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THE OUTLOOK FOR THE SOUTHWESTERN PETROCHEMICAL INDUSTRY

A vital question concerning the economic future of the Southwest is whether or not the petrochemical industry will continue to expand rapidly. During the postwar period, petrochemical plant construction has been a very important force for growth on the Texas-Louisiana Gulf Coast and in some inland centers. Failure of the industry to continue expanding rapidly would certainly moderate the economic prospects of many southwestern communities in which rising chemical firm payrolls have provided much of the basis for growth.

There appears to be little question that the petrochemical industry in the United States has a bright future, but most analysts are currently predicting a national annual growth rate of 7 to 9 percent during the next several years, contrasted with an average of well over 10 percent in the last decade. Part of the explanation for the anticipated lower future rate of growth of the industry is the current existence of substantial overcapacity in several basic petrochemicals. High-density polyethylene and epoxy resins are examples of chemicals with capacities well in excess of present demand. Overcapacity is not uncommon, however, in a growth industry. Normally, it takes 2 to 3 years to complete a chemical manufacturing plant, and extensive scale economies encourage producers to construct facilities with capacities well in excess of current sales potential. Nevertheless, the past success of the industry in providing surplus capacity to satisfy future demand for several major petrochemicals tends to dampen present investment requirements.

FEDERAL RESERVE BANK OF DALLAS
DALLAS, TEXAS

Moreover, significant environmental changes in the petrochemical industry — including a changing raw materials cost picture, increased international competition, and intensified sales efforts by alternative chemical sources — may make the future appear less bright than earlier. Much of the rapid postwar development of petrochemicals has been based upon the exploitation of previously unused refinery gases, which now provide about one-half of the industry's feedstock requirements. Although there are substantial amounts of suitable refinery gases for chemical manufacture, much of the petrochemical industry's expansion must be based upon exploitation of alternative raw material sources, which are often much more expensive. It is estimated that ethylene, presently the most important petrochemical intermediate, can be up to twice as costly to manufacture from natural gas liquids as from refinery off-gas.

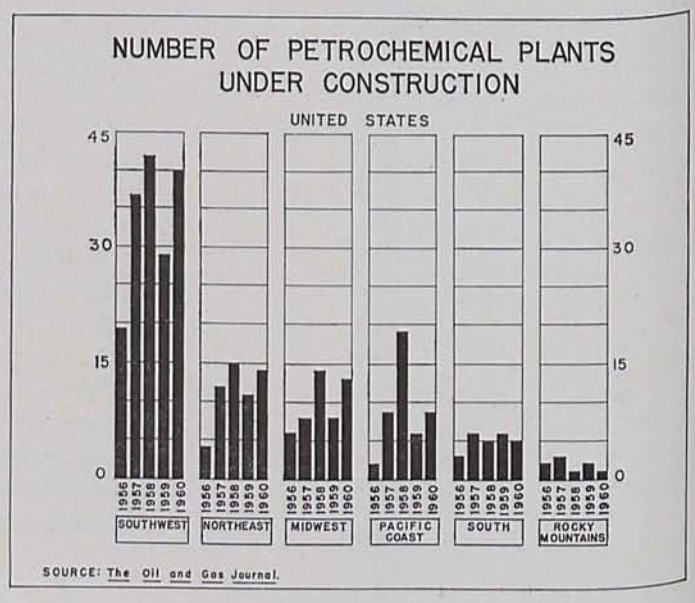
Another trend affecting the future growth of the petrochemical industry is the increasingly competitive condition of export markets which traditionally have accounted for a significant share of domestic production. Rapid additions to foreign petrochemical industry capacity, with resulting export surpluses, and improving technology abroad have allowed foreign exporters to become well established in some of our traditional overseas markets. It also appears likely that American imports of chemicals, which advanced 25 percent last year, will rise further as foreign producers (particularly Canada, west Europe, and Japan) win new markets in this country with their comparativly low-cost products. The United States became a net importer of fertilizer in 1959, after years of substantial export surpluses.

In the past, foreign producers have often been dependent upon relatively high-cost sources of hydrocarbon raw materials, but the recent completion of many refineries abroad has made large quantities of refinery off-gas available. It also seems possible that low-cost natural gas eventually will become available to Europe from North Africa via pipeline or tanker. Another trend which depresses the growth prospects of petrochemicals is the increasingly competitive vigor evident in the coal tar industry, where new expansions are planned and progress is being made on more efficient recovery and use of coal tars.

Despite these notes of pessimism, the industry's outlook is favorable because of the large increases expected in the demand for plastics and synthetic fibers. It is widely believed that demand for plastics will advance at a rate of 8 to 10 percent per year as more plastics are used in construction and automobiles and in numerous other ways. Plastics are becoming increasingly competitive with other materials as a result of both new molding techniques which lower fabrication costs and declining plastics prices. Synthetic fibers also appear certain to compete more widely against the older cellulosic and natural fibers.

Current Regional Growth Trends

With prospects for the growth of the petrochemical industry strong nationally, the question that most vitally concerns the southwestern states is, "What portion of this expansion will be provided by existing or new firms located here?" Several industry surveys made in recent months give some indication of the trends in the location of new petrochemical plant capacity. *The Oil and Gas Journal* recently reported that 43 percent of the Nation's petrochemical plants in operation and 57 percent of the plants under construction in 1959 were located within the Eleventh District states, principally in Texas and Louisiana. Northeastern states accounted for 19 percent of the currently operating plants and 22 percent of the plants under construction. The southern states, according to *The Oil and Gas Journal,* had 6 percent of the operating plants and 4 percent of the plants under construction, while the respective shares for the Pacific Coast were 12 percent and 6 percent, with California the dominant producer. The midwestern states of Ohio, Michigan, Indiana, Illinois, and Kentucky all have large petrochemical complexes and, in total, accounted for 16 percent of the Nation's operating plants and 8 percent of the plants under construction in 1959.



Advantages of Southwestern Location

Extrapolation of current trends, nevertheless, is not the only indication of the future growth of the chemical industry. A realistic appraisal of the outlook for petrochemicals in the District states must include an inquiry into the specific types of chemicals which are expected to grow in demand and the relative ability of southwestern states to attract the facilities needed to manufacture these products. The Southwest, in the past, has proved to be an extremely attractive location for raw materials-oriented, as contrasted with market-oriented, chemical industries. Because about 36 percent of the Nation's refinery capacity is located in the Southwest, area users have found abundant quantities of very low-cost petrochemical feedstock in the form of refinery off-gas. Low raw material costs are of major importance in determining the most advantageous location for chemical plants. Unskilled or semiskilled labor costs are a comparatively small percentage of manufacturing costs in the petrochemical industry, and plant construction and maintenance costs have been nearly equalized throughout the Nation, following the development of construction techniques which permit outdoor chemical-processing facilities in northern states.

