



Review

FEDERAL RESERVE BANK OF DALLAS

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Business Cycles—

A New Leading Indicator

Food Stamps—

Program Impacts on Southwest

A New Leading Indicator

By Wallace H. Duncan

Individuals, businesses, and national economic policymakers all make decisions based on expectations regarding future economic events. The desire to know the most likely course of these events has generated all manner of forecasting devices and ideas. One of the most widely followed indicators of future economic activity is the Commerce Department's composite index of leading indicators. Just recently this indicator received considerable attention in the press. Until January 1977 it appeared that the Commerce Department's index of leading indicators had declined for three consecutive months from July through September 1976, setting off speculation as to whether a recession was imminent.¹

Evidence from other sources indicated that a near-term recession was unlikely. At the time, most econometric models of the national economy were predicting continued expansion through 1977, albeit at a slower pace. However, only slight reassurance was available from this source since the generally poor record of econometric models at forecasting major turning points is widely recognized among economists and forecasters.

Some analysts suggested that an economic downturn was not likely because no excesses had developed in the economy, such as overly high inventory accumulation, overexpansion of capacity, or excessive buildup of short-term debt. However, such excesses often are not apparent until after a recession is well underway. For example, the inventory-sales ratio of manufacturing and trade in November 1973, the last month of the 1970-73 economic expansion and hence the brink of the recession, was the lowest in over seven years. It was not until late 1974, one year into the recession, that inventories relative to sales became excessive by historical standards.

Thus, all these sources of information about the economic outlook were subject to serious limitations. This article presents an alternative forecasting tool in the form of a new leading indicator. Though not without limitations, it nevertheless has a better record of predicting recessions than the Commerce

Department's index of leading indicators, at times showing that a signal being given by the latter was false. It is less useful than the Commerce index for predicting upturns, however.

A quarterly leading indicator

The new leading indicator is extremely simple to construct. It can be computed by anyone who receives or has access to quarterly GNP data, and it requires less than one minute of computation time.

The rationale for the new indicator is that it is possible to identify certain components of the economy with consistently cyclical behavior and it is the movement of these sectors relative to the other economic sectors that determines business cycles. The quarterly leading indicator identifies when, during an economic expansion, these cyclical components cease growing at a faster rate than the remainder of the economy. Assuming no sudden collapse of the cyclical components, this moment should precede the time when real output actually declines and a recession begins.

The rationale for the new indicator is that it is possible to identify certain components of the economy with consistently cyclical behavior and it is the movement of these sectors relative to the other economic sectors that determines business cycles.

The primary cyclical components of the economy are generally recognized to be consumer durables spending and gross private domestic investment. The latter is comprised of business fixed investment, residential investment, and the change in business inventories. The quarterly leading indicator is constructed as a ratio of the sum of consumer durables spending and residential and business fixed investment to final sales, with all data expressed in real terms. Final sales are defined as gross national product less the change in business inventories. Thus, the indicator is the ratio of the cyclical com-

1. Revisions of the index as of January 28, 1977, showed only two nonconsecutive months of decline in 1976—April and September.

ponents to GNP, except that the change in business inventories has been subtracted from both the numerator and the denominator.

The change in business inventories is extracted from the ratio because of its erratic behavior. An important characteristic of a good leading indicator is that it must have a relatively smooth or uninterrupted trend throughout an expansion or contraction phase. Otherwise, one is faced with a plethora of false signals with the many changes of direction.

Constructing the indicator as a ratio helps to increase its forecasting lead. A simple aggregate of the cyclical components usually also turns down in advance of the economy; however, the ratio form of the indicator turns down as soon as the aggregate merely grows more slowly than the remainder of the economy. In 1948, for example, the ratio comprising

the indicator turned down three quarters in advance of the recession, whereas the aggregate of cyclical components turned down with only a one-quarter lead.

The record of the quarterly leading indicator has been quite good since 1947, when real GNP first began to be calculated at quarterly intervals. Except during wartime, it has signaled the onset of all economic downturns with at least a three-quarter lead. The indicator is also quite smooth in its movement through cycles. Except for economic expansions coinciding with war expansions, it has always risen uninterruptedly from its trough to its peak preceding the next recession.

The propensity toward smoothness is an improvement over the Commerce Department's leading index, which often moves counter to its existing trend for a month or two. The lack of smoothness in the Commerce Department's index has necessitated devising *ad hoc* rules regarding how many consecutive declines constitute a valid downturn signal. The most widely accepted current rule of thumb calls for three consecutive declines.²

Leaving aside for the moment any consideration of war years, the Commerce Department's index falsely signaled a downturn by declining three consecutive months in the spring of 1962. In contrast, the quarterly leading indicator correctly pointed to a continuation of the economic expansion by rising steadily, although its growth in the following quarter was relatively small. And of current importance, it has risen continuously throughout the present expansion, suggesting—contrary to the Commerce Department's index as recently as January—that an end to the expansion is not yet in sight. Had the quarterly leading indicator been in use last fall, there might have been greater assurance concerning the outlook for the economy.

Commerce Department's leading index

While the quarterly leading indicator and the Commerce Department's index of leading indicators have some similar components, their differences are greater than their likenesses. The 12 components of the Commerce Department's leading index are:¹

- Average workweek of production workers in manufacturing
- Layoff rate in manufacturing
- Percentage of companies reporting slower deliveries
- Change in total liquid assets
- Change in sensitive prices
- Contracts and orders for plant and equipment
- Net business formation index
- Index of common stock prices
- Real money supply, M_1 , in 1972 dollars
- New orders for consumer goods and materials
- Building permits
- Change in inventories on hand and on order

1. See the May 1975 and November 1976 issues of *Business Conditions Digest*, U.S. Department of Commerce, for a discussion of each of these components, a general description of the leading index, and the latest change in methodology.

2. One alternative method for smoothing the Commerce Department's leading index, which would make it more comparable with the quarterly leading indicator, would be to use it in quarterly average form. But the comparative smoothness of the quarterly leading indicator in economic expansions does not appear to be due to quarterly averaging alone. For example, even on a quarterly average basis, the Commerce Department's index turned down during a period of economic expansion in 1962 while the new quarterly leading indicator did not.

Another alternative averaging method, having the advantage of providing information on a more timely basis, would be the use of a three-month moving average. But such an average of the Commerce Department's index declined in 1962, 1963, late 1971, and late 1976—each time falsely signaling the proximity of a recession.

Peaks of the quarterly leading indicator and the Commerce Department's leading index have similar timing relative to the peaks of economic expansion. In the last five recessions the average lead of the quarterly leading indicator has been 3.8 quarters. The average lead of the Commerce Department's index has been 10.8 months, or 3.6 quarters.

