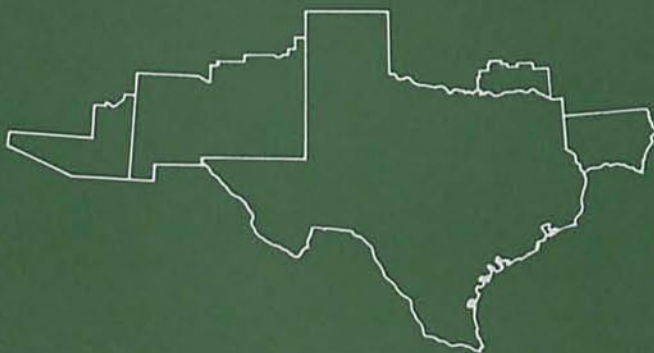


business review



june 1967

**FEDERAL RESERVE
BANK OF DALLAS**

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copper: **an ancient metal** **in a modern turmoil**

Copper, a reddish, nonferrous metal, has been used by man for perhaps 20,000 years and, today, remains a key industrial material. Of the metals, copper was the most adaptable for man's early industrial advance. Copper ore deposits were widely scattered throughout the world, and copper could easily be alloyed with tin or zinc to form either bronze or brass. In the ancient world, copper and bronze were used for tools, utensils, and ornaments. Copper is very malleable, is corrosion-resistant, and has enough strength for minor structural purposes. Undoubtedly, the quality of greatest importance to modern man is the electrical conductivity of the metal. It is the second-best metallic conductor, having 94 percent of the conducting qualities of silver, the best electrical conductor.

The electrical industry is presently the greatest user of pure copper. The metal is used extensively for electrical transmission lines, the windings of electrical motors for industrial uses and home appliances, transformers, and the ordinary household extension cord. Other modern uses of the metal involve the copper alloys of bronze and brass. Products made from these alloys include marine hardware, automobile parts (including radiators), ammunition, pipes, bolts, jewelry, and architectural trim.

During the past few years, copper has attracted wide attention. Sharply higher demand in industrialized foreign nations, as well as the United States — reflecting, in part, its increasing involvement in Viet-Nam — began to outstrip available supplies of the metal. A shortage developed in spite of the fact that, between 1964

and 1966, the world's production of primary refined copper increased 26 percent, with output rising 14 percent in the United States. In contrast, copper consumption advanced approximately 28 percent in the United States. As a result of the imbalance between the supply of and the demand for copper, world copper prices began to rise in early 1964. In the ensuing months, copper markets became unsettled as a result of strikes and other disruptions in major producing areas and because of policy actions by major producing and consuming nations.

major producing nations

Despite the fact that copper-bearing ores are found in many parts of the world, relatively few countries have very large reserves. These countries — Chile, the Soviet Union, and the United States — have over 50 percent of the known reserves; and Zambia, the Congo, Peru, Poland, and Canada account for another 40 percent of proved copper reserves. Estimated world copper reserves in the mid-1960's are approximately double those of a generation ago.

The most important copper mine in the world, Chuquicamata, is in northern Chile and is operated by a North American company. The arid nature of the region in which the mine is located has prevented many copper-bearing ores from being washed away by rain. Between 1915, the year of the mine's opening, and 1960, more than 6,800,000 tons of the metal were extracted. Exotica, a mine near Chuquicamata which is to be developed as a joint venture between the company and the Chilean Govern-

ment, has rich potential and will contribute further to the importance of Chile as a major producer. Canada, with mines located in Quebec and Ontario, is another major producer in the Western Hemisphere, although its reserves are far smaller than those in other Western Hemisphere countries, such as the United States, Chile, and Peru.

Africa boasts a number of copper mines in the southern portion of the continent. The bulk of these mines are close to the Congolese-Zambian border and comprise some of the richest deposits in the world. The Congolese mines have been nationalized; however, the Zambian mines are controlled by European and American interests. South Africa has three major producing mines, and Rhodesia has one.

There are other major mines scattered throughout the world. The Scandinavian countries and Eastern Europe have some, along with countries such as the Philippines and Australia. Japan, although comparatively limited in natural resources in relation to its industrial base, has numerous copper mines. Despite this fact, Japan was the sixth largest buyer of American-refined copper in 1966.

smelting and refining

Copper ore is mined from either an open-pit or an underground mine, with the decision as to which method will be used primarily depending on the depth, size, and shape of the ore body; nevertheless, other factors come into consideration, such as topography, availability of skilled labor, and climate. The two largest producing mines in the world, Chuquibambilla in Chile and the Bingham Pit in Utah, are open-pits. After the ore has been mined, it is worked into a concentrate at the mine site to increase the copper content so that the ore will be more economical to transport and may be handled by the smelter. The waste material is termed "tailings." This process is conducted at the mine, and the concentrate is sent to the smelter.

Metal refining is an example of a raw materials-oriented industry. Though the concentrator will be at the mine site, the smelter does not necessarily have to be there. Unless relatively cheap water transportation is available for moving the ore concentrate, the smelter will typically be close to the mine. The smelting of the copper ore requires several steps, and the end product, called blister copper, is a relatively impure form

U.S. FOREIGN TRADE IN COPPER

(In short tons)

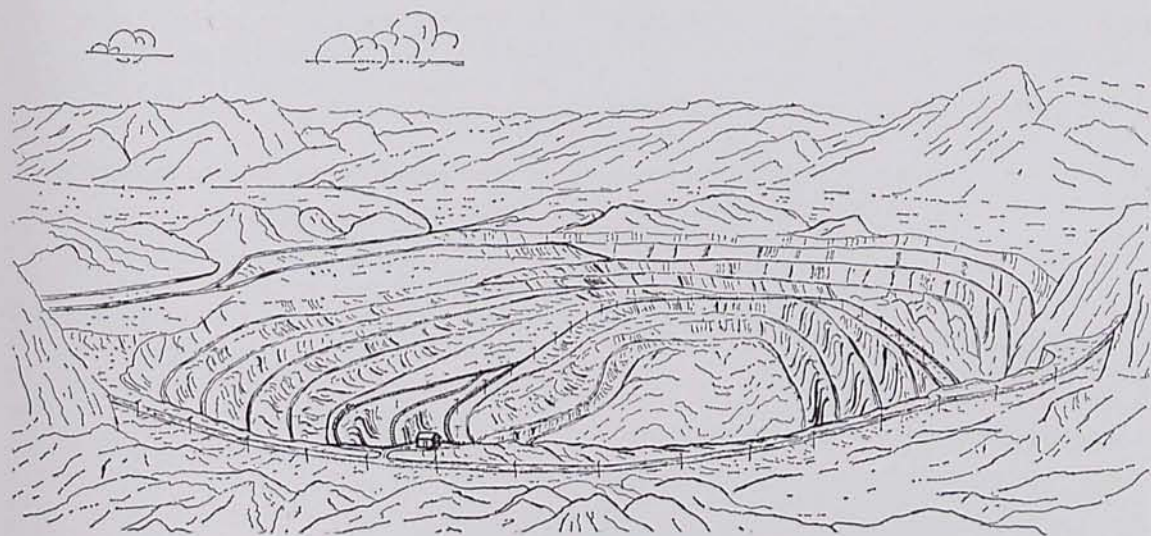
Country	Exports ¹		Country	Imports ²	
	1966	1964		1966	1964
Italy	52,160	55,454	Chile	206,938	258,943
Brazil	39,171	3,913	Peru	126,631	112,410
United Kingdom	39,122	54,929	Canada	116,988	110,626
France	34,331	34,608	South Africa	50,652	43,875
West Germany	31,465	58,806	Philippines	21,057	9,487
Japan	24,444	20,621	United Kingdom	15,158	2,520
India	11,718	47,219	Mexico	11,191	14,073
Canada	10,349	7,908	West Germany	8,133	268
Argentina	6,552	5,738	Uganda	5,630	n.a.
Netherlands	5,022	5,394	Belgium-Luxembourg	3,642	2,045
Sweden	4,455	3,868	Kenya	2,832	n.a.
Norway	3,692	4,261	Bolivia	2,462	1,492
Other	10,590	13,511	Other	12,150	30,325
Total	273,071	316,230	Total	583,464	586,064

¹ Refined copper.

² Copper content.

n.a. — Not available.

SOURCE: U.S. Bureau of Mines.