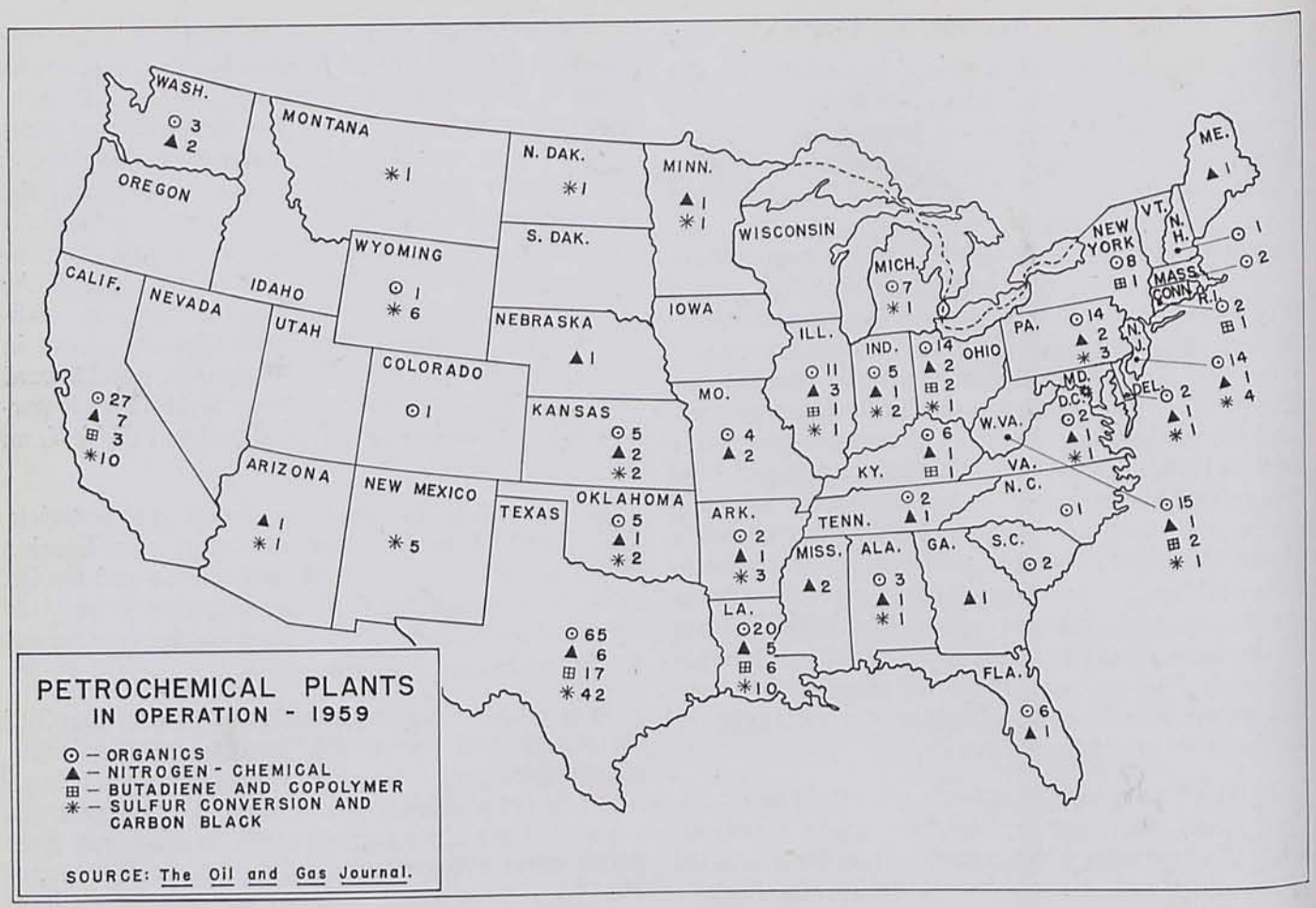
Besides having unused refinery gas available on the Gulf Coast, the Southwest has the largest supply of alternative petroleum hydrocarbon raw materials for chemical industry manufacture in the Nation. Natural gas and liquids associated with natural gas appear to be major raw material sources which will supply new petrochemical industries, and it is estimated that, by as early as 1965, these hydrocarbons will provide at least one-half of the industry's feedstock requirements. With reserves of natural gas and natural gas liquids in the District states accounting for 85 percent and 87 percent, respectively, of the Nation's large supply of these resources, the supply of feedstocks in this area seems to be without practical limit. In addition to providing cheap raw material sources, the Southwest's store of natural gas and petroleum assures local industry of comparatively low fuel costs.

Both natural gas and natural gas liquids are easily transportable, but delivered prices are far lower in the Southwest than elsewhere in the Nation. For instance, the average cost of natural gas used in industrial quantities is about 17 cents per thousand cubic feet in Texas, compared with over 65 cents in New York, a leading northeastern chemical-producing state. Even the exportation of natural gas to other parts of the country tends to provide cheap sources of chemical industry raw materials in the Southwest because heavy hydrocarbons found in natural gas suitable for petrochemical manufacturing generally are stripped in the producing states before delivery into interstate natural gas pipelines. It is technically possible to strip natural gas nearer the consuming states, but pipeline companies traditionally pay no premium for "wet," or heavy hydrocarbon-laden, gas. As a result, most gas shipped out of the Southwest is "dry"; and, at the present time, over two-thirds of the Nation's natural gasoline plants operate in the southwestern states, with no apparent trend toward locating a greater share elsewhere. West Texas is particularly well endowed with feedstocks available from natural gasoline plants.

In addition to the local supplies of raw materials, Gulf Coast plants have the advantage of a location which provides access to major domestic and foreign markets. Access to the Gulf of Mexico for purposes of chemical waste disposal also proves to be very important to many chemical firms.

One of the most important reasons why the Gulf Coast will be a sought-after location for new petrochemical industry is based on its past success in attracting chemical producers. Most organic chemical products are made from a number of raw materials. Many firms find it very convenient to purchase intermediate petrochemicals from other plants — so-called merchant chemicals — rather than invest in facilities to produce all of their needed feedstock captively. Specialization in the manufacture of chemicals to supply many users has produced significant scale economies, and the firms now engaged in petrochemical production on the Gulf Coast are perhaps more interdependent than those in any other major industry in the United States. Other economies of agglomeration achieved in the Gulf Coast area include the development of pools of specialized labor skills and service facilities not available on a comparable scale elsewhere. There are, of course, petrochemical complexes outside the Gulf Coast area, but nowhere else is there such a concentration of chemical intermediates readily available to potential new industry.