The ranges between the shortest and longest leads of the quarterly leading indicator and the Commerce Department's leading index are also about the same. For both, the shortest lead occurred preceding the 1953-54 recession and the longest was for the 1957-58 recession. The range, or difference between the shortest and longest leads, is 6 quarters for the quarterly leading indicator and 19 months, or $6\frac{1}{3}$ quarters, for the Commerce Department's index. Obviously, both would be more useful if there were less variability in the length of the lead.

A closer look

Except in wartime, the quarterly leading indicator has risen uninterruptedly from its trough to its peak preceding the next recession. But both of the economic expansions (1949-53 and 1961-69) coincident with wartime expansions of defense spending contain double peaks of the quarterly leading indicator. There are similar double peaks over the same periods for the Commerce Department's leading index. During both periods the initial peak, which proves to be a false peak with respect to signaling an economic downturn, occurs shortly after the first significant U.S. involvement in the war.

The quarterly leading indicator was modified to include national defense spending in the numerator. Data for this ratio, however, are all in nominal values since the GNP accounts do not provide defense spending in real terms.

Adding defense spending to the numerator removes the double-peak effect of the 1949-53 expansion period. The modified indicator rises, with intermittent one-period interruptions, to a peak in the first quarter of 1953, two quarters before the peak of the economic expansion. A comparison of the results with and without defense spending in the numerator suggests that the economic expansion was being sustained by the war buildup, even though the aggregate of consumer durables spending and fixed investment was declining in real terms from \$138.1 billion in the third quarter of 1950 to \$112.1 billion in the third quarter of 1952.

The result of including defense spending in the numerator for the Vietnam War expansion period is

not as dramatic. The dip in the indicator in the first quarter of 1967, though much less precipitous, is still present, and the second major peak is moved forward in time by a full year. Including defense spending has less impact on the pattern of the indicator in the late 1960's than in the early 1950's because the increase in defense spending was much less pronounced during the Vietnam War buildup than during the Korean War buildup.

The record of the modified indicator during war years is not sufficiently smooth, however, to qualify it as a good leading indicator. Too many false signals obscure the location of the correct downturn in the indicator signaling a recession. But the modification does provide an explanation of why the economy continued to expand several more years despite the drops in the quarterly leading indicator beginning in the fourth quarter of 1950 and the second quarter of 1966.

Limitations of the unmodified indicator during war expansions do not detract from its usefulness during other periods. In the remaining four expansions since World War II, it has a remarkable record of uninterrupted advance to a peak signaling the next recession. In three of these, it consistently turned down three quarters before the recession. But the peak preceding the 1957-58 recession was fully eight quarters in advance. This was virtually identical to the lead of 23 months provided by the Commerce Department's leading index. Why was the recession so long in coming, following concurring signals by both indicators?

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While there can be no completely satisfactory answer to this question, it is significant that the expansion was only barely sustained during the period beyond its scheduled demise. In the first half of the expansion, from the second quarter of 1954 to the fourth quarter of 1955, real economic growth was at an annual rate of 6.6 percent but then fell to

only 1.6 percent from the fourth quarter of 1955 to the third quarter of 1957. The period of fast growth ended one quarter after the peak of the quarterly leading indicator. Even if both indicators signaled the recession unduly early, they both provided forewarning of the slowdown in growth.

The major weakness of the quarterly leading indicator is its inability to signal the end of recessions. The upturn of the indicator actually lags, instead of leads, two of the six recessions. This is partly due to the role of business fixed investment, which generally contributes strength to an expansion once it is underway but is usually weak in the early stage. But even if business fixed investment is eliminated from the numerator of the indicator, the new ratio still produces only relatively short lead intervals—3, 3, 0, 0, 0, 0, measured in quarters—for the six recession upturns. The average lead is one quarter, which is not very different from the average lead of four months provided by the Commerce Department's leading index.

A coincident upturn in the majority of instances is still not a satisfactory record for a leading indicator. The problem is that the signs pointing to the end of a recession occur with a very short lead and a quarterly indicator simply does not divide time in fine enough increments to provide a good leading signal. Thus, for purposes of signaling the end of a recession, the Commerce Department's leading index, which is calculated from monthly data, is more useful than the quarterly leading indicator.

Summary

The quarterly leading indicator measures the aggregate strength of real spending for consumer durables and residential and business fixed investment relative to final sales. It is superior to the Commerce Department's leading index for signaling the onset of recessions because of its greater smoothness and more consistent leads. In the spring of 1962, it correctly signaled a continuation of the economic expansion, while the Commerce Department's index recorded a three-month decline. And its continued rise throughout the present expansion would have provided much-needed assurance when the Commerce Department's index recorded a tentative downturn signal last fall.

Like the Commerce Department's leading index, however, the quarterly leading indicator is of only limited usefulness during war expansions, tending to show double peaks and more irregular quarter-to-quarter movements. And, also like the Commerce Department's index, its downturn preceding the 1957-58 recession was unusually early. Its greatest weakness is in predicting economic upturns, since quarterly data are simply not timely enough to detect the very short lead of signals pointing to the end of recession. For this purpose, the Commerce Department's index is more useful, providing a relatively short but consistently leading signal.

New par bank

Bank of Choudrant, Choudrant, Louisiana, an insured nonmember bank located in the territory served by the Head Office of the Federal Reserve Bank of Dallas, began remitting at par February 16, 1977. The officers are: D. E. O'Neal, Chairman; H. H. Smith, President; W. G. Kelly, Vice President; H. R. Howell, Vice President and Cashier; Betty Barnes, Assistant Cashier; and Sue McDaniel, Assistant Cashier.

Appendix

The following tables show numerical values for the quarterly leading indicator and the indicator modified to include defense spending. GNP data for computing the ratios were taken from the *Survey of Current Business* published by the U.S. Department of Commerce.