AN ARIZONA OPEN-PIT COPPER MINE

of the metal. Therefore, a refining process subsequently must be undertaken; but as the impurities comprise no more than 5 percent of the blister copper, the refining process is often located some distance from the source of the ore.

In the United States, the copper refining industry has been oriented toward the industrial areas because of the availability of relatively inexpensive power, proximity to markets, and lack of difference in transportation costs either before or after the refining process. Electrolysis is the modern method for refining copper, a method requiring large quantities of electricity. The refined copper, in ingots, is then sent to metal fabricators to be formed into the end products utilized by industry.

The copper industry is dominated by large vertically integrated companies. Through its subsidiaries, a single firm will mine, smelt, and fabricate the metal into copper products (such as brass and bronze) or into pure copper items (such as wire and cable). In 1965, two firms mined and smelted over 50 percent of domestic ores, and they produced about 40 percent of the copper refined in the United States. The third and fourth largest copper producers refined

about 20 percent and 17 percent, respectively, of American-produced copper. Thus, the four largest producers refined approximately 77 percent of the Nation's copper.

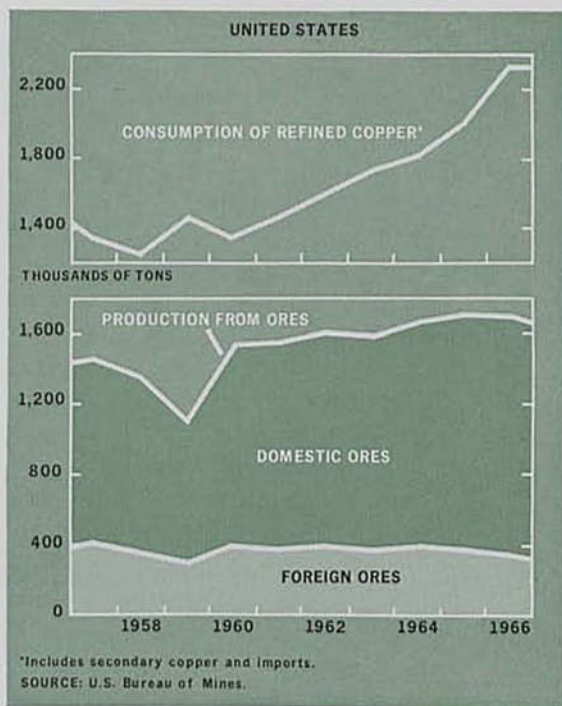
the u.s. copper industry

The history of copper in the United States predates the Revolution; and by 1883 the Nation had become the world's leader in copper production, mainly due to increased output from the Midwest. With the development of the electrical industry, copper acquired new importance. In the mid-19th century, the exploitation of rich ore deposits on the northern peninsula of Michigan commenced; and by the early 1880's, these deposits were contributing one-half of the domestic output. However, sites in Montana and then Arizona began to be worked in the mid-1880's and offered a serious challenge to Michigan-produced copper. Despite the initiation of a price war by the Michigan interests, production by mines around Butte, Montana, soon exceeded the Michigan output. In 1907 the mines at Bingham, Utah, were brought into production. Prior to World War I, the copper industry had developed to such an extent that the United States had become an important ex-

porter of copper to European countries, especially Germany.

Within the United States, copper mining currently is concentrated in a few western states. Arizona leads, followed by Utah, Montana, and New Mexico. Utah has the distinction of possessing the copper mine that is the largest in the United States and the second largest in the world. Located near Bingham and called the Bingham Pit, this mine presently is yielding about 90,000 tons of ore per day.

COPPER CONSUMPTION AND PRODUCTION



As might be expected, there was a significant increase in domestic output of copper during both World Wars. In addition, heavy imports of the metal were necessary, although the United States traditionally had been an exporter of the metal. Since World War II, the Nation has remained a net importer. Currently, despite extensive copper mining and proved reserves, the United States must import about 25 percent of

its copper. Copper derived from domestic ores supplies about 50 percent of the current needs, and secondary copper, derived from scrap, supplies about 25 percent.

the southwest's copper industry

In the Southwest, the production of copper is by far the largest metal industry. During each successive decade, a greater proportion of American copper has been mined in the region; at the present time, 60 percent of it is produced by Arizona and New Mexico. In 1966 the two states produced copper worth over half a billion dollars; output in Arizona accounted for 87 percent and that in New Mexico represented 13 percent of this total. Within the two states, about 21,000 persons currently are engaged in metal mining activities, with 17,000 of these in Arizona. In the Southwest, copper mining employment has been increasing; in contrast, petroleum mining employment has steadily declined.

Arizona is one of the richest copper-producing areas in the world. The names of such towns as Bisbee, Globe, and Miami are synonymous with copper. Together, the Lavender Pit and Copper Queen Mines near Bisbee, in southeastern Arizona, have produced 2,500,000 tons of copper since 1880. The Morenci Mine, in the same area, is the major producer in the State and the second largest in the United States. Some mines have romantic names, such as the Bagdad Mine, Christmas Mine, Inspiration Mine, and Silver Bell Mine.

Besides the 16 major mines in Arizona, the Southwest can boast of the Chino Mine in New Mexico, one of the world's important sources of the metal. At the Chino Mine, the production of copper is vertically integrated, in that the concentrator, smelter, and refinery are all located close to the mine site. The Miser's Chest group of mines, not far from Lordsburg, New Mexico, is considerably smaller and, at one time, closed because of low copper prices; however, these mines are currently in production. The Tyrone

deposits, near Silver City, will be developed into an important source of copper in the immediate future, and the concentrated ore will be sent to Douglas, Arizona, for smelting.

Many primary copper smelters are located in the Southwest, although relatively few refineries are located in the region. Among the world's largest smelters is the Douglas Reduction Works at Douglas, Arizona, the annual capacity of which is rated at 1,250,000 tons of charge (the amount of ore placed in the furnace). Another huge smelter at Morenci, Arizona, has an annual capacity of 900,000 tons; there are half a dozen other large smelters within the State. New Mexico has one large smelter at Hurley, with a capacity rated at 400,000 tons annually.

Copper is both smelted and refined at El Paso, Texas, with the smelter having an annual capacity of 420,000 tons. The world's largest copper refinery is located at El Paso. The annual capacity at this plant for both the electrolytic refinery and the fire refinery, which employs a somewhat older method of refining, is

325,000 tons. There is also an electrolytic refinery at Inspiration, Arizona, and a fire refinery is situated at Hurley, New Mexico.

There are no primary copper fabricators in the Southwest, although one is projected for Bagdad, Arizona. Virtually all of the Nation's copper fabricators are located in the Northeast, Upper Midwest, or Far West. Copper consumption in the Southwest primarily consists of purchases of consumer and industrial goods containing copper fabricated in other regions.

current price situation

From the early 1960's until the beginning of 1964, the price of copper remained relatively stable at 30 cents per pound. Moreover, prices quoted in New York and those on the London Metal Exchange corresponded closely. In February 1964, however, the price on the London Metal Exchange began to rise and was soon followed by the prices quoted in New York. The prices in London and New York did not rise similarly. Between January and October 1964, the price in London more than doubled to 61 cents per pound; in contrast, the price of copper on the New York market increased 10 percent to reach 34 cents per pound. During 1965 and 1966, prices rose slowly in New York but fluctuated widely in the London market, with its low prices remaining well above the New York price.

The price stability characteristic of the early 1960's may have stemmed from the slight up-trend in the consumption of copper. By 1964, sharply mounting demand for the metal and a limited supply had created a near-explosive situation in copper prices. Strikes in the copper industry, along with large purchases by the Soviet Union and India that year, seriously depleted supplies at a time when the demand for copper was growing rapidly.