Other major attractions of the Gulf Coast include its large sulfur, salt, and lime deposits (lime is a product of ocean oyster shells). The existence of numerous salt domes near the gulf also provides industry with cost advantages because of their usefulness in storing chemical raw materials, principally liquefied petroleum gas,



and as a low-cost source of chloride chemicals — the basis of many plastics, solvents, and intermediates.

Despite the impressive array of locational advantages afforded by the Southwest, its major appeal is still to raw materials-oriented petrochemical plants. The further success of the Southwest in attracting the chemical industry will depend, to a great extent, upon the relative weights assigned to raw material, market, or intermediate locations by future chemical producers.

Competition of Other Regions

Areas of the country outside the Southwest also have features attractive to the petrochemical industry. Despite higher raw material costs, the petroleum-based chemical industry has grown rapidly in California and the northeastern and midwestern states, although all major regions have attracted a few plants. Proximity to rich regional markets has provided much of the incentive to locate outside the Southwest.

Continued expansion of the Pacific Coast petrochemical industry appears likely as more firms locate there to supply the rapidly growing regional market, but California — the largest area petroleum producer — must purchase large quantities of crude oil and natural gas from the Southwest and abroad. In addition to paying relatively high raw material costs, California chemical producers are too distant from major eastern markets to compete effectively. Although several Mountain States have low-cost petroleum hydrocarbon resources suitable for petrochemical manufacture, the markets of potential producers are generally too limited to attract large firms. The southeastern states, with the exception of Mississippi, lack substantial local petroleum resources and also have relatively small potential chemical markets.

In the northeastern third of the Nation, improved methods of transportation of petroleum feedstock from the Southwest and the generally increasing flow of foreign crude oil imports have partially erased earlier dis-

advantages of high raw material costs. It is expected that continuing petroleum imports and sustained advances in pipeline and barge transportation will further improve the competitive position of this area. On the liability side, however, good plant sites are relatively scarce in some highly industrialized northern states.

Continued development of inland waterways and construction of new, more efficient barges promise to make locations along the Mississippi-Ohio River Basins more attractive to the petrochemical industry. Firms in this area enjoy the advantages of location between large, rapidly growing midwestern markets and low-cost southwestern raw material sources readily accessible via connecting pipelines or barge service. With large fresh-water, brine, and coal resources, West Virginia appears to be a particularly formidable competitor. Nearer the Southwest, anticipated development of lower Mississippi tributaries (such as the Arkansas, Red, and Ouachita Rivers) promises new interest in these river basins. Chemical plants located in the midcontinent area generally may not compete with Gulf Coast firms for eastern seaboard markets but often have transportation cost advantages as suppliers to the rapidly growing north-central industrial area.

Outlook for Growth of Major Petrochemicals

In order to determine the Southwest's share of the anticipated expansion of petrochemicals nationally, an analysis of growth trends of specific types of products must be made. Of the major petrochemical groups, the aliphatics (ethylene-, propylene-, butylene-, and acetylene-based chemicals), which now represent over one-half of industry production, appear likely to account for at least two-thirds of the projected growth of petroleum-based chemicals in the next decade. It is expected that the inorganics (ammonia, sulfur, and carbon black) and the aromatics (benzene, toluene, and xylene) will make only relatively small contributions to the over-all growth of the industry.

Although petrochemical aromatics production is concentrated in the Southwest, where requisite raw materials are readily available from refineries, expansion in the output of these chemicals, with the exception of benzene, probably will be moderate. Demand is expected to increase comparatively slowly, and because scale economies in the production of aromatics are small, competing regions may well be successful in attracting a large share of new capacity. Within the inorganic group of chemicals, carbon black production should increase slowly in the District, although growth is likely to be centered on the Gulf Coast — close to available supplies of heavy oils from refineries and near synthetic rubber plants, the major consumers of carbon black — rather than in west Texas, as in previous years. Sulfur and ammonia production should also expand only moderately because of growing foreign competition and, in the case of ammonia, overcapacity.

Of the aliphatics, ethylene chemicals have enjoyed the greatest relative growth and appear destined for continued rapid expansion. About two-thirds of the ethylene chemicals capacity is located on the Gulf Coast, although major markets for products made from such chemicals are in the northeastern states. The availability of low-cost ethylene and the relatively high cost of transporting it over long distances have encouraged users to locate on the Gulf Coast. Currently, ethylene is available on the Gulf Coast for about 20 percent less than on the East Coast, and this cost advantage is likely to continue as a result of the wide variety of suitable raw materials available in the Southwest for making ethylene. It is, therefore, reasonable to assume that, because of the region's raw material cost advantage, most primary ethylene capacity and production of ethylene-based intermediates will remain in the Southwest in the foreseeable future.

Propylene-based chemicals are perhaps even more likely to be manufactured in the Southwest. Today, only a small percentage of the considerable quantity of propylene available from southwestern refineries is being manufactured into chemicals, and substantial diversion of propylene from refinery uses to petrochemical manufacture is probable if propylene chemicals achieve the impressive growth currently forecast. Principally because of their low raw material costs (up to 40 percent less than ethylene), propylene chemicals are already winning large markets from competing materials. A considerable quantity of butylene also is available in the Southwest for petrochemical manufacture. Although many of its chemical derivatives are in excess capacity at present, synthetic rubber products based on butylene have considerable immediate growth potential.

On balance, it appears that a large portion of new producers of petrochemical intermediates may locate in the Southwest, but this prospect does not necessarily mean that manufacturers of final chemical products will locate here. Often, it is profitable to transport intermediates manufactured in the Southwest to areas with comparative advantages in the fabrication of final prod-

ucts. Items manufactured from plastics and synthetic fibers — the most rapidly growing petrochemicals — probably will continue to be made principally outside the Southwest. For instance, it is likely that most intermediates used in producing ethylene- and propylene-based fibers will be manufactured in the Southwest but actual spinning of fibers will be concentrated in the southeastern states, which have a labor cost advantage and are closer to the major fabric mills.

Likewise, it is probable that the manufacture of final plastic products will be concentrated near major market areas, although a very large share of the intermediates used will originate in the Southwest. Of course, as markets in the Southwest grow in size, it may be expected that more plastic products will be made in this area to satisfy local demand. Synthetic rubber, the production of which may grow at a much lower rate than in the past few years, is another major petrochemical that is most likely to be manufactured in the Southwest near raw material sources but is usually molded nearer market centers.

Southwestern Trends

Within the Southwest, there may be some significant changes in the location of new chemical industries. In the past, the greater Houston area has attracted a very large share of new petrochemical plants, although extensive industry development has occurred in the Beaumont-Orange area and elsewhere along the Texas-Louisiana Gulf Coast. Several inland Texas areas also have attracted petrochemical complexes — e. g., Longview, Odessa, Big Spring, Borger, and Pampa — but capacities have generally been smaller than those of the Gulf Coast industries.