The quarterly leading indicator shows a decline from the first to the second quarter

VALUES FOR QUARTERLY LEADING INDICATOR

Year	First quarter	Second quarter	Third quarter	Fourth quarter
1947 ...	.2134	.2082	.2120	.2280
1948 ...	.2320	.2292	.2275	.2234
1949 ...	.2133	.2121	.2138	.2192
1950 ...	.2268	.2364	.2584	.2462
1951 ...	.2342	.2154	.2058	.2011
1952 ...	.2015	.2011	.1891	.2016
1953 ...	.2056	.2043	.2048	.2049
1954 ...	.2039	.2076	.2115	.2155
1955 ...	.2224	.2311	.2333	.2312
1956 ...	.2239	.2225	.2214	.2184
1957 ...	.2171	.2140	.2132	.2117
1958 ...	.2031	.1969	.1962	.2021
1959 ...	.2110	.2160	.2169	.2120
1960 ...	.2161	.2114	.2070	.2040
1961 ...	.1976	.1988	.2017	.2044
1962 ...	.2058	.2092	.2095	.2100
1963 ...	.2108	.2160	.2165	.2191
1964 ...	.2200	.2194	.2205	.2189
1965 ...	.2302	.2311	.2326	.2340
1966 ...	.2384	.2328	.2313	.2250
1967 ...	.2183	.2219	.2209	.2240
1968 ...	.2283	.2270	.2291	.2325
1969 ...	.2360	.2346	.2334	.2298
1970 ...	.2256	.2251	.2241	.2191
1971 ...	.2280	.2331	.2358	.2415
1972 ...	.2470	.2475	.2487	.2554
1973 ...	.2609	.2595	.2553	.2502
1974 ...	.2447	.2423	.2378	.2232
1975 ...	.2165	.2135	.2188	.2209
1976 ...	.2274	.2289	.2307	.2319

NOTE: The formula for calculating these values is—

$$QLI = \frac{CD_r + BFI_r + RFI_r}{FS_r}$$

where *QLI* = quarterly leading indicator; *CD* = consumption expenditures on durable goods; *BFI* = business, or nonresidential, fixed investment; *RFI* = residential fixed investment; *FS* = final sales; and *r* = subscript denoting a value measured in real, or constant, dollars.

of 1947 during a period of apparent economic expansion as dated by the National Bureau of Economic Research (NBER). However, since the Commerce Department's leading index is not available for this period for comparison, the decline was not plotted in the chart of the quarterly leading indicator accompanying the text.

Even though the NBER designates the period of this decline in the quarterly leading indicator as one of economic expansion, available annual data show a continuing decline in real GNP from 1944 through 1947, with a greater percentage drop in real GNP between 1946 and 1947 than for any subsequent years. Thus, this trough in the quarterly leading indicator appears to be associated with a very substantial decline in economic activity—one, however, that is not included in the business contraction from February to October 1945 dated by the NBER.

VALUES FOR QUARTERLY LEADING INDICATOR MODIFIED TO INCLUDE DEFENSE SPENDING

Year	First quarter	Second quarter	Third quarter	Fourth quarter
1950 ...	—	.3175	.3463	.3403
1951 ...	.3491	.3453	.3527	.3557
1952 ...	.3577	.3623	.3531	.3680
1953 ...	.3702	.3701	.3658	.3601
1954 ...	.3500	.3479	—	—
1964 ...	—	—	—	.3071
1965 ...	.3158	.3148	.3158	.3193
1966 ...	.3237	.3216	.3239	.3203
1967 ...	.3170	.3206	.3207	.3228
1968 ...	.3274	.3250	.3248	.3271
1969 ...	.3267	.3239	.3221	.3170
1970 ...	.3084	.3037	.3009	.2951

NOTE: The formula for calculating these values is—

$$QLI_m = \frac{CD_n + BFI_n + RFI_n + ND_n}{FS_n}$$

where *ND* = national defense expenditures, *m* = subscript denoting modification to include defense spending, and *n* = subscript denoting a value measured in nominal, or current, dollars.

All other terms are defined in the table "Values for Quarterly Leading Indicator."

Program Impacts on Southwest

By *Edward L. McClelland*

Food stamps have become the Government's largest food subsidy program, providing \$5.3 billion in supplemental income to 18 million people in fiscal 1976. Much of the growth in the program came as food stamps replaced the older program of direct distribution of surplus agricultural commodities. The principal advantage of food stamps is their flexibility of use. Food coupons are used to purchase a wide variety of food items on demand, whereas the distribution of surplus commodities was a more cumbersome operation. The commodities were handled outside the normal channel of distribution—food stores—and the limited number of items and time of delivery often did not coincide with household demand.

Growth of the food stamp program in the Southwest generally lagged the increased participation in the nation. While Louisiana and New Mexico implemented the program in the sixties, the surge in the Southwest's participation came after 1973, when the direct food distribution program was eliminated and Oklahoma and Texas implemented food stamps on a statewide basis. And because the states of the Eleventh District have a greater proportion of low-income households than does the nation as a whole, both the participation rates and the benefits of the program are potentially greater in the four states.

Despite the fast growth in food stamps, it is estimated that only half the people with incomes below the poverty level participate in the program. Many of those that do not participate have found the cost and trouble of being certified for food coupons are greater than the relatively small benefits they could receive. For households in the lowest income levels, however, the trouble has been worthwhile as the benefits substantially increase their ability to purchase food.

Origins and growth

Federally subsidized family food assistance programs were initiated during the Great Depression when farmers lost their markets and millions of people became unemployed. With large excess supplies of agricultural commodities accumulating and with households unable to maintain adequate diets because of the loss of family incomes, the Govern-

ment initiated farm relief legislation in 1933 to distribute surplus commodities directly to needy families. Participation reached an all-time high in mid-1939, when nearly 12.7 million persons received direct food assistance, and then declined sharply during World War II.

In the postwar period, participation in the food distribution program increased from a low of 58,000 persons in mid-1946 to a peak of 6.4 million in mid-1962. The food distribution program has since declined and is now virtually ended. The decline of direct distribution coincided with the rise in the food stamp program, which is now the largest of the Government's food assistance programs. The shift to stamps resulted largely from problems inherent in the direct distribution program. Direct food distribution required participants to line up at central distribution points at specified times for their food quotas. This often required people to travel beyond their neighborhoods, where other food might be readily available. In addition, the number of commodities distributed was limited. Depending on location, anywhere from 5 to 24 commodities might be available. Items commonly meted out were cornmeal, cheese, dried milk, and rice.

What are food stamps and who gets them?

Food coupons are a benefit in kind—cash vouchers that can only be used to buy food items. Coupons are issued to welfare recipients and to households whose eligibility for food stamps is determined by the family's net income and assets. The quantity of coupons made available to a household depends on its size—the more members, the bigger the allotment. Households purchase the coupons at a discount that varies with net household income. The poorest households, however, pay nothing for them. The difference in value between the food stamps and what people pay for them is called the bonus.

Where few items were available, the potential to prepare a wide variety of meals was limited, and the monotony of routine diets led to waste of unwanted staples. Spoilage added further to waste as many recipients did not have adequate storage facilities to preserve food supplies in the interval between distributions. Refrigeration, for example, was often inadequate to keep perishables even a short time.

Food stamps began as an experiment in Rochester, New York, in 1939 and expanded to 1,741 counties before the program was terminated in 1943, when the war effort reduced supplies of surplus commodities and the need for food assistance. It was not until the late fifties when agricultural surpluses again became a serious problem that the idea of food stamps was revived by the U.S. Department of Agriculture, and in 1961 a pilot program was begun.