In November 1965, with the price on the London Metal Exchange about twice as high as the New York price, the price in New York rose

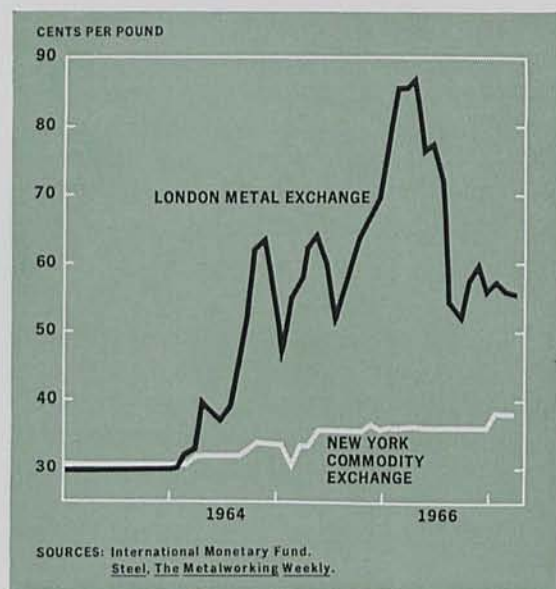
THE 20 LEADING COPPER-PRODUCING MINES IN THE UNITED STATES, 1965

Mine	State	Source of copper
Utah Copper (Bingham Pit)	Utah	Copper, gold ores
Morenci	Arizona	Copper, gold-silver ores
Butte Mines ¹	Montana	Copper, zinc ores
Chino	New Mexico	Copper ore
San Manuel	Arizona	Copper ore
Ray Pit	Arizona	Copper ore
New Cornelia	Arizona	Copper, gold-silver ores
Copper Queen-Lavender Pit	Arizona	Copper, silver ores
White Pine	Michigan	Copper ore
Mission	Arizona	Copper ore
Inspiration	Arizona	Copper ore
Yerington	Nevada	Copper ore
Liberty Pit	Nevada	Copper ore
Esperanza	Arizona	Copper ore
Silver Bell	Arizona	Copper ore
Bagdad	Arizona	Copper ore
Copper Cities	Arizona	Copper ore
Magma	Arizona	Copper, gold-silver ores
Mineral Park	Arizona	Copper ore
Pima	Arizona	Copper ore

¹ Includes Berkeley.
SOURCE: U.S. Bureau of Mines.

2 cents to a level of 38 cents per pound. In order to reduce pressure on domestic copper prices, the Federal Government released 200,000 tons of stockpiled copper. Other governmental actions which were taken included a limitation on the export of copper, repeal of the import duty on copper, and the increase in margin requirements for trading in copper futures on the New York Commodity Exchange. In response to these actions, prices receded to 36 cents a pound again at the end of November. As a result, two markets in copper, with widely different prices, developed — the American and the world markets. In early 1967, the "Big Three" producers in the domestic copper industry raised the price to 38 cents per pound. By this time, the difference in prices on the New York market and the London market had narrowed, but London prices were still approximately 55 cents per pound.

SPOT PRICES FOR COPPER



In the 3 years 1964-66, national governments pursued policies which, though consistent with their own goals, contributed to instability in the world copper market. During the period, the

world's demand for copper showed a dramatic rise, and this was compounded by American requirements necessitated by the Viet-Nam war. After copper markets began to strengthen, Chile ordered the largest North American producer to boost the price on copper mined in that country. As a result of a labor dispute in the copper industry and the consequent loss of foreign exchange, the Chileans raised the price again in the spring of 1966; a few months later, the price was raised to 70 cents. However, this level could not be maintained, and the Chileans lowered the price to the one prevailing on the London Metal Exchange. In order to assist in maintaining stability in the North American copper market, the U.S. Government granted Chile a low-interest loan in return for 100,000 tons of copper at 36 cents per pound. Canada, the third largest producer in the Western Hemisphere, has followed a dual pricing system, as one price is based on the U.S. market and the other on the world market.

The copper policies of African producers have been under continual change. In 1966 the Congolese nationalized the African properties of the Belgian company which had been engaged in copper production in the country for many years. Following the nationalization of foreign mining concessions, the Congo has been faced with difficulties, which include the keeping of technical personnel. When prices became erratic in the mid-1960's, the Congolese mining concern announced that it would adjust its price frequently to the London spot price.

The Zambian producers decided to base their pricing policies on the London Metal Exchange's forward price for copper. Furthermore, Zambia soon became involved in a dispute with Rhodesia over payments in regard to the shipment of copper over the Rhodesian railroad, and numerous strikes at the Zambian mines also reduced the world's tightening supply of copper. At the beginning of 1967, Zambia's production of copper had been noticeably cur-

tailed as a result of transportation difficulties and a coal shortage.

As the price of copper rose, fabricators turned, in some instances, to plastic, steel, and aluminum substitutes. High copper prices have, on occasion, induced a shift to substitutes whenever the costs of retooling manufacturing plants could be justified. Currently, some copper industry spokesmen believe that substitutes pose a real problem and that markets may be lost permanently to them. Conversely, others suggest that substitutes create an inferior product and these markets can be recaptured by copper as prices become more competitive.

The turmoil in which copper has become embroiled involves basically three factors. Perhaps foremost among these has been the rapidly surging demand for the metal, and the second one is the time lag involved in producing additional copper supplies. The third factor has been the manner in which national governments have attempted to influence the price of copper. The U.S. Government has sought to maintain rela-

tively stable prices for the metal as a part of its "wage and price guidelines" during a period when price pressures have surged on a broad front. On the other hand, the producing countries in underdeveloped areas of the world prefer high prices for their major exports as a means of adding to foreign exchange earnings. Moreover, the producing companies, being basically profit-motivated, have found it difficult to bring marginal mines into production in the face of low copper prices.

All of the major world producers, including American producers, are planning greatly enlarged output, and total capacity by 1970 is scheduled to expand 22 percent over the 1966 figure. Southwestern producers plan added output at virtually all major copper mines, along with increased smelting activity. It is anticipated that the demand for copper will increase steadily throughout the century, as many of the underdeveloped nations undertake industrialization and the needs of the highly industrialized countries continue to grow.

RAYNAL HAMMELTON

recent changes in manufacturing in the southwestern states

Three of the salient characteristics of recent structural changes in manufacturing in the southwestern states of Arizona, Louisiana, New Mexico, Oklahoma, and Texas are: (1) The total value added by manufacturing between 1958 and 1963 increased more rapidly in the five states than in the United States as a whole; (2) manufacturing in these states became more labor-intensive — utilized a greater proportion of labor to attain a given output — than was the case in the Nation; and (3) the concentration of southwestern manufacturing employment in the major standard metropolitan statistical areas (those with 40,000 or more manufacturing employees) did not show any decisive increase.

Total value added by manufacture¹ in the five southwestern states advanced 40.3 percent between the two census years of 1958 and 1963 to reach a total of \$10.8 billion. Slightly more than one-fifth of this advance is attributable to increased employment, with higher value added per employee contributing the remaining four-

fifths.² The higher value added per employee is due to both the improved quality of the work force and the effect of new capital investment, which amounted to \$4.2 billion during this period.

In comparison, for the United States as a whole, the increased amount of labor accounted for only 17 percent of the rise of 35.1 percent in total value added by manufacture. While the total value added in the five states showed a somewhat greater percentage increase than that for the United States, a relatively greater proportion of labor was required to achieve the increase in the region. This fact suggests that the industrial structure in the southwestern area tended, in the aggregate, to become slightly more labor-intensive.

The extent to which the value added per employee changes within an industry indicates the change in employee productivity in that industry. The value added per employee may be enhanced by better organization and supervision, through an improvement in the quality of the labor force, by an increase in the quantity or quality of capital which is combined with a given labor force, or by some combination of these factors. On the other hand, the value added per employee may decrease because of one or more factors, such as a deterioration in the capability of the management or the work force or a decrease in the relative amount or capacity of available equipment.

¹ Value added by manufacture, as defined by the U.S. Bureau of the Census, represents the value of shipments of manufactured products, plus receipts for services rendered, plus the value added from merchandising operations, plus the change in inventories between the beginning and the end of the year; less the cost of materials, supplies and containers, fuel, purchased electric energy, and contract work. Manufacturing value added has been chosen as a measure of the industrial structure of the Southwest because it shows the net effects of industrial activity in the region and reflects price movements, as well as changes in output. Employment provides a less meaningful indicator of industrial structure because employment measures only one of many inputs of an industry and no industry outputs.

² See technical note A on page 14 for a description of the computational procedure.

While other factors, such as the supply and demand relationship in the local labor market and local institutional characteristics, are influential in determining the amount of payroll per employee in manufacturing, a very close relationship exists between this amount and the value added per employee. The value added, as well as payroll, per employee in a particular labor market area is dependent upon the composition of the area's industry with respect to the proportion of industries having relatively high or relatively low values added per employee. Over a period of time, changes in these averages reflect both the change in employee productivity and the change in the industrial composition.

diversity among states

The growth of value added by manufacturing and of manufacturing employment has shown considerable diversity among the five states, as well as among areas within each state. Aggregative data for a state may obscure the diverse movements in payrolls and value added that exist for individual areas. Nevertheless, aggregation is helpful by initially providing a comprehensive perspective of major changes that have developed in the five states.

