	86	45
Waco	298	3,365,197	735	239
Wichita Falls	98	263,724	131	— 71
Total	7,731	$43,353,339	104	31

Residential awards, which amounted to $27,000,000 during January, exceeded the total in January last year by 92 percent, even though there was a drop of 12 percent from the total in December. The January awards for residential building, however, were only slightly below the high monthly average level registered during the last 7 months of 1949, and account for the major part of the increase in total awards over January 1949. As compared with a year ago, awards in virtually all types of residential construction were substantially larger than in the corresponding month of 1949. Awards for one-family dwellings being built for sale or rent accounted for approximately 70 percent of total residential awards in January this year and constituted the major increase in dollar volume as compared with January last year. The strength in the residential sector of the construction industry continued to reflect the development of numerous large projects, involving low-cost houses and apartments, stimulated primarily by the extensive use of credit on liberal terms under F.H.A. and G.I. loan arrangements.

The daily average production of crude petroleum during January amounted to 2,214,000 barrels in the District and 4,943,000 barrels in the United States. These figures represented cut-backs of about 60,000 barrels in each case from December and of 377,000 and 492,000 barrels, respectively, from January 1949. It will be observed that this District accounted for all of the reduction in the Nation's production from December and about three-fourths of the decrease from January 1949. Production of crude oil in the District is expected to continue through February at about the January rate, since the reduction of about 36,000 barrels per day in Texas allowables will be about offset by production from new wells completed during the month.

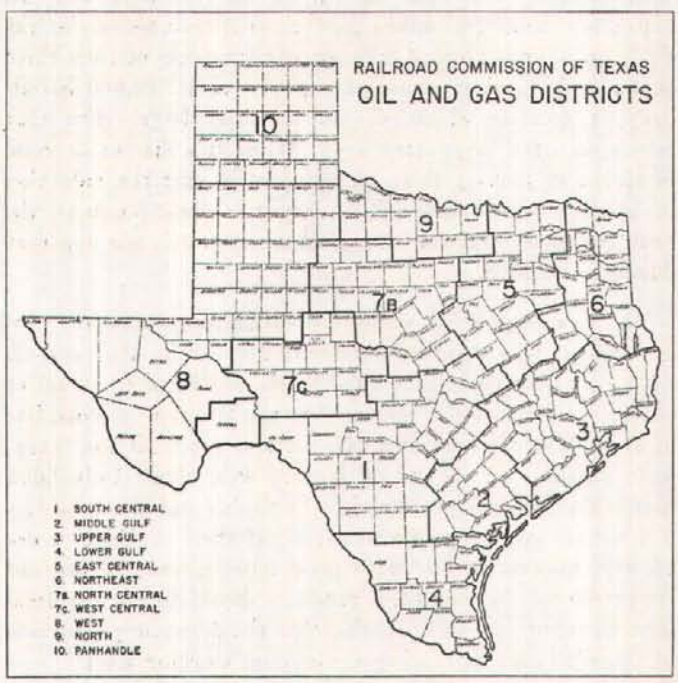
CRUDE OIL PRODUCTION

(Barrels)

Area	January 1950 Total production	January 1950 Daily avg. production	Increase or decrease in daily average production from January 1949	Increase or decrease in daily average production from December 1949
Texas:				
District				
1 South Central	812,850	26,221	—760	98
2 Middle Gulf	3,559,000	114,806	—47,433	— 4,665
3 Upper Gulf	11,649,000	375,774	—77,889	—11,308
4 Lower Gulf	5,606,550	180,857	—45,120	—8,675
5 East Central	1,014,200	32,716	—13,523	—1,542
6 Northeast	9,514,750	306,927	—98,712	—19,310
East Texas	6,869,550	221,598	—68,702	—16,463
Other fields	2,645,200	85,329	—30,010	—2,847
7b North Central	1,932,250	62,331	—413	784
7c West Central	1,457,000	47,000	—1,482	—4,337
8 West	17,781,050	573 582	—104,333	—12,586
9 North	4,423,450	142,692	3,842	1,998
10 Panhandle	2,864,450	92,402	3,171	7
Total Texas	60,614,550	1,955,308	—382,652	—59,536
New Mexico	4,009,250	129,331	—5,041	—632
North Louisiana	4,016,500	129,565	11,186	—72
Total Eleventh District	68,640,300	2,214,204	—376,507	—60,240
Outside Eleventh District	84,589,900	2,728,706	—115,831	—420
United States	153,230,200	4,942,910	—492,338	—60,660

SOURCE: Estimated from American Petroleum Institute weekly reports.