The Food Stamp Act of 1964 established a permanent food stamp program and authorized its expansion through cooperating state welfare agencies, which set the standards of eligibility. The food stamp *allotment*—the amount of coupons a household receives—increases with size of household. But the increase scales downward for the larger house-

holds roughly in proportion to the economies of scale that exist in food purchasing and preparation. The *purchase requirement*—the amount people have to pay for the stamps—was set at a level determined to be “normal” food expenditures of participating households. But unlike the Rochester program, which had restricted the use of some stamps to surplus food commodities, the 1964 program placed few restrictions on the types of food items that could be purchased.

Participation in the food stamp program rose sharply after enactment of the 1964 act. At the end of fiscal 1966, more than 1.2 million persons were receiving stamps, double the number that had participated on an experimental basis the year before. At the same time, the number of people in the direct food distribution program dropped to fewer than 4 million. Food stamp participation continued to rise sharply through the sixties and reached 10.5 million by mid-1971. That year, 250 counties switched to food stamps from direct food distribution, and eligibility requirements were made uniform nationwide.

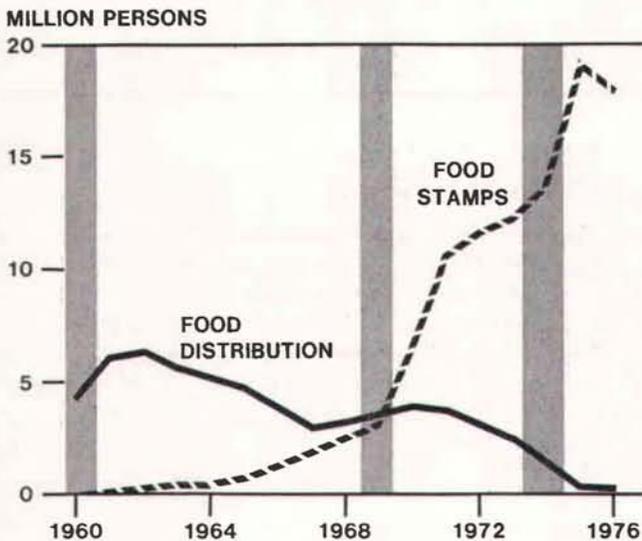
In 1973, an amendment to the act extended the food stamp program to all states on a mandatory basis and virtually ended direct food distribution. As a result, total participation was boosted substantially, and all that remained of the direct distribution program was operations on Indian reservations.

The last major extension of the program, in 1975, allowed Puerto Rico to participate in the food stamp program. Total participation reached a peak of 19.3 million in April 1975, up from about 13.5 million a year earlier. However, with the recovery in business activity that began in the spring of 1975 and renewed growth in total employment, participation began trending down for the first time, reaching 17.3 million in September 1976.

The cost of the food stamp program has risen commensurate with the increase in participation. In fiscal 1965 the *bonus*—the difference in the value of food stamps issued and the money paid for the coupons—totaled \$32.5 million. It reached more than \$1.5 billion in fiscal 1971. After the shift to food stamps from direct distribution was completed, the bonus reached \$4.4 billion in fiscal 1975. The bonus rose further in fiscal 1976 to \$5.3 billion, even though total participation was declining.

The total cost of the food stamp program increased sharply not only because of the rise in total participation but also because of the large adjustments in individual benefits. In 1968, for example, the bonus averaged \$6.52 per participant per month;

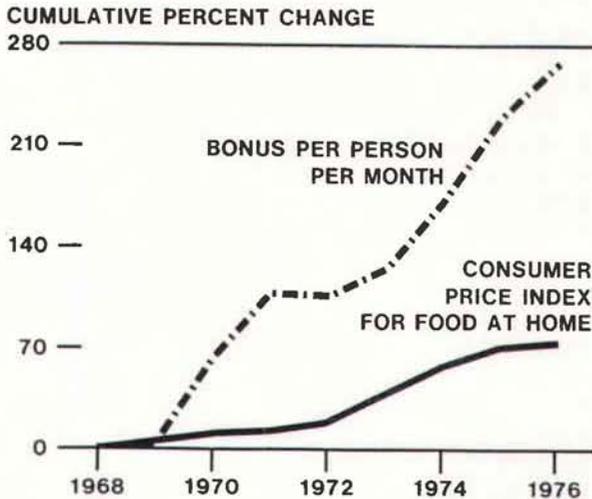
Food stamps replaced older program of direct food distribution



NOTE: Shaded areas indicate business contractions as dated by the National Bureau of Economic Research.

SOURCES: U.S. Department of Agriculture.
U.S. Department of Commerce.

Growth in food stamp bonus outpaced rise in food prices



SOURCES: U.S. Bureau of Labor Statistics.
U.S. Department of Agriculture.

by 1976 it had increased to \$23.89. Over this same period the consumer price index for food consumed at home rose 74 percent, compared with a 266-percent increase in the average bonus per participant—more than doubling average real benefits.

The first significant increase in benefits came as a result of a 1969 amendment to the Food Stamp Act. The monthly food stamp allotment for a household of four, for example, was raised from \$58 to \$106. In addition, food stamp allotments, which had varied widely between northern and southern states, were made uniform by giving a relatively larger increase in benefits to participants living in the South.

Provisions were made in the 1964 act for an annual adjustment in the food stamp allotments. And in 1973 the act was amended to increase the frequency of reviews for food cost adjustments to two times a year. Adjustments are made when the rise in food prices, as measured by the consumer price index for food consumed at home, is large enough to increase the face value of a coupon allotment \$2 or more.

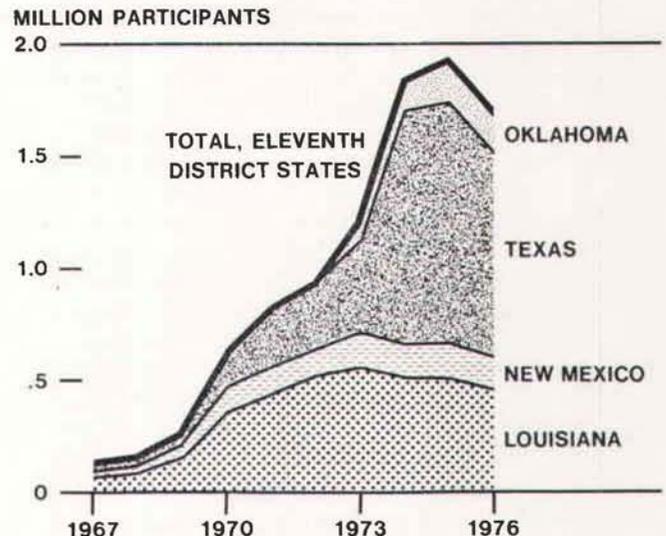
Impact on Eleventh District states

Growth of the food stamp program in the four states of the Eleventh District has been uneven because until 1973, Texas and Oklahoma chose direct distribution as their major family food assistance program.