Texas predominated in total manufacturing employment in 1963 and accounted for 62.4 percent of the southwestern total, followed by

Louisiana with 16.9 percent. Manufacturing employment in the other three states was considerably lower, with the proportion in New Mexico being the smallest. On the other hand, the largest gain in such employment between 1958 and 1963, 40.6 percent, took place in Arizona. Increases for the other states ranged from 1.8 percent in Louisiana to 11.5 percent in New Mexico.

The exceptional increase in the number of manufacturing workers in Arizona resulted, in large part, from the substantial expansion of the electrical machinery industry and from the fact that the employment rise was from a comparatively small base. The type of industrial development that has occurred in Arizona is characterized by its comparatively labor-intensive nature. This is evinced by the relatively slow growth in the value added per employee for Arizona as compared with the increase for the five states combined.

The considerable differential between the amount of payroll per employee in Arizona and that in each of the other four states is explainable, in part, by the need to attract new employees for Arizona's rapidly growing electrical and nonelectrical machinery industries and, in part, by the predominance of the machinery and aerospace industries, both of which are relatively well-paying industries, in the State. There

NEW CAPITAL EXPENDITURES AND SOUTHWESTERN MANUFACTURING

Item	Arizona	Louisiana	New Mexico	Oklahoma	Texas	FIVE STATES
New capital expenditures, 1959-63 (Thousands of dollars).....	223,605	802,175	75,905	299,058	2,750,204	4,150,947
Increase in number of manufacturing employees, 1963 over 1958.....	16,476	2,567	1,584	6,104	36,211	62,942
New capital expenditures per additional employee (Dollars).....	13,572	312,495	47,920	48,994	75,949	65,949
Percent increase in value added per employee, 1963 over 1958.....	23.8	31.5	24.6	26.6	30.6	29.6
Ranking of State according to:						
New capital expenditures per additional employee.....	5	1	4	3	2	—
Percent increase in value added per employee.....	5	1	4	3	2	—

SOURCE: U.S. Department of Commerce.

is no great disparity among the magnitudes of payrolls per employee of the other four states, and the order of importance of these average payrolls is roughly comparable to that of the value added per employee.

As compared with the other southwestern states, Louisiana experienced the smallest percentage gain in manufacturing employment but had the largest amount of new capital investment relative to its employment increase. Thus, the overall expansion of output in Louisiana between 1958 and 1963 was quite capital-intensive since most of the industries giving the major impetus to this expansion were of a relatively capital-intensive type. Such industries in-

cluded producers of chemicals, petroleum, paper, and transportation equipment. The effect of the more intensive utilization of capital relative to labor is shown in the comparatively greater proportionate gain in the value added per employee in Louisiana than was the case for the other four states.

There is an important causal relationship between an increase in the value added per employee and the new capital investment per additional employee, a relationship readily demonstrated during the 1959-63 period. The ranking—from high to low—of the southwestern states on the basis of average capital investment corresponds exactly with the ranking of these

MANUFACTURING EMPLOYMENT, PAYROLLS, AND VALUE ADDED

Area	Manufacturing employment					Payroll per employee in 1963 (Dollars)	Value added per employee			Index of labor intensity
	Number of employees		As percent of area total		Percent change, 1963 from 1958		Dollar amount		Percent change	
	1963	1958	1963	1958			1963	1958		
Arizona	57,039	40,563	100.0	100.0	40.6	6,104	10,995	8,879	23.8	.532
Major SMSA (Phoenix)	40,970	25,794	71.8	63.6	58.8	6,194	10,632	8,828	20.4	.569
Minor SMSA (Tucson)	8,263	8,153	14.5	20.1	1.4	6,145	10,217	10,292	—7	.505
Non-SMSA's	7,806	6,616	13.7	16.3	18.0	5,588	13,721	7,339	87.0	.387
Louisiana	139,511	136,944	100.0	100.0	1.8	5,515	13,731	10,439	31.5	.436
Major SMSA (New Orleans)	49,051	46,922	35.2	34.3	4.5	5,768	12,606	10,118	24.6	.456
Minor SMSA's	39,741	43,692	28.5	31.9	—9.1	6,342	17,272	13,145	31.4	.412
Non-SMSA's	50,719	46,330	36.3	33.8	9.5	4,622	12,043	8,212	46.6	.428
New Mexico	15,324	13,740	100.0	100.0	11.5	5,352	9,765	7,834	24.6	.472
Minor SMSA (Albuquerque)	8,157	6,677	53.2	48.6	22.2	5,804	9,446	7,459	26.6	.491
Non-SMSA's	7,167	7,063	46.8	51.4	1.5	4,838	10,128	8,070	25.5	.447
Oklahoma	97,691	91,587	100.0	100.0	6.7	5,647	10,019	7,916	26.6	.457
Minor SMSA's	58,559	53,806	59.9	58.7	8.8	5,683	10,295	7,691	33.8	.448
Non-SMSA's	39,132	37,781	40.1	41.3	3.6	5,594	9,606	8,236	16.6	.470
Texas	513,802	477,591	100.0	100.0	7.6	5,626	13,792	10,564	30.6	.452
Major SMSA's	268,636	255,613	52.3	53.5	5.1	6,176	13,754	10,655	29.1	.449
Dallas	109,517	95,173	21.3	19.9	15.1	5,631	10,866	8,850	22.8	.484
Fort Worth	50,534	55,899	9.8	11.7	—9.6	6,376	11,605	9,361	24.0	.422
Houston	108,585	104,541	21.2	21.9	3.9	6,633	17,668	12,991	36.0	.433
Minor SMSA's	143,075	130,021	27.8	27.2	10.0	5,367	14,451	10,890	32.7	.453
Non-SMSA's	102,091	91,957	19.9	19.3	11.0	4,542	12,966	9,848	31.7	.457
FIVE STATES	823,367	760,425	100.0	100.0	8.3	5,368	13,065	10,083	29.6	.455
Major SMSA's	358,657	328,329	43.6	43.2	9.2	6,123	13,241	10,435	26.9	.462
Minor SMSA's	257,795	242,349	31.3	31.9	6.4	5,628	13,648	10,472	30.3	.450
Non-SMSA's	206,915	189,747	25.1	24.9	9.0	4,810	12,035	8,978	34.0	.448

¹ Values above .500 indicate increasing labor intensity, while those below .500 indicate decreasing labor intensity.
NOTE.—A "minor" SMSA is a standard metropolitan statistical area with fewer than 40,000 manufacturing employees.
SOURCE: U.S. Department of Commerce.

states according to percentage increases in value added per employee during the period.

Both the comparative amounts and the changes in the amounts of value added per employee suggest the relative improvement in labor productivity in the states and in the individual labor markets. Among the five states, variations occurred in both the actual value added per employee and the percentage change in that value, particularly the latter. Although the value added per employee increased in each state, the difference between the highest and the lowest value widened between 1958 and 1963.

While there is no distinct association between the value added per employee and the percentage increase in that value between 1958 and 1963, Texas and Louisiana, the southwestern states with the highest amounts in 1958, also experienced the greatest percentage gains over the period. These increases in the two states reflect the growth of capital-intensive industries (such as petrochemicals), as well as other less capital-intensive but technologically oriented industries (such as electronics).

The comparison between the degree of change in the value added per employee and the degree of change in employment within a labor market area indicates the change in the intensity with which labor is utilized in that labor market. A simple index can be devised to reveal comparative changes in labor intensity in the labor markets between 1958 and 1963. An index value of greater than .500 signifies increasing labor intensity, while a lower index value has the opposite meaning.³

Indexes of labor intensity for the southwestern states are shown in the accompanying table. Each state except Arizona had become less labor-intensive by 1963. Louisiana, in particular, became less labor-intensive — a develop-

ment in keeping with the expansion in its petrochemical industry. Arizona experienced a very strong tendency toward a greater degree of labor intensity, a concomitant of the State's rapidly growing electronics industry and the heavier concentration of labor required for the industry's increased number of firms.

changes among labor markets

In addition to the changes among the five states, interesting contrasts have evolved among the major SMSA's, minor SMSA's, and non-metropolitan areas of the five states. A major SMSA is a metropolitan area having manufacturing employment of 40,000 persons or more.