Despite the availability of very low-cost raw materials and fuels, the growth potential of the west Texas petrochemical industry appears to be limited by comparatively high transportation costs to major markets and, at least in the Panhandle, by threatened water shortages. West Texas would appear to be most attractive to petrochemical producers who seek lowest cost raw materials and are able to manufacture relatively high-value products which are normally shipped by rail, rather than water, to major market centers. Sufficient water supplies are currently available or projected in most west Texas areas to provide for substantial expansion of local petrochemical production, and the recent announcement of a major complex to be built in Odessa demonstrates the ability of the area to attract new industry. It is expected that, in percentage terms, the petrochemical industry will grow very rapidly in west Texas, although actual investment expenditures probably will be lower than in the Gulf Coast area.

On the Texas-Louisiana Gulf Coast, the principal development expected is a migration of the locus of major new centers of the Gulf Coast chemical industry both southward and eastward from the greater Houston area. A shortage of plant sites on deep water will limit the growth of the Ship Channel chemical industry, and the full potential of other Gulf Coast areas has not yet been developed. Particularly rapid growth of the Beaumont-Orange area appears likely because of the large local supplies of petrochemical raw materials and water resources and the ease of access to major markets. The area south of Houston is less richly endowed with water, but adequate supplies are available for large projects; and substantial chemical industry growth is expected there. South of the Corpus Christi area, however, water supplies are a critical problem which could well limit the growth of chemical industries. With the rapid development of pipeline facilities to supply chemical intermediates along much of the Gulf Coast area and with the continued expansion of barge canals allowing companies increasing freedom in the selection of plant locations, the availability of water supplies may become a primary consideration in ultimate industrial site selection.

In Louisiana, a new outlet from the Mississippi to the Gulf Coast which will be navigable by 1963 should provide improved deepwater shipping facilities as far upstream as Baton Rouge. In addition to having impressive fresh-water resources, excellent water transportation facilities, and other advantages, this area is particularly rich in natural gas heavily laden with petroleum liquids suitable for petrochemical manufacture.

Conclusion

It now appears probable that the absolute rate of growth of the southwestern petrochemical industry may be maintained at near the current level for the next several years and the Southwest will continue to attract the major share of the Nation's petrochemical expansion. As local markets for fabricated plastics and fabrics expand, more chemical intermediates will assume final form in the Southwest, but the major role of the area's petrochemical industry in the near future likely will remain that of a supplier of chemical materials to fabricators located in other parts of the Nation.

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BUSINESS REVIEW

BUSINESS, AGRICULTURAL, AND FINANCIAL CONDITIONS

Eleventh District agricultural conditions continue favorable, although recurring rains are delaying harvesting and are damaging some crops. Output of cotton, rice, wheat, flaxseed, pecans, and some vegetables is indicated to be larger than in 1959; but production of grain sorghums, corn, peanuts, hay, and oats is expected to be smaller. Ranges and livestock remain in good condition.

Texas crude oil production in September will be limited to 8 days for the fifth consecutive month. Crude runs to District refinery stills remained high during the first half of August, but, with market demand strong, prices of finished products generally advanced.

Retail sales at District department stores in July declined 4 percent from June and 3 percent from July 1959. The declines appear to reflect mainly the fact that the recent July had one less business day than either of the other months; thus, the seasonally adjusted level exceeded both June and a year ago. Department store inventories at the end of July were 5 percent more than on the same date last year.

Construction contracts awarded in the Eleventh District states during June increased significantly over May but were somewhat below a year ago. Nonresidential awards accounted for all of the month-to-month increase.

Nonagricultural employment in the District states declined seasonally during July. In Texas, unemployment rose to 180,500, which is 4.9 percent of the labor force. The Texas industrial production index increased sharply to 174 during July; total manufacturing rose 4 points, strongly supported by a 3-percent increase in nondurables output.

District weekly reporting member bank statistics showed conflicting trends in the 4 weeks ended August 17, with demand deposits contracting and time deposits increasing. Gross loans (excluding interbank loans) were virtually unchanged, investment holdings decreased, and cash accounts rose moderately. Reserve positions of all member banks in the District eased considerably during July.

Retail sales at Eleventh District department stores in July reflected strongly sustained consumer spending, despite dollar volume declines of 4 percent from June and 3 percent from July of last year. Normally, department store sales in July show a seasonal summer lag of about 3 percent from the preceding month. This year, the declines from both June 1960 and July 1959 appear to reflect mainly the fact that the recent July had one less business day than either of the other months.

On the basis of daily average sales, purchases at District department stores in July equaled those in June and were fractionally above a year earlier. The adjusted index of sales, which makes allowances for seasonal influences and variations in the number of trading days, rose from 170 in June to 175 in July, compared with 174 in July of last year. For the first 7 months of this year, sales were 1 percent below the same period in 1959.

In the second week of August, department store sales in the District declined 2 percent from the first week. Sales in the 2 weeks ended August 13 were 6 percent

DEPARTMENT STORE SALES

(Percentage change in retail value)

Area	July 1960 from June 1960	July 1960 from July 1959	7 months, 1960 from 1959
Total Eleventh District	—4	—3	—1
Corpus Christi	—5	—2	—3
Dallas	—1	—3	2
El Paso	—15	—16	—13
Fort Worth	—5	—6	—4
Houston	2	—4	0
San Antonio	—6	—7	—4
Shreveport, La.	—6	—5	—3
Waco	—16	—13	—6
Other cities	—7	4	3

INDEXES OF DEPARTMENT STORE SALES AND STOCKS

Eleventh Federal Reserve District

(1947-49 = 100)

Date	SALES (Daily average)		STOCKS (End of month)	
	Unadjusted	Seasonally adjusted	Unadjusted	Seasonally adjusted
1959: July.....	155	174	171	180
1960: May.....	159	159	183	185
June.....	156	170	179	192
July.....	156	175	179p	189p

p — Preliminary.

below the similar period last year. End-of-July inventories at District department stores were virtually unchanged from June but remained above a year ago. Thus far in 1960, inventories have ranged 4 to 8 percent above the comparable months in 1959. Orders outstanding at the end of July were down 8 percent from June but were 3 percent more than a year earlier.

While there has been little change in recent months in the proportions of consumer buying on a cash or a credit basis, charge accounts receivable at the end of July were 6 percent greater than on the same date last year, and instalment accounts outstanding were 14 percent higher. Collections on charge accounts during July comprised 43 percent of balances outstanding at the beginning of the month, compared with 47 percent in July 1959. Instalment collections were 15 percent, compared with 17 percent a year ago.