In Louisiana and New Mexico, on the other hand, growth of the food stamp program was more in line with that in other states. In mid-1968, for example, coupons were issued in 30 of Louisiana's 64 parishes to an average of more than 84,000 participants monthly. At the same time, 19 of 32 counties in New Mexico issued food stamps to an average 31,000 participants. By the end of fiscal 1973, the food stamp program had expanded to all parishes in Louisiana and to all counties in New Mexico, and total participation in the two states reached a peak that year.

From a high of better than half a million, the average number of monthly participants in Louisiana dropped to 469,000 in mid-1976. Similarly, participation dropped from more than 162,000 in New Mexico in mid-1973 to 140,000 in mid-1976. The decrease in participation has occurred for several reasons. Perhaps the most important is that many participants found that the bonus to which they were entitled was not worth the cost and trouble of maintaining eligibility—often requiring monthly recertification. Moreover, a growing awareness of this problem probably deterred some new participants from entering the program. More recently, the economic recovery has stimulated the demand for labor, and some participants have

Food stamp participation surged when Texas expanded its program



SOURCE: U.S. Department of Agriculture.

left the program as they returned to work and began receiving incomes in excess of the eligibility requirements.

Because Oklahoma and Texas were late in implementing food stamps, growth of the program in these states did not rise sharply until their food distribution programs were eliminated. Food stamps were not issued in Oklahoma prior to fiscal 1973, but nearly 184,000 participants qualified for coupons by the end of fiscal 1975. In Texas, food stamps were issued in a few counties in the sixties. But when the program was extended statewide, total participation surged to a peak of nearly 1.1 million people in mid-1975, or four times as many as four years earlier.

Participation dropped in mid-1976 to 172,000 in Oklahoma and 903,000 in Texas. The biggest reason for the decline was the improved labor market conditions that accompanied economic recovery

in the Southwest. But as the program matured, the disadvantages became more widely known and reduced participation in these states, as in Louisiana and New Mexico.

The rise in the cost of the food stamp program in the four-state area reflected the surge in participation. The value of the bonus rose from less than \$60 million in fiscal 1970, for example, to a peak of better than \$551 million in fiscal 1975. In fiscal 1976, declines in New Mexico and Texas more than offset continuing increases in Louisiana and Oklahoma, so the bonus to the four-state area dropped to less than \$538 million in fiscal 1976. The increases in the bonus in Louisiana and Oklahoma are attributed to several factors. Benefits per participant have continued to increase, and the turnover in participation may have increased such that relatively more lower-income households are in the program now than previously.

How the food stamp program works

The food stamp program is administered by a number of governmental and private organizations. While the objectives of the program are the same nationwide, the operations vary somewhat from state to state.

The initial operation is certification of eligible households. This function is carried out at the state level by state welfare agencies. But to ensure broad participation, the welfare agencies operate offices at the county level. At that level, the agency is in a better position to certify the eligibility of needy households and to conduct the outreach program—inform low-income households of the availability and benefits of the food program and encourage participation.

To qualify for food stamps, households must function as an economic unit—in buying and storing food and sharing living expenses. Cooking facilities also must be available for preparing meals; however, elderly persons are permitted to use food stamps to purchase prepared meals. In addition, able-bodied household members 18 years old or older must register for employment.

Certification of eligibility is approved by a local state welfare office on the basis of one

of two standards. First, most states issue food stamps to households in which all members receive public assistance and/or Supplemental Security Income—without regard to household income or resources. Other households have to qualify by satisfying national standards for both household income and resources.

In meeting the national standards, households are allowed specified exclusions and deductible expenses to arrive at a net level of income and resources. To be eligible for food stamps, households cannot have more than \$1,500 in net resources, or assets, but those with two or more persons and with a member 60 years old or older are allowed up to \$3,000. The income standard for eligibility for food stamps varies with household size. Currently, net income for a household of four cannot exceed \$553 monthly.

All qualifying households except those with the lowest incomes have to pay a share of the value of the food stamp allotment. That share is defined as the purchase requirement and varies with the level of net income and size of household. The difference between the value of the food stamp allot-

Compared with the nation as a whole, the participation rate in the food stamp program and the bonus can be expected to be higher in the states of the District because there is a greater share of low-income households in the Southwest. According to the Census of Population, approximately 23 percent of all U.S. households had incomes below the poverty level in 1970. Comparable figures for the four states show a third of the households in Louisiana and Oklahoma below the poverty level, 28 percent in New Mexico, and 27 percent in Texas. The concept of the "poverty" level was developed by the Social Security Administration in 1964 for the purpose of establishing a rough income standard that is required to maintain a "tolerable" standard of living for an average nonfarm family of four.

Of the \$8.7 billion worth of food coupons issued nationwide in fiscal 1976, 61 percent—or the \$5.3 billion bonus—was made available for increased

food purchasing power that otherwise might not have existed. The food coupons issued in the four southwestern states that year accounted for about a tenth of those issued in the nation, or nearly \$828 million. But the \$538 million bonus for the four states represented 65 percent of the total value of coupons issued in the Southwest.

An appraisal

The Food Stamp Act of 1964 set out to achieve two broad objectives. One was "to provide for improved levels of nutrition among low-income households through a cooperative Federal-State program of food assistance to be operated through normal channels of trade." The other was "to help to achieve a fuller and more effective use of food abundances" that would strengthen the agricultural economy. The latter represented an important shift of policy since food assistance programs in prior years had primarily been surplus disposal programs.

ment and the purchase requirement is the net benefit, or bonus.

In some states, food stamp coupons are sold by the welfare agencies; in others, through other outlets. In Louisiana, for example, food coupons are sold exclusively through 185 state welfare department offices. Half the 126 food stamp outlets in New Mexico are run by that state's welfare department, while a tenth of the outlets in Oklahoma are run by the state. Texas is the only Eleventh District state where food coupons are not sold by the welfare offices.

The bulk of the food coupons issued in Oklahoma and Texas are sold through U.S. post offices. Food coupons can be purchased at 207 post offices in Oklahoma and 635 in Texas. Another important outlet for food coupon purchases in Oklahoma, New Mexico, and Texas is armored-car companies. Elsewhere in the nation, banks and other financial institutions are also food coupon outlets.

Not only do needy participants have to be certified, but the retail grocers and meal services where the stamps can be used for food purchases have to be certified also. This

latter function is performed by the U.S. Department of Agriculture's Food and Nutrition Service. That agency oversees the acceptance and redemption of coupons by nearly 25,000 food retailers in the four states of the District.