Considerable divergencies characterized the comparative employment growth of individual metropolitan areas and nonmetropolitan areas in the five states. The evidence is not very decisive as to whether manufacturing employment in the Southwest is becoming more or less concentrated in the major SMSA's. Factory employment in the major SMSA's represented 43.2 percent of the five-state total in 1958 and 43.6 percent in 1963. The proportion of manufacturing employment in the nonmetropolitan areas increased from 24.9 percent to 25.1 percent. Employment in the minor SMSA's declined slightly from 31.9 percent in 1958 to 31.3 percent in 1963, suggesting that the minor SMSA's have not shared correspondingly in the employment growth.

Among the major SMSA's, the Phoenix area displayed outstanding growth in manufacturing employment, while the Dallas, Fort Worth, and Houston areas combined showed an increase of only 5.1 percent. The gain for the New Orleans SMSA was even smaller. In the case of the minor SMSA's, only in the Albuquerque area did employment move ahead at a substantial pace. The other minor metropolitan areas experienced changes in manufacturing employment of less than 10 percent in either direction.

³ See technical note B for a detailed explanation of this index.

In both Texas and Louisiana, non-SMSA's displayed greater growth in the number of manufacturing employees than did the metropolitan areas, while the reverse was true in each of the other three states — i.e., the growth in the metropolitan areas exceeded that in the remaining areas. The distinguishing feature between Texas and Louisiana, on the one hand, and Arizona, on the other, with respect to the growth of manufacturing employment in the

nonmetropolitan areas as compared with their major metropolitan areas is population size and the degree of population concentration in small urban areas.

The major labor market areas of both Texas and Louisiana already had an established and sizable industry structure by 1958. Much of the subsequent growth occurred on top of this structure and did not materially affect the

TECHNICAL NOTES

A. — The combined effect of an increase of 8.3 percent in employment between 1958 and 1963, for instance, and an increase of 29.6 percent in the average value added produces an increase of 40.3 percent in the total value added. The proportionate share contributed by the increase in employment to the rise in total value added can be determined simply and directly by dividing the 8.3-percent employment increase by the sum of the increases in employment and the average value added. That is, 8.3 is divided by 37.9 ($8.3 + 29.6 = 37.9$); this equals 21.9 percent, the proportion of the rise in total value added which is accounted for by the increased application of labor. Each of the two component increases is related to the rise in total value added by the same proportionate amount. This fact permits the use of the above method. The contribution made to the rise in total value added by the increase in value added per employee can be derived in the same manner.

B. — The labor intensity index is derived by adding the relative change in the value added per employee to the relative change in employment in each area and then dividing this sum into the relative change in employment. As used here, relative

changes mean the quotients of the amount of employment or value added per employee in 1963 divided by their respective amounts in 1958. These relatives are easily reconstituted from the percentage changes by moving the decimal point two places to the left and adding 1.00 to the value. For example, the percentage change in employment for Arizona between 1958 and 1963 was 40.6; the comparable relative is 1.406.

The result indicates whether a particular area was more or less labor-intensive in 1963 than in 1958 and, also, permits inter-area comparisons with respect to the degree of change. An increase in value added brought about by increases of equal proportions in both employment and the value added per employee would result in an index of .500. Values higher than .500 indicate increasing labor intensity, and lower values mean decreasing labor intensity in a given period of time. Between 1958 and 1963, for example, the relative change in employment in Arizona was 1.406, and the relative change in value added per employee was 1.238. The sum of these two values ($1.406 + 1.238$) is 2.644. The quotient of 1.406 divided by 2.644 is .532, which shows increasing labor intensity.

structure. Phoenix did not attain the status of a major labor market area until after 1958. Phoenix and Tucson were the only population centers in Arizona around which much industry could develop. Phoenix, with its larger population and rapidly growing electrical machinery industry, showed a greater increase in employment than Tucson and the nonmetropolitan areas of Arizona between 1958 and 1963. The growth for the State's nonmetropolitan areas was, nevertheless, quite respectable when compared with that for the nonmetropolitan areas of the other four states.

Neither Oklahoma nor New Mexico had a major metropolitan area in 1963 — i.e., an area with a manufacturing work force of 40,000 or more. In the case of these two states, especially New Mexico, the employment growth between 1958 and 1963 continued in favor of the minor metropolitan areas.

For the five states combined, the value added per employee in both 1958 and 1963 was the largest in the minor SMSA's, followed (in descending order) by the major SMSA's and the nonmetropolitan areas. However, in both relative and absolute terms, the growth in the average value added between the 2 years was greatest in the nonmetropolitan areas, followed by the minor SMSA's and the major SMSA's. A probable influence upon the value added in the major metropolitan areas is the fact that a sizable food processing industry is usually located in or near major population centers. The industrial structure of the minor SMSA's is associated with a higher value added per employee and, apparently, tends to be of a type which is less labor-intensive.

Among the five major SMSA's in the Southwest, the rankings according to the value added per employee were identical in 1958 and 1963; however, there were wider differences among the areas in 1963 than was the case in 1958. For example, the difference in the value added per employee in first-ranked Houston and fifth-

ranked Phoenix was \$4,163 in 1958, but by 1963 the gap had widened to \$7,036. Also, there was a consistent widening in the difference in value added per employee between each successively higher-ranked major SMSA. Thus, each major SMSA widened its lead over its closest rival in terms of value added per employee between 1958 and 1963.

With respect to the shifting importance of the labor requirements among the major SMSA's, Dallas became slightly more labor-intensive, while Fort Worth and Houston both became less labor-intensive. These developments reflect the growing importance of electronics and other specialized, technologically oriented industries in the Dallas area, the transportation industry in Fort Worth, and the petrochemical industry in Houston. Phoenix shows a marked orientation toward labor intensity, which is partly due to the fact that the city is the center of the electronics industry in the State.

Often, the increasing labor intensity of a labor market is supposedly associated with a low-wage industrial structure. This relationship is not necessarily so. There are many industries (such as electronic communication equipment and typesetting) requiring a high level of skills and ability which are acquired only through considerable formal or informal education and training. The commodity that is produced with the aid of this education and training is of relatively high value. Accordingly, the education and training instrumental in this production has considerable value, and persons having such knowledge can command attractive wages.

Detailed data similar to those found in the 1963 Census of Manufactures are not available. Such data would permit precise judgments regarding more recent developments in the value added per employee and relative changes in industrial structure among the various states and metropolitan areas in the Southwest. However, employment data subsequent to 1963 sug-

gest that some of the trends under way between 1958 and 1963 may have changed somewhat. It appears that, in conformity with the national pattern, increasing orientation toward less labor-intensive production processes seems to be evolving in the five southwestern states. The relative growth of a less labor-intensive structure probably will continue at a somewhat slower rate in the Southwest than in the Nation, retarded basically by the region's faster rate of

increase in employment in the apparel industry and furniture industry. On the other hand, the strong employment growth in the primary metal and fabricated metal industries, the machinery industries, and the transportation equipment industry — all of which have relatively large values added per employee — might be expected to lessen this drift toward greater labor intensity.

C. HOWARD DAVIS



district highlights

With a less than seasonally expected gain of 0.6 percent, total nonagricultural wage and salary employment in the five southwestern states in April increased to 5,626,700. Manufacturing employment was virtually unchanged from a month ago, and the rise in nonmanufacturing employment was seasonally weak. Strength in employment in the transportation, finance, and service sectors provided most of the support, somewhat more than counterbalancing the weakness evinced in the other nonmanufacturing sectors.

Nonagricultural employment in the five states in April exceeded that in April last year by nearly 5 percent. Manufacturing employment rose 4.5 percent. Nonmanufacturing employment was almost 5 percent above a year ago; contributing to this gain were strong advances in construction, service, and government employment.

The Texas industrial production index, seasonally adjusted, edged down slightly more than 1 percent in April to 150.8 percent of the 1957-59 base, reflecting little change in employment and hours in manufacturing and a sizable decline in petroleum mining. Durable goods production was down slightly, depressed, in particular, by weaknesses in the primary metal and fabricated metal products industries. Electrical machinery was the only sector displaying output strength as compared with the prior month. Boosted by substantial increases in petroleum refining and in the output of leather and leather products, nondurable goods manufacturing rose moderately above March. The only nondurable goods sector failing to maintain or exceed the level of the past month was paper and allied products, although the gains that developed in the other sectors were fractional.