In contrast with the sharp increase that occurred during the last half of December 1949, the daily average crude oil runs to refinery stills in the United States have shown a persistent downward trend since the first of this year. The daily average for the full month of January totaled 5,499,000 barrels, representing an increase of 76,000 barrels from December, but a decrease of 191,000 barrels from the rate in January 1949. In this District, crude oil runs to refinery stills declined by



36,000 barrels daily as compared with December and 166,000 barrels from January last year, the latter constituting 87 percent of the decrease in the Nation. Refinery operations throughout the Nation continued to decline at a very sharp rate during the first half of February. During January, crude oil runs to refinery stills were about 556,000 barrels daily in excess of domestic crude oil production. This figure represents a slightly higher margin than in December and compares with 255,000 barrels daily in January 1949. This deficiency in domestic supplies during January this year was met in part

by drawing upon the above-ground stocks of crude oil at a rate of approximately 195,000 barrels daily and the remainder was supplied through imports of foreign crude oil, which in January were probably somewhat larger than in either December or January 1949. At the end of January, crude oil stocks in the Nation totaled 248,411,000 barrels, representing a decrease of 7,048,000 barrels from those on the corresponding date last year.

Inasmuch as refineries generally have increased the yield of gasoline from crude oil, production of gasoline during January was maintained at the December level and exceeded by a sizable amount the rate in January 1949, despite the substantially lower runs of crude oil to refinery stills. Since the demand for gasoline during January 1950 was not significantly different from that in January 1949, the higher production of gasoline has resulted in a sharp increase in gasoline stocks. At mid-February, gasoline stocks in the Nation totaled approximately 130,000,000 barrels, which is a new all-time peak. This amount exceeds by a slight margin the previous peak reached at the end of March 1949. If the current rate of increase in stocks should be maintained throughout the first quarter of this year, total stocks may reach approximately 150,000,000 barrels.

A significant development during January was the strong demand for kerosene and fuel oils, despite the unusually warm weather on the East Coast. This demand apparently was stimulated by the cold weather in the Midwest and the expanding use of fuel oils in the industrial areas because of the shortages of coal. During January refinery stocks of these three products declined at a rate of approximately 700,000 barrels daily, a decrease which was substantially larger than that which occurred in January 1949. While this sharper decrease in stocks in January this year reflected in part the reduction of 166,000 barrels daily in the output of these products, the principal factor was the stronger demand which was apparent during the month.

The new supply of crude oil—domestic production plus imports—is now running somewhat lower than the demand, with the result that the United States' stocks of crude oil at the end of January had decreased to the lowest level since late in 1948. Moreover, the over-all stocks of crude oil and petroleum products at the end of January were about 14,000,000 barrels smaller than at the end of December and about 4,145,000 barrels lower than a year earlier. If there should be a decline in imports in line with press reports, and the demand for petroleum and petroleum products should follow the usual seasonal trend, it seems probable that the domestic production of crude oil may be nearing a minimum working level.