Once food coupons are issued and are used at certified outlets, they enter the banking system. The grocer deposits the coupons along with his cash receipts in a local bank. The bank credits the grocer's account for the value of coupons and cash received, and the grocer is thereby reimbursed for his total food sales.

The bank then forwards all food coupons received to the nearest Federal Reserve bank or branch. The Federal Reserve bank credits the account of the grocer's bank by the value of food stamps received, so that the bank is reimbursed for the value of the coupons redeemed. The Fed then debits a like amount to the Food and Nutrition Service's account, which is replenished from the general revenues of the U.S. Treasury.

The final step in the process is the destruction of the food stamp coupons. That is done by the Federal Reserve bank.

Initial emphasis was placed on expanding the program to as many areas of the country as possible. Later, benefits were increased to encourage participation by all eligible households. And as the program began to gain momentum, attention was drawn to the food stamps being issued to ineligible recipients, and remedies to curtail those abuses were implemented.

The food stamp program has grown rapidly to date and has enabled many low-income families to have a higher level of nutrition. Although *low income* is not synonymous with *eligibility*, more of the poor could participate. A measure of the effectiveness of the program can be obtained by way of a comparison between the number of people in families below the poverty level and those that are actually certified for food stamps.

Only about half of those potentially eligible appear to be participating in the food stamp program.

In 1975, for example, the poverty level was calculated at \$5,500. For that year, the U.S. Department of Commerce estimated there were 25.9 million people in the country below that income level. Of 17.7 million participants in the food stamp program in 1975 (excluding 1.5 million Puerto Ricans), about four-fifths had incomes below the poverty level. They constituted about 14.2 million of the total 25.9 million that were below the poverty level, and probably eligible for food stamps. So only about half of those potentially eligible appear to be participating in the food stamp program.

Perhaps the biggest deterrent to expanding the number of participants from current levels is the small benefit available for households close to the cutoff—that is, just below the qualification level. For many of those households, certification is not worthwhile. Certification is required monthly, quarterly, semiannually, or annually depending on the stability of household income. For example, for a household receiving all its income from a public assistance program so that future income is known with a fair degree of certainty, certification might be required just once a year. On the other hand, a wage earner who has lost his job and is seeking reemployment would be required to be certified each month since future income prospects would be uncertain.

Each time certification is required, participants have to complete a six-page application form that requires documented sources of income, household resources, and allowable expenses. Once the application is completed, the applicant is interviewed by the certifying welfare agency, which examines the questionnaire and such supporting documents as pay stubs and expense receipts.

If the bonus in food stamps to be gained is not large, the recipient may find that the frequent effort necessary to document the financial status of his household is not worthwhile. Transportation costs are a big factor in many areas, especially in the Southwest. Sometimes, the household's lone wage earner has to take time off from work to be recertified, which means a loss in wages and a further reduction in household income. An easier, more efficient method of certifying more of those in need would help expand participation.

The cost and effectiveness of the food stamp program will be debated in Congress later this year when the program comes up for refunding. The debate will likely center on the changes, if any, that might be made in light of the broad objectives of the program. Five alternatives are possible: maintaining the *status quo* by continuing the program in its present form, tightening current eligibility standards without otherwise changing the program significantly, limiting participation to only those households below the poverty level, eliminating the coupon purchase requirement, or replacing food coupons with an alternative direct cash subsidy under a more comprehensive restructuring of the entire welfare program.

While most everyone agrees that food assistance for those really needing it is a worthy objective, determining who is really in need is a major undertaking. But with half the people below the poverty level not participating in the program, pressure may mount for measures to increase their participation. Opponents, on the other hand, will argue the program is overly generous, as evidenced by the sharp rise in individual real benefits in recent years. The result may well be a standoff, with little change in funding by Congress from current levels.



Federal Reserve Bank of Dallas

March 1977

Eleventh District Business Highlights

RESIDENTIAL CONSTRUCTION STRONG IN TEXAS

Steady recovery in residential construction in Texas was a major factor in the improvement in the state's economy last year. And prospects are good that housing construction will remain an important source of strength to economic activity this year.

The value of residential building contracts in Texas rose 33 percent in 1976—to a record \$3.1 billion—following a gain of less than 7 percent in the prior year. A significant portion of the rise in value last year was attributable to higher construction costs, but the increased number of new housing units also was important.

Total housing starts in Texas advanced about 50 percent in 1976 to over 91,000 units. The number of new single-family dwelling units increased more than a fifth and accounted for better than half of total housing starts last year.

Beginning with this issue of the *Highlights*, charts and discussions on employment and unemployment and on building contracts in the Eleventh District will cover four southwestern states only, since the District now includes Texas and parts of Louisiana, Oklahoma, and New Mexico. Effective January 1, 1977, the portion of Arizona previously served by the Federal Reserve Bank of Dallas was transferred to the Twelfth District.

Apparently, the demand for new houses in the state has not been significantly deterred by the steadily rising prices of the dwellings. For example, in January 1977 the average price of new homes purchased in the Dallas-Fort Worth SMSA (standard metropolitan statistical area) was \$52,200. In the Houston-Galveston SCSA (standard consolidated statistical area)—where residential construction activity has been very brisk—the average price for new homes had risen to \$55,900. Those prices were up about 2.4 percent and 5.5 percent from a year earlier.

The demand for multifamily dwelling units in Texas also increased in 1976, after being extremely weak in the prior year. Higher occupancy rates and a firming in rental rates have apparently stimulated construction of multifamily housing.

Authorizations for two-family dwelling units increased 125 percent in value in 1976 and were for 87 percent more units—covering more than 2,400 units. For apartments the value of authorizations doubled during the year, as did the number of units they covered, totaling 41,500.

While residential construction ended 1976 on the upbeat, it had a setback in the first month of 1977. The number of housing starts declined about a fifth in January from the December level. Almost

all the decline, however, was in authorizations for multifamily units as those for single-family units were little changed.

Future growth of the housing industry in Texas will depend largely on the continued strength of the state's economy and on the availability and cost of financing. Builders and home buyers alike will be concerned with levels of interest rates—both for interim construction loans and for mortgage financing. With an abundant supply of interim financing funds available and short-term interest rates near the lowest level in four years, construction loans should be readily available to builders at attractive rates.

The fairly recent tendency of commercial banks to place greater emphasis on mortgage lending should also stimulate residential construction this year. In January, for example, the volume of real estate loans outstanding at large weekly reporting commercial banks in Texas was 24 percent higher than a year earlier. While part of these loans represent nonresidential mortgages, a growing number of banks are directing more funds to residential mortgages.