The outlook for crop and livestock production continued favorable in most of the District during August. Rains improved cotton, grain sorghum, and pasture prospects in northwestern sections of the District, although they delayed harvesting of crops in early sections. Heaviest amounts of precipitation occurred along the Gulf Coast, in south Texas, and in the southern Edwards Plateau area. Some areas in Louisiana, western New Mexico, and Arizona are in need of moisture.

Cotton harvesting is nearing completion in the Lower Valley and is well advanced in the Coastal Bend areas of Texas. Harvesting is increasing along the Upper Coast and is extending into the Blacklands. Grades of unharvested cotton in coastal areas have been lowered by rains, and heavy root rot infestations are expected to reduce yields throughout most of the Blacklands. Moisture has been well timed for dry-land cotton in the Southern High Plains, and in irrigated sections throughout the western portion of the District, the plants are fruiting heavily.

In the District states, a crop of 6,440,000 bales is estimated, or 2 percent above last year's outturn and 6 percent greater than the 10-year average. Increases ranging from 2 percent to 20 percent were noted for Louisiana, Oklahoma, and Arizona; but decreases of 1 percent and 7 percent were forecast for Texas and New Mexico, respectively. The Texas crop of an estimated 4,375,000 bales is still 7 percent above average. Prospective cotton production in the Nation, as of August 1, is placed at 14,471,000 bales, or 1 percent below last year's output but 6 percent above the 1949-58 average.

Combining of grain sorghums has begun in the Trans-Pecos area, and early fields are coloring in the Southern High Plains of Texas. Moisture conditions have been favorable in dry-land grain sorghum areas, and good yields are anticipated. Grain sorghum output in the District states, as of August 1, is indicated to be 281 million bushels, or one-tenth below that of last year. The Texas crop is also 10 percent less than in 1959.

Corn picking is in progress in the Blacklands, and some of the crop has been harvested in south-central areas of the State. The bulk of the harvesting probably will not get under way until September. Corn output in the District states is estimated to be one-fifth below that in 1959. Rains delayed combining of rice, and some mature rice is lodging; recurring rains are making it difficult for farmers to drain fields. Rice production in Louisiana and Texas is indicated to be only slightly above last year's output. Harvesting of early south Texas peanuts is under way, and the crop is developing fairly satisfactorily in later areas. However, peanuts would

CROP PRODUCTION

(In thousands of bushels)

Crop	TEXAS			FIVE SOUTHWESTERN STATES[1]		
	1960, estimated Aug. 1	1959	Average 1949-58	1960, estimated Aug. 1	1959	Average 1949-58
Cotton[2].....	4,375	4,416	4,072	6,440	6,327	6,072
Corn.....	32,592	42,728	41,318	57,091	72,139	69,317
Winter wheat....	87,728	59,850	36,751	214,090	157,687	107,189
Oats.....	28,730	26,473	28,388	42,716	42,764	43,937
Barley.....	8,572	5,752	3,045	35,115	29,598	16,278
Rye.....	198	190	236	1,322	1,188	968
Rice[3].....	13,344	13,136	13,050	26,397	26,046	25,356
Sorghum grain...	248,714	277,666	133,416	281,218	311,098	154,380
Flaxseed.....	1,160	357	655	1,185	435	821
Hay[4].....	1,998	2,340	1,846	5,966	6,463	5,349
Peanuts[5].....	187,000	206,635	185,392	321,400	351,435	288,687
Irish potatoes[6]...	2,547	2,562	1,591	6,286	5,565	3,708
Sweet potatoes[6]..	1,320	1,495	1,337	4,258	6,615	6,341
Pecans[5].....	40,000	32,000	31,970	97,500	66,400	69,877

[1] Arizona, Louisiana, New Mexico, Oklahoma, and Texas.
[2] In thousands of bales.
[3] In thousands of bags containing 100 pounds each.
[4] In thousands of tons.
[5] In thousands of pounds.
[6] In thousands of hundredweight.
SOURCE: United States Department of Agriculture.

benefit from additional moisture in the Cross Timbers area. Peanut production is placed at 9 percent below the outturn in 1959.

Conditions in commercial vegetable areas in Texas are varied. Harvesting of potatoes, onions, and carrots in the High Plains has been delayed because of rains. In the Pecos area, excessive rainfall caused heavy damage to cantaloupes, and supplies are expected to be light during the remainder of the season. Shipments of watermelons from the late areas continue to be fairly heavy. Vegetable conditions in the Winter Garden area and in the Lower Valley remain relatively favorable.

Range feed conditions in the District states are generally favorable, although moisture is needed in certain local areas. Spring lambs and calves are moving to market, but contracting of feeders and stockers for fall delivery has been slow.

Between July 20 and August 17, the aggregate banking statistics of the weekly reporting banks in the Eleventh District reflected diverse trends, with a small gain in deposits, a moderate decline in investments, and a further weakening in loan demand. The net effect of these changes was substantial improvements in cash accounts and other assets and a small rise in total assets.

Gross loans (excluding interbank loans) of the weekly reporting banks were almost unchanged during the 4 weeks, with a substantial increase in loans to brokers and dealers for purchasing or carrying securities being offset by moderate declines in commercial and industrial, agricultural, and "all other" (consumer-type) loans. During the comparable period last year, gross loans showed a sizable decline, mainly because of a reduction in loans to brokers and dealers. Between August 19, 1959, and August 17, 1960, commercial and industrial loans declined 2 percent, and agricultural loans, 25 percent. Consumer-type loans were about 4 percent above a year earlier.

Investment accounts of the weekly reporting member banks were reduced $22.6 million during the 4 weeks ended August 17. Holdings of United States Government securities declined $28.7 million; the decline was concentrated in Treasury bill holdings as the banks further adjusted their accounts after participating in the July Treasury financings. Holdings of Treasury notes and bonds maturing within 1 year and over 5 years rose moderately, while holdings maturing after 1 but within 5 years decreased. Non-Government investment accounts increased slightly.