CEMENT PRODUCTION, SHIPMENTS, AND STOCKS, IN TEXAS AND THE UNITED STATES, 1948-49

(Amounts in thousands of barrels)

	Production			Shipments			Stocks, end of month		
	1949	1948	Percent change	1949	1948	Percent change	1949	1948	Percent change
Texas:									
January...	1,090	935	16.6	879	909	— 3.3	641	543	18.0
February..	1,092	1,088	.4	834	678	23.0	899	953	— 5.7
March.....	1,152	1,044	10.3	1,235	1,220	1.2	1,177	1,105	6.5
April.....	1,261	1,181	6.8	1,220	1,288	— 5.3	857	670	27.9
May.....	1,242	1,095	13.4	1,371	1,182	16.0	727	583	24.7
June.....	1,262	1,142	10.5	1,294	1,231	5.1	695	495	40.4
July.....	1,287	1,208	6.5	1,162	1,279	— 9.2	820	424	93.3
August....	1,344	1,158	16.1	1,513	1,198	12.6	650	385	68.8
September.	1,315	1,196	9.9	1,426	1,194	19.4	539	387	39.2
October...	1,307	1,178	11.0	1,308	1,221	7.1	538	344	56.4
November.	1,272	1,167	9.0	1,401	1,142	20.7	410	370	10.8
December.	1,357	1,307	3.8	1,129	1,247	— 9.5	638	430	48.4
Total....	14,981	13,699	9.4	14,772	13,789	7.1			
United States:									
January...	15,261	14,541	5.0	8,756	9,205	— 4.9	17,591	15,336	14.7
February..	13,751	13,347	3.0	9,134	8,338	9.6	22,206	20,340	9.2
March.....	15,439	14,502	6.5	14,539	13,957	4.2	16,600	15,439	7.5
April.....	17,682	16,041	10.2	17,779	19,047	— 6.7	22,977	17,880	28.5
May.....	18,622	17,740	5.0	19,426	19,544	— .6	22,170	16,086	37.8
June.....	18,279	17,757	2.9	20,667	21,426	— 3.5	19,784	12,422	59.3
July.....	18,856	18,721	.7	19,321	20,994	— 8.0	19,313	10,149	90.3
August....	18,715	18,961	— 1.3	23,633	20,705	14.1	14,390	8,355	72.2
September.	19,181	18,605	3.1	22,763	19,938	14.2	10,797	7,061	52.9
October...	19,069	19,349	— 1.4	21,277	20,324	4.7	8,569	6,094	40.6
November.	18,040	18,435	— 2.1	17,269	18,110	— 4.6	9,341	6,399	46.0
December.	16,936	17,425	— 2.8	11,606	12,741	— 8.9	14,671	11,084	32.4
Total....	209,831	205,424	2.1	206,170	204,329	.9			

SOURCE: United States Bureau of Mines.

The production of cement in Texas during 1949 followed an irregular upward trend, and reached a peak in December at 1,357,000 barrels. This amount was 85,000 barrels larger than in November and 50,000 barrels higher than in December 1948. Total production for the year aggregated 14,981,000 barrels, which was approximately 9 percent greater than in 1948. The production record in Texas compares with an increase of 2 percent in the United States. Shipments of cement from Texas mills during December 1949 were down substantially from November and were somewhat smaller than in December 1948. For the year 1949, shipments of cement, which totaled 14,772,000 barrels, were 209,000 barrels lower than production, but exceeded the shipments during 1948 by about 7 percent. At the end of the year, stocks of cement at Texas mills totaled 638,000 barrels, or the equivalent of about one-half month's production. This amount, however, was 48 percent higher than the 430,000 barrels on hand at the end of 1948. In the United States, year-end stocks of cement at mills totaled 14,671,000 barrels, the equivalent of nearly 1 month's production, and were 32 percent higher than at the end of 1948.

DOMESTIC CONSUMPTION AND STOCKS OF COTTON

(Bales)

	January* 1950	January 1949	December 1949	August 1 to January 31	
				This season*	Last season
Consumption at:					
Texas mills.....	12,286	12,715	11,739	76,259	76,813
United States mills.....	734,186	674,283	734,013	4,339,725	4,199,792
U. S. Stocks—end of month:					
In consuming establishments..	1,749,946	1,626,584	1,650,222	.....	.....
Public storage and compresses.	9,974,867	8,240,107	10,682,934	.....	.....

* Based on January 28 data.