Commercial banks and savings and loan associations in the state experienced record inflows of savings funds late last year, providing ample liquidity to support a further sharp increase in residential construction. (Continued on back page)

CONVENTIONAL MORTGAGE RATES ON NEW SINGLE-FAMILY HOMES



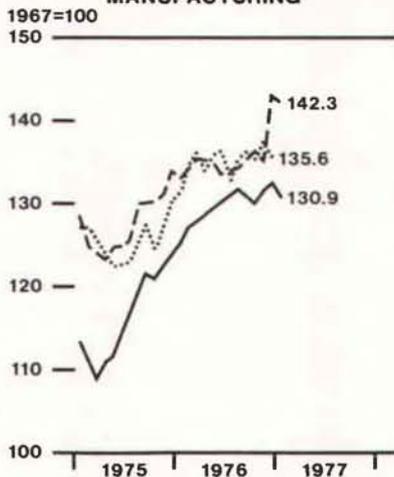
SOURCE: Federal Home Loan Bank of Little Rock.

INDUSTRIAL PRODUCTION
(SEASONALLY ADJUSTED)

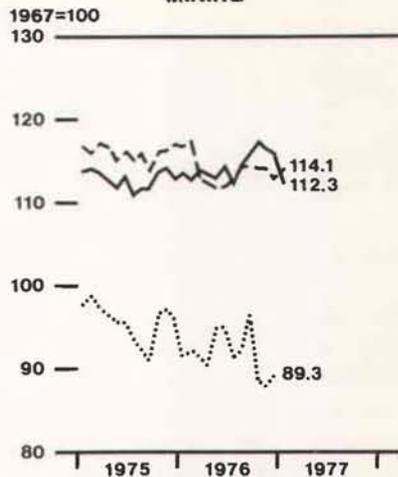
TOTAL PRODUCTION



MANUFACTURING



MINING



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

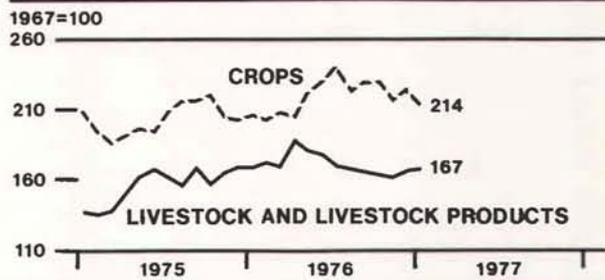
EMPLOYMENT AND UNEMPLOYMENT

FOUR SOUTHWESTERN STATES¹
(SEASONALLY ADJUSTED, BY FRB)



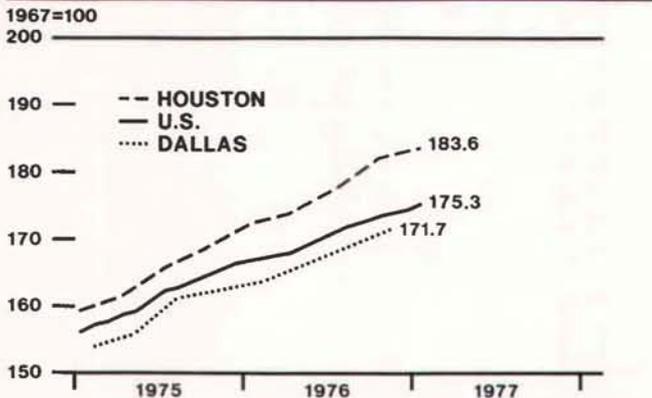
1. Louisiana, New Mexico, Oklahoma, and Texas.
SOURCE: State employment agencies.

PRICES RECEIVED BY TEXAS FARMERS



SOURCE: U.S. Department of Agriculture.

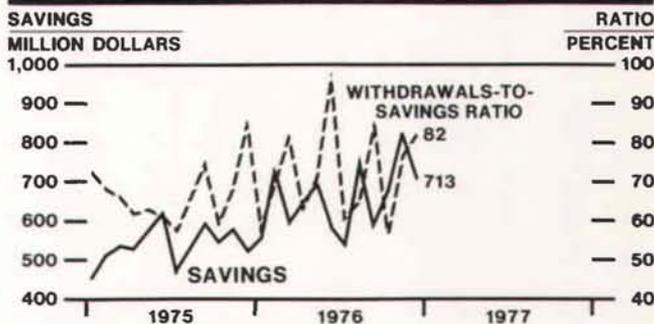
CONSUMER PRICES



SOURCE: U.S. Bureau of Labor Statistics.

SAVINGS AND LOAN ASSOCIATION ACTIVITY AND HOME BUILDING IN TEXAS

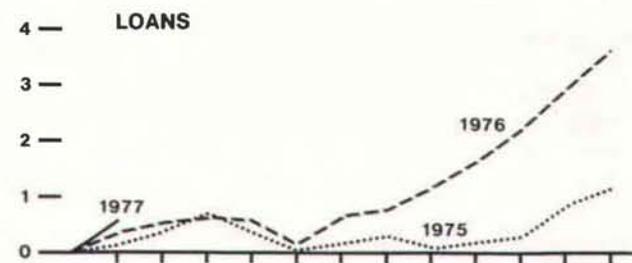
(SEASONALLY ADJUSTED, BY FRB)



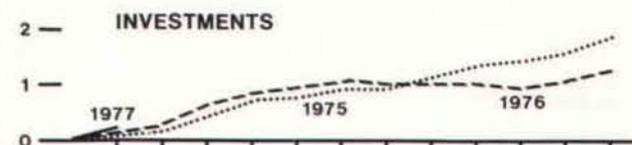
SOURCES: Bureau of Business Research, University of Texas.
Federal Home Loan Bank of Little Rock.

CONDITION STATISTICS OF ALL MEMBER BANKS
ELEVENTH FEDERAL RESERVE DISTRICT
(CUMULATIVE CHANGES)