Total deposits of the weekly reporting banks advanced $19.7 million, as a moderate decline in demand deposits was concealed by a fairly sharp expansion in time deposits. In the demand deposit categories, reductions in the balances of individuals, partnerships, and corporations and of the United States Government were

CONDITION STATISTICS OF WEEKLY REPORTING MEMBER BANKS IN LEADING CITIES

Eleventh Federal Reserve District

(In thousands of dollars)

Item	August 17, 1960	July 20, 1960	August 19, 1959
ASSETS			
Commercial and industrial loans	1,471,897	1,474,707	1,503,709
Agricultural loans	30,391	30,789	40,545
Loans to brokers and dealers for purchasing or carrying:			
U. S. Government securities	13,604	274	768
Other securities	21,965	18,486	15,353
Other loans for purchasing or carrying:			
U. S. Government securities	9,585	10,231	7,611
Other securities	178,424	179,502	183,713
Loans to nonbank financial institutions:			
Sales finance, personal finance, etc.	128,428	121,479	129,849
Savings banks, mtge. cos., ins. cos., etc.	125,740	137,200	115,655
Loans to foreign banks	347	347	34
Loans to domestic commercial banks	64,713	80,892	22,588
Real-estate loans	204,498	203,883	213,406
All other loans	748,753	756,327	718,409
Gross loans	2,998,345	3,014,117	2,951,640
Less reserves and unallocated charge-offs	55,346	55,285	50,763
Net loans	2,942,999	2,958,832	2,900,877
Treasury bills	95,599	147,362	147,743
Treasury certificates of indebtedness	33,332	24,418	47,698
Treasury notes and U. S. Government bonds, including guaranteed obligations, maturing:			
Within 1 year	74,806	61,817	52,593
After 1 but within 5 years	825,834	840,724	842,873
After 5 years	297,461	281,374	301,725
Other securities	352,612	346,525	335,466
Total investments	1,679,644	1,702,220	1,728,098
Cash items in process of collection	505,145	472,555	500,644
Balances with banks in the United States	465,699	454,497	487,408
Balances with banks in foreign countries	1,660	1,772	1,610
Currency and coin	51,908	51,794	50,383
Reserves with Federal Reserve Bank	568,031	560,260	537,964
Other assets	167,918	172,947	162,320
TOTAL ASSETS	6,383,004	6,374,877	6,369,304
LIABILITIES AND CAPITAL ACCOUNTS			
Demand deposits			
Individuals, partnerships, and corporations	2,878,107	2,898,613	2,937,955
United States Government	144,256	231,129	250,177
States and political subdivisions	224,071	210,182	190,516
Banks in the United States	948,685	895,847	938,728
Banks in foreign countries	19,156	13,295	19,811
Certified and officers' checks, etc.	42,760	43,856	64,827
Total demand deposits	4,257,035	4,292,922	4,402,014
Time deposits			
Individuals, partnerships, and corporations	1,092,677	1,050,381	1,068,379
United States Government	8,455	8,455	7,035
Postal savings	394	394	421
States and political subdivisions	237,729	225,584	173,430
Banks in the U. S. and foreign countries	4,794	3,678	2,873
Total time deposits	1,344,049	1,288,492	1,252,138
Total deposits	5,601,084	5,581,414	5,654,152
Bills payable, rediscounts, etc.	127,709	154,601	119,606
All other liabilities	94,272	83,331	60,513
Capital accounts	559,939	555,531	535,033
TOTAL LIABILITIES AND CAPITAL ACCOUNTS	6,383,004	6,374,877	6,369,304

RESERVE POSITIONS OF MEMBER BANKS

Eleventh Federal Reserve District

(Averages of daily figures. In thousands of dollars)

Item	4 weeks ended August 3, 1960	5 weeks ended July 6, 1960	Month of July 1959
RESERVE CITY BANKS			
Total reserves held	550,220	531,872	549,242
With Federal Reserve Bank	548,112	529,821	—
Cash allowed as reserves	2,108	2,051	—
Required reserves	544,366	525,436	543,855
Excess reserves	5,854	6,436	5,387
Borrowings	4,577	11,489	37,699
Free reserves	1,277	—5,053	—32,312
COUNTRY BANKS			
Total reserves held	445,697	441,179	447,624
With Federal Reserve Bank	436,890	434,415	—
Cash allowed as reserves	8,807	6,764	—
Required reserves	396,228	395,843	407,525
Excess reserves	49,469	45,336	40,990
Borrowings	15,639	17,864	10,054
Free reserves	33,830	27,472	30,045
ALL MEMBER BANKS			
Total reserves held	995,917	973,051	996,866
With Federal Reserve Bank	985,002	964,236	—
Cash allowed as reserves	10,915	8,815	—
Required reserves	940,594	921,279	951,380
Excess reserves	55,323	51,772	45,486
Borrowings	20,216	29,353	47,753
Free reserves	35,107	22,419	—2,267

NOTE. — Regulations permitting member banks to count part of their vault cash in meeting reserve requirements became effective in December 1959, and on January 1, 1960, the reserve computation period for country member banks was changed to a biweekly basis. Therefore, monthly data comparable to year-earlier material are not available.

almost offset by sharp gains in interbank accounts and accounts of states and political subdivisions. Within the time deposit sectors, the largest improvement occurred in accounts of individuals, partnerships, and corporations.

Reserve positions of District member banks rose moderately during the 4 weeks ended August 3, 1960. Total reserves were almost the same as a year earlier, but required reserves and borrowings were noticeably lower; excess reserves and free reserves were much improved. Although all of the recent increase in excess reserves occurred at country banks, the decline in borrowings centered at reserve city banks. Thus, average free reserves continued to expand, with the gains nearly evenly split between country banks and reserve city banks. Compared with a year earlier, the reserve city banks showed the greatest improvement in reserve positions.

Total earning assets of the Federal Reserve Bank of Dallas declined $3.8 million between July 20 and August 17. Although the Bank's holdings of Government securities advanced $17.7 million, there was a more than offsetting reduction of $21.5 million in discounts for member banks. Federal Reserve notes in circulation rose $10.5 million in this 4-week period and were about $14.5 million above a year earlier. Gold certificate reserves expanded even faster.

Although spot crude oil supplies reportedly are limited in the Eleventh District, only a small increase in crude oil production is anticipated in September. Output will continue to be limited to 8 days in Texas, but daily average production is scheduled to increase about 3 percent because of the shorter month. Texas production schedules were limited to 71 days in the first 8 months of 1960, compared with 86 days for the same period last year. Thus far this year, Texas has supplied 36.8 percent of total United States production, or well below the State's 45-percent share in recent years.

In early August, daily average crude oil production in the District and in the United States was unchanged from the July levels. District crude oil production was 2 percent lower than in August 1959, though production in the United States was moderately higher. Total petroleum imports increased slightly more than 4 percent during the 5 weeks ended August 12 and rose 21 percent over a year earlier.

District crude runs to refinery stills for the first 2 weeks of August, averaging 2,379,000 barrels daily, remained at the advanced July level and were 6 percent greater than a year ago. Daily average crude runs in the United States were near record levels in the first part of August but were only 3 percent greater than in August 1959.