Total industrial production in Texas in April was nearly 5 percent above April 1966. The output of durable goods surpassed that in April last year by 8 percent. The major strength was derived from a large gain in transportation equipment; on the other hand, there was a marked decrease in the output of stone, clay, and glass products. Except for the slightly below-average performance exhibited by lumber and wood products and by furniture and fixtures — due, in large part, to the continued weakness in construction activity — the increases in the other durable goods sectors were close to the average gain for total durable goods output. All of the nondurable goods sectors contributed to the year-to-year rise of nearly 6 percent in nondurable manufacturing. The advance in petroleum refining exceeded the average increase considerably, while the gains in textile mill products and in apparel and allied products were somewhat below the average.

New passenger car registrations in four major Texas market areas in April were 8 percent below the previous month and 11 percent below the corresponding month a year ago. In comparison with a year earlier, both Fort Worth and San Antonio showed gains — 9 percent and 7 percent, respectively — but Dallas and Houston reported declines of 26 percent and 8 percent. Cumulative registrations were lower in each market area; the decreases from the preceding year were 11 percent for Dallas, 9 percent for Houston, 5 percent for Fort Worth, and 2 percent for San Antonio.

In the 4 weeks ended May 20, department store sales in the Eleventh District were 3 percent higher than in the comparable 4 weeks last year; both periods included Mother's Day. Cumulative sales thus far in 1967 also were 3

percent above those for the same interval in 1966.

Daily average crude oil production in the Eleventh District eased 0.5 percent during April but, yet, was 1.0 percent higher than a year earlier. The monthly decrease was slightly less than that for the Nation. For northern Louisiana, there was virtually no change from March, as contrasted to slight decreases for Texas and southeastern New Mexico. Most of the District areas showed year-to-year increases in April; the three exceptions — northern Louisiana, southeastern New Mexico, and the Texas Panhandle — reported production decreases. The Texas crude oil allowable for May and June has been set at 33.8 percent of permissible production each month, which is 1.2 points below the April figure. Crude oil stocks in the District remained high in both March and April, although crude runs to refinery stills reached a new high during the latter month.

The Bureau of the Budget announced in late April that the Sherman-Denison area (Grayson County) has been designated a "standard metropolitan statistical area." Thus, Sherman-Denison becomes the 26th SMSA to be located in the Eleventh Federal Reserve District. At the beginning of May this year, there were 231 SMSA's in the United States and Puerto Rico. The recent addition of Kaufman and Rockwall Counties to the Dallas SMSA brings to six the number of counties included in this area.

A standard metropolitan statistical area is a county or group of contiguous counties which contains at least one central city of 50,000 or more inhabitants or "twin cities" with a combined population of at least 50,000. In addition to the county or counties containing such a city or cities, contiguous counties are included in an SMSA if, according to certain criteria, they are essentially metropolitan in character and are socially and economically integrated with the central city.

In contrast to the 2.1-percent increase in total time and savings deposits at weekly reporting commercial banks in the Eleventh District during 1966, such deposits expanded at an unadjusted annual rate of 15.7 percent in the first 4½ months of 1967. Much of the more rapid increase in 1967 undoubtedly reflects the attractiveness of bank offering rates on certificates of deposit relative to open market rates.

From December 28, 1966, to May 17, 1967, the amount of total time and savings deposits at the District's weekly reporting commercial banks increased \$192 million. Most of this increase was accounted for by the growth in certificates of deposit. Negotiable time certificates of deposit issued in denominations of \$100,000 or more expanded \$154 million, and consumer-type certificates of deposit rose \$76 million.

Despite unseasonably cool weather and soil moisture which varied from adequate to very short, spring planting schedules in the Southwest have been maintained. Plant growth has been retarded, and some replanting has been required in areas where heavy rains, hail, and frost damage occurred. Although winter wheat acreage for harvest in the five Eleventh District states is 3 percent larger than the acreage harvested in 1966, the 1967 crop is estimated to be 14 percent lower than last year's production.

The condition of cattle is generally fair to good, and improvement is expected in most areas as forage supplies respond to warmer temperatures and recent rains. Range and pasture grasses have been slow in developing, and green grazing has been limited. Except in localities where rainfall has been inadequate, supplemental feeding has declined markedly.

Cash receipts from farm marketings in the District states during January-March were 23 percent below the corresponding period a year ago. Most of the decline in income may be attributed to a reduction in crop receipts, since livestock income was only fractionally lower.



STATISTICAL SUPPLEMENT

to the

BUSINESS REVIEW

June 1967



FEDERAL RESERVE BANK
OF DALLAS

CONDITION STATISTICS OF WEEKLY REPORTING COMMERCIAL BANKS

Eleventh Federal Reserve District

(In thousands of dollars)

Item	May 31, 1967	April 26, 1967	June 1, 1966 ¹
ASSETS			
Net loans and discounts.....	5,242,130	5,034,440	5,104,671
Valuation reserves.....	96,216	96,588	88,468
Gross loans and discounts.....	5,338,346	5,131,028	5,193,139
Commercial and industrial loans.....	2,508,644	2,536,541	2,307,873
Agricultural loans ²	98,891	92,551	55,722
Loans to brokers and dealers for purchasing or carrying:			
U.S. Government securities.....	28,753	28,502	2
Other securities.....	40,620	34,940	49,295
Other loans for purchasing or carrying:			
U.S. Government securities.....	897	1,020	2,681
Other securities.....	314,620	307,603	313,125
Loans to nonbank financial institutions:			
Sales finance, personal finance, factors, and other business credit companies.....	147,216	155,570	156,302
Other.....	274,478	280,442	275,945
Real estate loans.....	484,345	468,413	459,984
Loans to domestic commercial banks.....	361,168	158,047	261,164
Loans to foreign banks.....	4,171	5,419	7,243
Consumer instalment loans.....	522,029	517,080	
Loans to foreign governments, official institutions, etc.....	0	0	1,303,803
Other loans ²	552,514	544,900	
Total investments.....	2,322,015	2,302,459	2,186,583
Total U.S. Government securities.....	1,092,406	1,092,275	1,141,011
Treasury bills.....	54,629	58,476	59,394
Treasury certificates of indebtedness.....	15,117	15,115	19,083
Treasury notes and U.S. bonds maturing:			
Within 1 year.....	115,001	126,613	140,316
1 year to 5 years.....	641,423	624,904	567,070
After 5 years.....	266,236	267,167	355,148
Obligations of states and political subdivisions:			
Tax warrants and short-term notes and bills.....	16,039	7,747	
All other.....	1,017,213	1,007,362	
Other bonds, corporate stocks, and securities:			
Participation certificates in Federal agency loans ²	132,555	130,544	1,045,572
All other (including corporate stocks).....	63,802	64,531	
Cash items in process of collection.....	687,685	1,025,828	699,485
Reserves with Federal Reserve Bank.....	561,822	716,514	461,480
Currency and coin.....	71,685	80,444	62,773
Balances with banks in the United States.....	439,631	476,865	453,197
Balances with banks in foreign countries.....	3,821	4,503	5,209
Other assets.....	328,153	329,551	337,580
TOTAL ASSETS.....	9,656,942	9,970,604	9,310,978

LIABILITIES

Total deposits.....	8,324,061	8,484,361	8,096,062
Total demand deposits.....	4,949,392	5,115,002	4,810,152
Individuals, partnerships, and corporations.....	3,399,930	3,468,919	3,235,689
States and political subdivisions.....	364,360	276,704	336,224
U.S. Government.....	88,524	145,211	148,874
Banks in the United States.....	1,002,010	1,121,120	991,757
Foreign:			
Governments, official institutions, etc.....	2,530	3,014	3,279
Commercial banks.....	20,961	21,773	20,004
Certified and officers' checks, etc.....	71,077	78,261	74,325
Total time and savings deposits.....	3,374,669	3,369,359	3,285,910
Individuals, partnerships, and corporations:			
Savings deposits.....	1,118,592	1,108,661	1,295,614
Other time deposits.....	1,613,177	1,569,347	1,473,089
States and political subdivisions.....	609,919	658,522	495,603
U.S. Government (including postal savings).....	11,044	10,732	3,344
Banks in the United States.....	20,407	20,567	15,520
Foreign:			
Governments, official institutions, etc.....	800	800	1,300
Commercial banks.....	730	730	1,440
Bills payable, rediscounts, and other liabilities for borrowed money.....	279,858	431,667	226,170
Other liabilities.....	180,389	181,278	170,441
CAPITAL ACCOUNTS.....	872,634	873,298	818,305
TOTAL LIABILITIES AND CAPITAL ACCOUNTS.....	9,656,942	9,970,604	9,310,978

¹ Because of format and coverage revisions as of July 6, 1966, earlier data are not fully comparable.