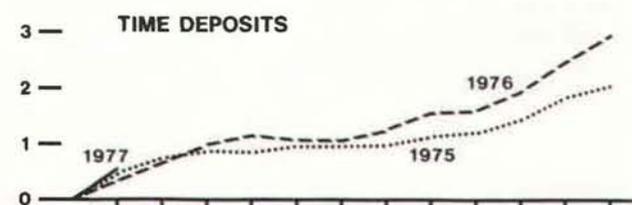
BILLION-DOLLAR CHANGE



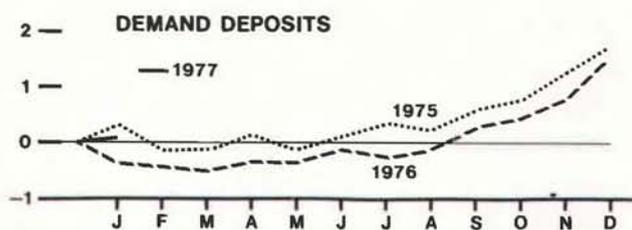
BILLION-DOLLAR CHANGE



BILLION-DOLLAR CHANGE

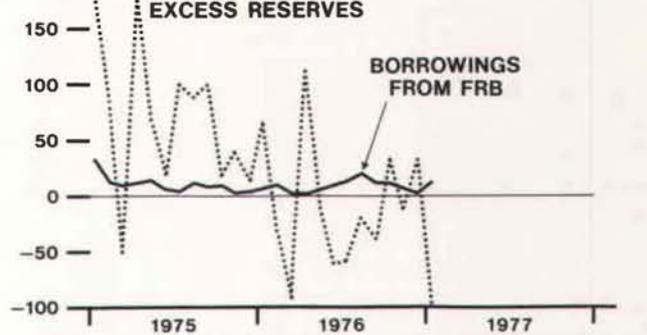


BILLION-DOLLAR CHANGE



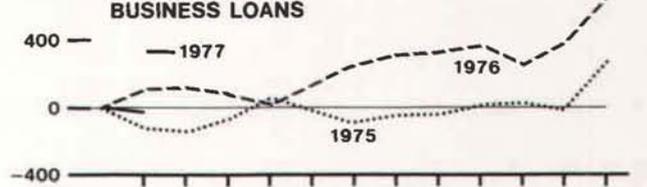
RESERVE POSITION OF MEMBER BANKS
ELEVENTH FEDERAL RESERVE DISTRICT
(MONTHLY AVERAGES OF WEEKLY DATA)

MILLION DOLLARS

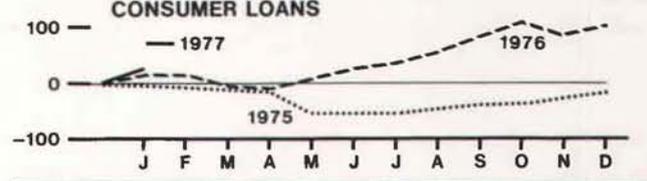


LOANS AT WEEKLY REPORTING BANKS
ELEVENTH FEDERAL RESERVE DISTRICT
(CUMULATIVE CHANGES)

MILLION-DOLLAR CHANGE

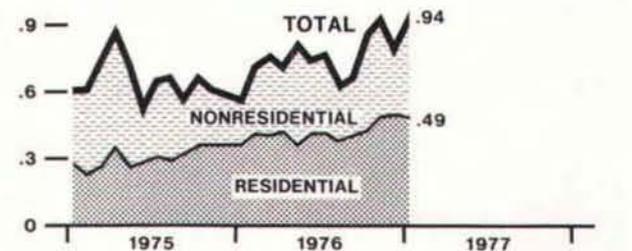


MILLION-DOLLAR CHANGE



BUILDING CONTRACTS
FOUR SOUTHWESTERN STATES¹
(SEASONALLY ADJUSTED, BY FRB)

BILLION DOLLARS



FOREIGN TRADE
HOUSTON CUSTOMS REGION
(SEASONALLY ADJUSTED, BY FRB)

BILLION DOLLARS



1. Louisiana, New Mexico, Oklahoma, and Texas.
SOURCE: F. W. Dodge, McGraw-Hill, Inc.

SOURCE: U.S. Department of Commerce.

struction financing. Moreover, a strong savings inflow is expected to continue throughout 1977.

The increase in liquidity has helped reduce mortgage rates slightly, as evidenced by the small decline in effective interest rates on new-home mortgages in late 1976. The average conventional rate eased down to 9.31 percent in the Houston-Galveston SCSA in December 1976 and to 9.13 percent in the Dallas-Fort Worth SMSA. The higher rate for the Houston-Galveston area reflects the greater demand for mortgage loans as a result of more intense construction activity there. While mortgage rates are not likely to drop significantly from current levels, even a modest decline would provide an additional stimulus to home building.

OTHER HIGHLIGHTS:

- Preliminary figures show the Texas industrial production index fell slightly in January from the upward revised December level but was 4.5 percent above a year earlier. The decline centered in durable goods manufacturing, as nondurable goods production and mining output posted solid gains.

Production declined sharply in all major durable goods industries, more than offsetting an increase in nondurable goods production to account for the overall drop in manufacturing output. The gain in nondurable goods production was led by the chemical, petroleum refining, food processing, and apparel industries.

Increased drilling activity and crude oil production accounted for the rise in mining output during January. However, the increase in crude output should not be interpreted as a significant departure from the long-run decline in oil production.

- According to the University of Texas at Austin, the number of new manufacturing plants constructed and expansions of existing factories in Texas declined 6 percent in 1976 from the previous year. That, however, was smaller than the 23-percent decline in the number of new plants and expansions recorded for 1975. A turnaround in the number of new factories built this year may be in the offing. McGraw-Hill has indicated the dollar volume of new plans for manufacturing plants in Texas in 1976 was the highest for any state, with new plans in New Mexico and Louisiana ranking second and third.

- The sharp increase in total employment in the four southwestern states that began last September carried into January. Total employment that month was up 0.4 percent from December and 2.9 percent from a year earlier. The unemployment rate decreased to 5.7 percent in January from 5.8 percent a month earlier.

Nonagricultural employment continued its strong advance in January. The biggest gain was in contract construction, while the only decline was in the service category. The increase in manufacturing jobs was led by the nondurable goods industries.

- Data from a sample of large commercial banks in the Eleventh District reveal that the volume of commercial and industrial loan commitments has increased substantially since last fall. The increase reflects strong gains in both used and unused commitments, whereas in the past a rise in used commitments was usually accompanied by a reduction in unused commitments.

In general, the gain in unused commitments can be attributed to adoption of more aggressive lending policies by banks. District banks apparently have stepped up their

marketing of commitments because continued strong growth in liquidity has sharply exceeded the growth in loan demand.

- Total bank credit at member banks in the Eleventh District rose sharply in January as both loans and investments increased. Despite a slight reduction in loans to businesses, total loans expanded—primarily as a result of continued strong growth in real estate and consumer loans. The banks acquired a sizable volume of U.S. Government securities as substantial net deposit inflows—particularly of time and savings deposits—continued to exceed the increase in loan demand.

- The value of nonresidential building contracts in the four southwestern states rebounded sharply in January from the December setback. As a result, total building contracts recovered to the November level.

- The Houston consumer price index for January was 0.9 percent more than in October 1976 and 6.6 percent higher than in January last year. The increase over October was largely due to higher prices for food, housing, and medical care. A decline in prices for women's and girls' clothing, especially winter items, accounted for the lower cost of apparel and upkeep.