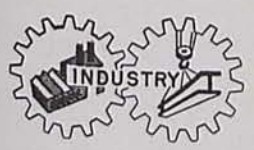
Crude oil stocks in the Nation, totaling 241 million barrels on August 12, decreased 3 percent from the month-earlier level and were 8 percent below a year ago. Comparable declines occurred in District crude oil stocks. Gulf Coast crude oil prices firmed, with prices generally restored to the April 1960 level; however, major oil companies reduced crude oil prices in the Middle East.

NEW MEMBER BANK

The First National Bank of Alvin, Alvin, Texas, a newly organized institution located in the territory served by the Houston Branch of the Federal Reserve Bank of Dallas, opened for business August 1, 1960, as a member of the Federal Reserve System. The new member bank has capital of $200,000, surplus of $100,000, and undivided profits of $100,000. The officers are: E. L. Boston, President and Chairman of the Board; Van D. Gillen, Executive Vice President and Cashier; E. A. Cain, Assistant Cashier; and Lillie Belle LaBounty, Assistant Cashier.

Demand for the four major petroleum products in the 5 weeks ended August 12 continued strong and was 4 percent above the comparable period last year. Because of increased refinery output, stocks of the four products rose 4 percent but remained lower than a year earlier. Gasoline demand, seasonally unchanged at 4.5 million barrels daily during the 5 weeks ended August 12, increased almost 3 percent over the year-earlier level. Gasoline stocks declined, and prices of regular gasoline advanced.

The demand for distillate fuel oil decreased 6 percent in the 5 weeks ended August 12, but residual fuel oil demand increased 2 percent. Stocks of both products advanced, although they were still at significantly lower levels than a year ago. Distillate and residual fuel oil prices remain strong. The United States Department of the Interior has established the fourth-quarter residual fuel oil quota at 415,000 barrels per day, or roughly equal to the comparable 1957 rate but 5 percent less than in the last quarter of 1959. The quota is markedly lower than that requested by New England marketers.



The total value of construction contracts awarded in the District states during June increased 13 percent over the preceding month but was 7 percent below a year ago. The very sharp month-to-month increase of 25 percent in "all other" awards more than offset a very minor decline in residential awards. The cumulative value of contracts awarded in the District states in the first 6 months of this year was about 5 percent lower than in the same period in 1959. All of the decrease occurred in residential awards, which were down 16 percent, while "all other" awards were 6 percent higher than in the first half of last year.

INDUSTRIAL PRODUCTION

(Seasonally adjusted indexes, 1947-49 = 100)

Area and type of index	July 1960p	June 1960	May 1960	July 1959
TEXAS				
Total industrial production	174	171	172	168
Total manufactures	219	215	217	205
Durable manufactures	248	247	252	236
Nondurable manufactures	206	201	202	191
Mining	130	129	129r	131
UNITED STATES				
Total industrial production	166	166	167	163r
Total manufactures	165	165	166	163r
Durable manufactures	171	171	174	171r
Nondurable manufactures	163	162	162r	159r
Mining	128	126	128r	123r
Utilities	292	290	286r	271

p — Preliminary.
r — Revised.
SOURCES: Board of Governors of the Federal Reserve System.
Federal Reserve Bank of Dallas.

The index of Texas industrial production during July increased to 174, which is 3 points above the June level and 6 points above the July 1959 figure. Total manufacturing rose sharply from June. Durable goods manufacturing advanced slightly because of greater activity in transportation equipment, fabricated metals, furniture, machinery, and stone, clay, and glass industries. Nondurable goods output rose substantially during July as the manufacture of chemicals, food, petroleum, and other products increased. July mining activity moved upward moderately for the first advance since February and compared favorably with the year-earlier level.

Nonagricultural employment in the five southwestern states declined seasonally in July to a level of 4,414,400, which is 1.4 percent higher than a year earlier but is very slightly below the revised June level. Both manufacturing and nonmanufacturing employment decreased slightly from June. Nonmanufacturing employment was higher than a year ago, but manufacturing employment was lower. Among the principal sectors of nonmanufacturing employment, construction held steady in July and was above a year earlier. Mining employment declined very little in July but was almost 6 percent below the July 1959 figure. Government and transportation employment decreased somewhat; however, all other nonmanufacturing sectors showed continued increases over the preceding month.

Unemployment in Texas increased during July to 180,500, or 4.9 percent of the nonfarm labor force. During the last 2 weeks of July, however, insured unemployment declined about 6 percent, indicating some possible improvement.

NONAGRICULTURAL EMPLOYMENT

Five Southwestern States[1]

Type of employment	Number of persons			Percent change July 1960 from	
	July 1960e	June 1960	July 1959r	June 1960	July 1959
Total nonagricultural wage and salary workers	4,414,400	4,427,100	4,354,200	—0.3	1.4
Manufacturing	785,900	789,600	787,900	—.5	—.3
Nonmanufacturing	3,628,500	3,637,500	3,566,300	—.3	1.7
Mining	249,600	250,100	264,700	—.2	—5.7
Construction	312,100	312,200	311,600	.0	.2
Transportation and public utilities	405,800	408,700	409,500	—.7	—.9
Trade	1,095,500	1,094,200	1,065,800	.1	2.8
Finance	201,700	200,500	195,300	.6	3.3
Service	545,500	543,600	529,600	.3	3.0
Government	818,300	828,200	789,800	—1.2	3.6

[1] Arizona, Louisiana, New Mexico, Oklahoma, and Texas.
e — Estimated.
r — Revised.
SOURCES: State employment agencies.
Federal Reserve Bank of Dallas.

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

(Dollar amounts in thousands)

Area	Debits to demand deposit accounts[1]	Percent change from		Demand deposits[1]	Annual rate of turnover		
	July 1960	June 1960	July 1959	July 31, 1960	July 1960	June 1960	July 1959
ARIZONA							
Tucson	$ 217,550	—14	—5	$ 127,062	20.5	22.7	21.4
LOUISIANA							
Monroe	78,204	—2	—6	50,544	18.1	18.6	17.5
Shreveport	315,940	—6	0	179,027	21.2	22.6	19.2
NEW MEXICO							
Roswell	40,769	0	3	29,125	16.4	16.1	15.8
TEXAS							
Abilene	91,706	—7	—10	60,490	18.0	19.0	19.1
Amarillo	225,485	1	—6	115,853	23.8	24.2	23.8
Austin	197,688	—3	—6	142,671	16.8	17.8	16.1
Beaumont	150,956	—8	—8	95,660	19.0	20.6	19.4
Corpus Christi	193,824	2	—4	105,558	22.4	22.0	21.6
Corsicana	16,620	4	5	18,321	10.7	10.1	9.4
Dallas	2,630,913	—8	—1	1,167,052	27.2	30.6	28.0
El Paso	330,706	0	0	167,746	24.4	24.7	24.5
Fort Worth	748,462	—9	—11	368,596	24.7	27.5	27.0
Galveston	82,659	—1	—10	61,224	16.1	16.3	17.3
Houston	2,337,398	—10	—10	1,286,170	22.3	25.4	24.8
Laredo	26,937	—3	—2	21,522	14.8	15.0	14.6
Lubbock	173,257	—2	—3	104,746	19.7	19.6	19.9
Port Arthur	64,201	2	—6	41,109	18.5	17.8	18.7
San Angelo	52,412	—3	—12	47,371	13.4	14.3	15.7
San Antonio	560,545	—10	—14	368,113	18.4	20.5	19.7
Texarkana[2]	23,405	—6	2	16,446	17.0	18.1	17.6
Tyler	78,279	—8	—14	57,204	16.2	17.5	18.1
Waco	102,166	—4	—9	68,189	18.1	19.1	19.8
Wichita Falls	109,549	—11	—15	98,968	13.3	14.9	14.6
Total—24 cities	$8,849,631	—8	—6	$4,798,767	22.4	24.6	23.4