² Certificates of participation in Federal agency loans include Commodity Credit Corporation certificates of interest previously included in "Agricultural loans" and Export-Import Bank participations previously included in "Other loans."

³ Amount includes deposits accumulated for payment of instalment loans; as a result of a change in Federal Reserve regulations, effective June 9, 1966, such deposits are no longer reported.

RESERVE POSITIONS OF MEMBER BANKS

Eleventh Federal Reserve District

(Averages of daily figures. In thousands of dollars)

Item	4 weeks ended May 3, 1967	5 weeks ended April 5, 1967	4 weeks ended May 4, 1966
RESERVE CITY BANKS			
Total reserves held.....	637,777	640,156	604,175
With Federal Reserve Bank.....	591,975	595,680	558,566
Currency and coin.....	45,802	44,476	45,609
Required reserves.....	633,627	635,777	599,111
Excess reserves.....	4,150	4,379	5,064
Borrowings.....	589	1,029	17,530
Free reserves.....	3,561	3,350	12,466
COUNTRY BANKS			
Total reserves held.....	642,942	644,169	622,170
With Federal Reserve Bank.....	485,475	492,380	475,087
Currency and coin.....	157,467	151,789	147,083
Required reserves.....	601,499	602,341	589,819
Excess reserves.....	41,443	41,828	32,351
Borrowings.....	2,368	3,273	6,166
Free reserves.....	39,075	38,555	26,185
ALL MEMBER BANKS			
Total reserves held.....	1,280,719	1,284,325	1,226,345
With Federal Reserve Bank.....	1,077,450	1,088,060	1,033,653
Currency and coin.....	203,269	196,265	192,692
Required reserves.....	1,235,126	1,238,118	1,188,930
Excess reserves.....	45,593	46,207	37,415
Borrowings.....	2,957	4,302	23,696
Free reserves.....	42,636	41,905	13,719

CONDITION OF THE FEDERAL RESERVE BANK OF DALLAS

(In thousands of dollars)

Item	May 31, 1967	April 26, 1967	June 1, 1966
Total gold certificate reserves.....	406,563	394,896	303,269
Discounts for member banks.....	7,101	2,089	17,359
Other discounts and advances.....	1,450	1,450	1,160
U.S. Government securities.....	1,778,822	1,880,934	1,682,744
Total earning assets.....	1,787,373	1,884,473	1,701,263
Member bank reserve deposits.....	947,430	1,094,844	868,187
Federal Reserve notes in actual circulation.....	1,270,369	1,249,134	1,203,608

CONDITION STATISTICS OF ALL MEMBER BANKS

Eleventh Federal Reserve District

(In millions of dollars)

Item	Apr. 26, 1967	Mar. 29, 1967	Apr. 27, 1966
ASSETS			
Loans and discounts ¹	8,792	8,939	8,584
U.S. Government obligations.....	2,311	2,353	2,389
Other securities ¹	2,373	2,301	2,072
Reserves with Federal Reserve Bank.....	1,095	1,034	912
Cash in vault.....	237	227	220
Balances with banks in the United States.....	1,127	1,084	1,023
Balances with banks in foreign countries ²	7	7	6
Cash items in process of collection.....	1,146	833	943
Other assets ³	523	512	460
TOTAL ASSETS⁴.....	17,611	17,290	16,609
LIABILITIES AND CAPITAL ACCOUNTS			
Demand deposits of banks.....	1,384	1,355	1,202
Other demand deposits.....	7,741	7,644	7,558
Time deposits.....	6,306	6,296	5,820
Total deposits.....	15,431	15,295	14,580
Borrowings.....	439	278	387
Other liabilities ⁵	247	237	228
Total capital accounts ⁶	1,494	1,480	1,414
TOTAL LIABILITIES AND CAPITAL ACCOUNTS⁶.....	17,611	17,290	16,609

¹ Beginning June 15, 1966, Commodity Credit Corporation certificates of interest and Export-Import Bank participations are included in "Other securities," rather than "Loans and discounts."

² — Estimated.

BANK DEBITS, END-OF-MONTH DEPOSITS, AND DEPOSIT TURNOVER

(Dollar amounts in thousands, seasonally adjusted)

Standard metropolitan statistical area	DEBITS TO DEMAND DEPOSIT ACCOUNTS ¹				DEMAND DEPOSITS ¹			
	April 1967 (Annual-rate basis)	Percent change			April 30, 1967	Annual rate of turnover		
		April 1967 from		4 months, 1967 from 1966		April 1967	March 1967	April 1966
		March 1967	April 1966					
ARIZONA: Tucson.....	\$ 4,194,516	3	7	8	\$ 165,184	25.2	24.5	24.1
LOUISIANA: Monroe.....	2,043,060	2	9	4	73,989	28.2	28.0	25.0
Shreveport.....	6,096,912	7	15	13	234,618	26.8	26.4	26.0
NEW MEXICO: Roswell ²	647,544	7	3	-2	33,311	19.4	18.2	18.7
TEXAS: Abilene.....	1,888,452	-2	-2	2	94,771	19.9	20.3	20.6
Amarillo.....	4,011,672	-6	-8	-3	138,705	28.5	30.8	31.5
Austin.....	5,177,448	13	23	12	184,629	27.9	24.4	22.7
Beaumont-Port Arthur-Orange.....	5,075,592	-4	1	6	218,195	23.3	24.0	24.9
Brownsville-Harlingen-San Benito.....	1,321,200	-1	-1	-3	58,960	22.3	22.2	23.7
Corpus Christi.....	3,752,232	-2	1	6	178,152	21.1	21.2	21.1
Corsicana ²	358,092	-3	6	7	28,879	12.4	12.8	11.9
Dallas.....	73,470,012	9	17	12	1,705,649	43.2	39.7	39.1
El Paso.....	5,391,060	3	10	9	199,200	26.7	25.1	24.9
Fort Worth.....	14,914,668	1	8	8	495,265	30.0	29.3	28.3
Galveston-Texas City.....	2,061,516	-2	6	8	87,827	23.3	23.1	22.3
Houston.....	68,132,292	2	7	10	1,991,366	34.7	34.2	32.9
Laredo.....	601,680	-4	13	10	30,010	18.9	18.8	18.4
Lubbock.....	3,509,796	0	0	-6	138,892	25.5	25.3	23.7
McAllen-Pharr-Edinburg.....	1,283,508	4	9	11	73,870	17.6	17.1	16.3
Midland.....	1,533,696	-1	-2	-2	119,560	12.8	12.9	13.6
Odessa.....	1,242,552	5	3	-5	64,724	19.2	17.8	18.8
San Angelo.....	910,980	-2	-2	2	54,749	16.5	16.7	16.7
San Antonio.....	11,937,660	1	2	3	511,429	23.4	23.2	23.4
Texarkana (Texas-Arkansas).....	1,236,192	4	15	19	54,920	22.0	20.6	19.8
Tyler.....	1,660,020	9	5	1	80,219	20.6	18.6	19.5
Waco.....	2,179,956	6	3	4	106,072	20.0	18.7	20.2
Wichita Falls.....	2,016,192	13	-5	-8	109,460	18.3	15.9	18.5
Total—27 centers.....	\$226,648,500	4	9	9	\$7,232,605	31.4	30.2	29.6

¹ Deposits of individuals, partnerships, and corporations and of states and political subdivisions.² County basis.

NOTE. — Figures for 1966 have been revised due to the use of new seasonal adjustment factors.

GROSS DEMAND AND TIME DEPOSITS OF MEMBER BANKS

Eleventh Federal Reserve District

(Averages of daily figures. In millions of dollars)

BUILDING PERMITS							
Area	VALUATION (Dollar amounts in thousands)						
	Percent change						4 months, 1967 from 1966
	NUMBER		April 1967 from				
	April 1967	4 mos. 1967	April 1967	4 mos. 1967	Mar. 1967	Apr. 1966	
ARIZONA							
Tucson.....	562	2,135	\$ 1,346	\$ 7,851	—65	—6	12
LOUISIANA							
Monroe-West							
Monroe.....	75	287	3,397	9,068	210	647	58
Shreveport....	382	1,246	1,401	7,280	—62	—17	1
TEXAS							
Abilene.....	40	208	220	5,239	—78	—92	—5
Amarillo.....	157	577	4,792	9,063	164	—32	—22
Austin.....	400	1,500	8,600	47,869	—61	73	71
Beaumont.....	165	553	1,116	5,165	—30	4	14
Brownsville....	71	243	187	790	—9	—66	—50
Corpus Christi..	387	1,424	2,807	9,858	58	42	—19
Dallas.....	2,043	7,460	13,570	61,151	—28	17	—16
El Paso.....	488	1,823	6,206	20,486	48	65	—2
Fort Worth.....	648	2,441	6,093	25,604	9	—21	45
Galveston.....	110	391	467	1,924	29	—63	—33
Houston.....	2,020	7,839	22,446	113,797	—51	—4	—1
Laredo.....	43	135	373	1,477	191	23	72
Lubbock.....	118	528	6,668	11,948	152	95	—47
Midland.....	65	298	845	3,244	8	7	—61
Odessa.....	106	384	570	2,142	6	—65	—74
Port Arthur.....	88	292	431	1,668	47	—56	—26
San Angelo.....	52	280	411	1,985	—27	—48	—15
San Antonio....	1,216	4,576	5,780	36,595	—42	—35	—8
Texarkana.....	30	158	139	1,431	—83	—95	—65
Waco.....	249	905	528	3,099	—65	—55	—34
Wichita Falls..	61	279	1,398	3,512	31	—63	—46
Total—24 cities..	9,576	35,962	\$89,791	\$392,246	—31	—5	—5

Date	GROSS DEMAND DEPOSITS			TIME DEPOSITS		
	Total	Reserve city banks	Country banks	Total	Reserve city banks	Country banks
1965: April.....	8,697	4,158	4,539	5,097	2,479	2,618
1966: April.....	8,934	4,151	4,783	5,797	2,781	3,016
November.....	8,914	4,061	4,853	5,751	2,581	3,170
December.....	9,098	4,202	4,896	5,781	2,575	3,206
1967: January.....	9,352	4,226	5,126	5,934	2,645	3,289
February.....	8,902	4,020	4,882	6,091	2,721	3,370
March.....	8,951	4,106	4,845	6,183	2,738	3,445
April.....	9,140	4,245	4,895	6,231	2,723	3,508

VALUE OF CONSTRUCTION CONTRACTS

(In millions of dollars)

Area and type	April 1967	March 1967	February 1967	January—April	
				1967	1966
FIVE SOUTHWESTERN STATES ¹	522	463	413	1,724	1,647
Residential building.....	171	173	127	585	709
Nonresidential building.....	248	174	176	693	526
Nonbuilding construction.....	103	116	111	446	413
UNITED STATES.....	4,389	4,424	3,300	14,874	16,783r
Residential building.....	1,627	1,584	1,056	5,189	6,782r
Nonresidential building.....	1,830	1,714	1,430	6,101	6,156
Nonbuilding construction.....	931	1,127	814	3,583	3,845

¹ Arizona, Louisiana, New Mexico, Oklahoma, and Texas.

r — Revised.

NOTE. — Details may not add to totals because of rounding.

SOURCE: F. W. Dodge Company.

CASH RECEIPTS FROM FARM MARKETINGS

(Dollar amounts in thousands)

Area	January-March		Percent decrease
	1967	1966	
Arizona.....	\$ 92,248	\$ 130,728	-29
Louisiana.....	85,604	87,643	-2
New Mexico.....	31,832	35,276	-10
Oklahoma.....	154,542	180,161	-14
Texas.....	494,988	688,984	-28
Total.....	\$ 859,214	\$ 1,122,792	-23
United States.....	\$9,194,148	\$9,488,991	-3

SOURCE: U.S. Department of Agriculture.

WINTER WHEAT PRODUCTION

(In thousands of bushels)

Area	1967, indicated May 1	1966	Average 1961-65
Arizona.....	2,300	920	1,214
Louisiana.....	2,700	1,540	1,172
New Mexico.....	4,588	4,704	4,752
Oklahoma.....	83,895	98,700	97,372
Texas.....	59,508	72,652	63,065
Total.....	152,991	178,516	167,575

SOURCE: U.S. Department of Agriculture.

COTTON ACREAGE, PRODUCTION, AND VALUE OF PRODUCTION

(In thousands)

Area	Acreage harvested		Bales produced ¹		Value of lint and seed	
	1966	1965	1966	1965	1966	1965
Arizona.....	252	340	515	787	\$ 68,887	\$ 130,364
Louisiana.....	357	498	449	562	60,236	90,413
New Mexico.....	134	173	181	233	30,010	40,937
Oklahoma.....	380	555	214	369	24,098	54,858
Texas.....	3,968	5,565	3,182	4,668	359,736	698,471
Total.....	5,091	7,131	4,541	6,619	\$ 542,967	\$1,015,043
United States.....	9,554	13,615	9,575	14,973	\$1,251,634	\$2,390,500

¹ 500 pounds gross weight.

SOURCE: U.S. Department of Agriculture.

DAILY AVERAGE PRODUCTION OF CRUDE OIL

(In thousands of barrels)

Area	Percent change from				
	April 1967p	March 1967p	April 1966	March 1967	April 1966
ELEVENTH DISTRICT.....	3,497.9	3,514.8	3,462.5	-0.5	1.0
Texas.....	3,006.2	3,020.6	2,949.3	-5	1.9
Gulf Coast.....	563.0	560.2	540.8	-5	4.1
West Texas.....	1,370.9	1,373.8	1,346.6	-2	1.8
East Texas (proper).....	128.1	129.3	126.2	-9	1.5
Panhandle.....	95.7	96.0	98.0	-3	-2.4
Rest of State.....	848.5	861.3	837.7	-1.5	1.3
Southeastern New Mexico..	320.5	322.8	332.4	-7	-3.6
Northern Louisiana.....	171.2	171.4	180.8	-1	-5.3
OUTSIDE ELEVENTH DISTRICT	5,099.9	5,148.5	4,837.5	-1.0	5.4
UNITED STATES.....	8,597.8	8,663.3	8,300.0	-8	3.6

p — Preliminary.

SOURCES: American Petroleum Institute,
U.S. Bureau of Mines,
Federal Reserve Bank of Dallas.

NONAGRICULTURAL EMPLOYMENT

Five Southwestern States¹

Type of employment	Number of persons			Percent change April 1967 from	
	April 1967p	March 1967	April 1966r	March 1967	April 1966
Total nonagricultural					
wage and salary workers..	5,626,700	5,594,500	5,370,300	0.6	4.8
Manufacturing.....	1,020,400	1,019,800	976,200	.1	4.5
Nonmanufacturing.....	4,606,300	4,574,700	4,394,100	.7	4.8
Mining.....	231,300	231,500	231,400	-.1	-.1
Construction.....	371,800	372,000	353,900	-.1	5.1
Transportation and public utilities.....	430,500	426,100	410,600	1.0	4.8
Trade.....	1,305,100	1,292,300	1,255,200	1.0	4.0
Finance.....	277,500	274,200	264,700	1.2	4.8
Service.....	838,300	825,400	786,700	1.6	6.6
Government.....	1,151,800	1,153,200	1,091,600	-.1	5.5

¹ Arizona, Louisiana, New Mexico, Oklahoma, and Texas.

p — Preliminary.

r — Revised.

SOURCE: State employment agencies.

INDUSTRIAL PRODUCTION

(Seasonally adjusted indexes, 1957-59 = 100)

Area and type of index	April 1967p	March 1967	February 1967r	April 1966r
TEXAS				
Total industrial production.....	150.8	153.0	152.2	143.9
Manufacturing.....	170.6	169.8	169.2	159.6
Durable.....	189.2	190.6	190.2	174.7
Nondurable.....	158.2	156.0	155.1	149.5
Mining.....	112.6	118.8	116.8	113.9
Utilities.....	201.1	206.2	211.0	181.5
UNITED STATES				
Total industrial production.....	155.9	156.4	156.4	153.9
Manufacturing.....	157.6	158.3	158.3	156.6
Durable.....	162.7	163.2	163.0	162.9
Nondurable.....	151.3	152.1	152.4	148.7
Mining.....	122.9	122.5	123.1	115.6
Utilities.....	179.5	179.5	178.2	169.1

p — Preliminary.

r — Revised.

SOURCES: Board of Governors of the Federal Reserve System,
Federal Reserve Bank of Dallas.