[1] Deposits of individuals, partnerships, and corporations and of states and political subdivisions.
[2] These figures include only two banks in Texarkana, Texas. Total debits for all banks in Texarkana, Texas-Arkansas, including one bank located in the Eighth District, amounted to $50,032,000 for the month of July 1960.

CONDITION OF THE FEDERAL RESERVE BANK OF DALLAS

(In thousands of dollars)

Item	August 17, 1960	July 20, 1960	August 19, 1959
Total gold certificate reserves	725,545	675,180	672,604
Discounts for member banks	11,806	33,342	34,110
Other discounts and advances	0	0	0
U. S. Government securities	1,081,363	1,063,673	1,057,452
Total earning assets	1,093,169	1,097,015	1,091,562
Member bank reserve deposits	962,524	948,604	926,778
Federal Reserve notes in actual circulation	806,253	795,704	791,746

DAILY AVERAGE PRODUCTION OF CRUDE OIL

(In thousands of barrels)

Area	July 1960[1]	June 1960[1]	July 1959[2]	Change from June 1960	Change from July 1959
ELEVENTH DISTRICT	2,800.7	2,826.9	2,864.8	—1.0	—2.2
Texas	2,436.0	2,458.3	2,487.7	—1.0	—2.1
Gulf Coast	451.1	457.9	446.9	—1.5	1.0
West Texas	1,074.5	1,083.4	1,124.9	—.8	—4.5
East Texas (proper)	122.0	122.8	133.6	—.7	—8.7
Panhandle	107.8	107.9	108.7	—.1	—.8
Rest of State	680.6	686.3	673.6	—.8	1.0
Southeastern New Mexico	252.2	255.2	253.6	—1.2	—.6
Northern Louisiana	112.5	113.4	123.5	—.8	—9.0
OUTSIDE ELEVENTH DISTRICT	4,033.4	3,980.7	3,919.4	1.3	3.0
UNITED STATES	6,834.1	6,807.6	6,784.2	.4	.7

SOURCES: [1] Estimated from American Petroleum Institute weekly reports.
[2] United States Bureau of Mines.

CONDITION STATISTICS OF ALL MEMBER BANKS

Eleventh Federal Reserve District

(In millions of dollars)

Item	July 27, 1960	June 29, 1960	July 29, 1959
ASSETS			
Loans and discounts	4,890	4,895	4,746
United States Government obligations	2,483	2,362	2,532
Other securities	818	815	821
Reserves with Federal Reserve Bank	957	906	930
Cash in vault[e]	152	147	144
Balances with banks in the United States	966	1,000	890
Balances with banks in foreign countries[e]	2	2	3
Cash items in process of collection	487	518	464
Other assets[e]	254	265	282
TOTAL ASSETS[e]	11,009	10,910	10,812
LIABILITIES AND CAPITAL ACCOUNTS			
Demand deposits of banks	1,021	1,075	991
Other demand deposits	6,531	6,358	6,561
Time deposits	2,235	2,215	2,132
Total deposits	9,787	9,648	9,684
Borrowings[e]	141	183	135
Other liabilities[e]	125	137	83
Total capital accounts[e]	956	942	910
TOTAL LIABILITIES AND CAPITAL ACCOUNTS[e]	11,009	10,910	10,812

e — Estimated.

VALUE OF CONSTRUCTION CONTRACTS AWARDED

(In thousands of dollars)

Area and type	June 1960	May 1960	June 1959	January—June 1960	January—June 1959
FIVE SOUTHWESTERN STATES[1]	382,649	338,611	410,911	2,011,126	2,110,607
Residential	144,601	147,535	160,310	831,570	992,338
All other	238,048	191,076	250,601	1,179,556	1,118,269
UNITED STATES	3,472,276	3,315,489	3,659,017	17,573,828	18,875,544
Residential	1,482,668	1,450,119	1,761,621	7,600,439	8,884,451
All other	1,989,608	1,865,370	1,897,396	9,973,389	9,991,093

[1] Arizona, Louisiana, New Mexico, Oklahoma, and Texas.
SOURCE: F. W. Dodge Corporation.

BUILDING PERMITS

Area	NUMBER July 1960	NUMBER 7 mos. 1960	VALUATION (Dollar amounts in thousands) July 1960	VALUATION 7 mos. 1960	Percent change July 1960 from June 1960	Percent change July 1960 from July 1959	Percent change 7 months, 1960 from 1959
ARIZONA							
Tucson	829	6,090	$ 2,438	$ 22,615	—45	—59	5
LOUISIANA							
Shreveport	353	3,300	1,638	16,230	—51	—43	—7
TEXAS							
Abilene	102	1,035	1,738	12,279	—24	—53	—34
Amarillo	252	2,212	3,307	21,712	9	22	—4
Austin	253	2,061	4,205	28,188	18	9	—17
Beaumont	347	1,995	1,064	8,356	—39	—70	—34
Corpus Christi	56	426	774	7,227	—30	—84	—49
Dallas	2,191	15,160	13,204	81,975	17	—28	—25
El Paso	536	4,220	4,099	27,651	3	—30	—24
Fort Worth	649	4,689	3,403	29,935	—10	—72	—21
Galveston	133	880	540	4,622	105	160	140
Houston	1,146	8,673	53,287	171,939	59	165	34
Lubbock	173	1,625	2,366	25,106	—13	—63	—35
Port Arthur	175	1,260	957	6,745	26	33	4
San Antonio	1,109	7,958	3,680	32,409	—20	—45	—16
Waco	211	1,690	986	10,753	—18	—18	0
Wichita Falls	172	1,773	5,226	18,071	154	400	79
Total—17 cities	8,687	65,047	$102,912	$525,813	23	3	—6