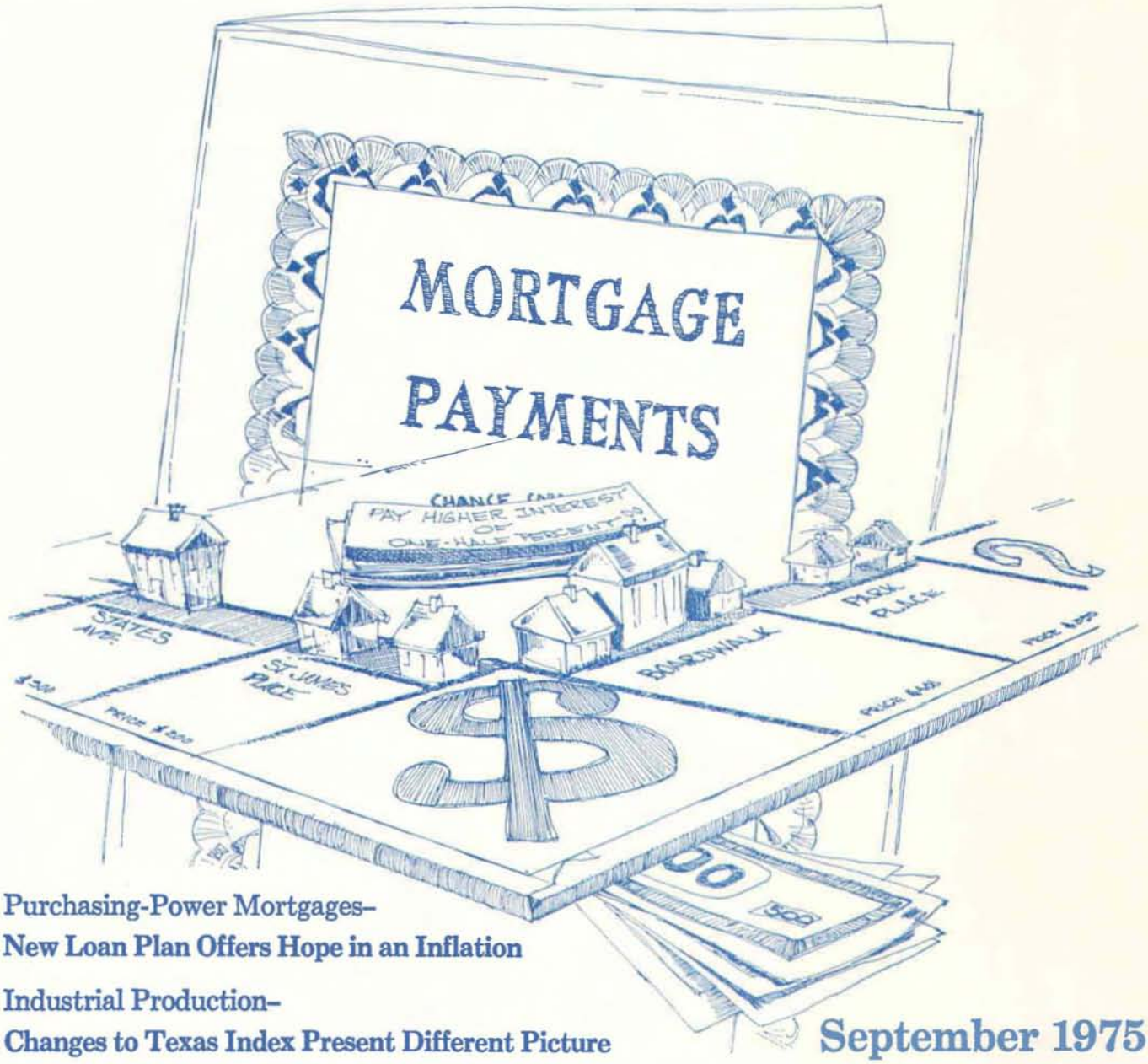
Federal Reserve Bank of Dallas

Business Review



Purchasing-Power Mortgages–
New Loan Plan Offers Hope in an Inflation

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September 1975

Purchasing-Power Mortgages–

New Loan Plan Offers Hope in an Inflation

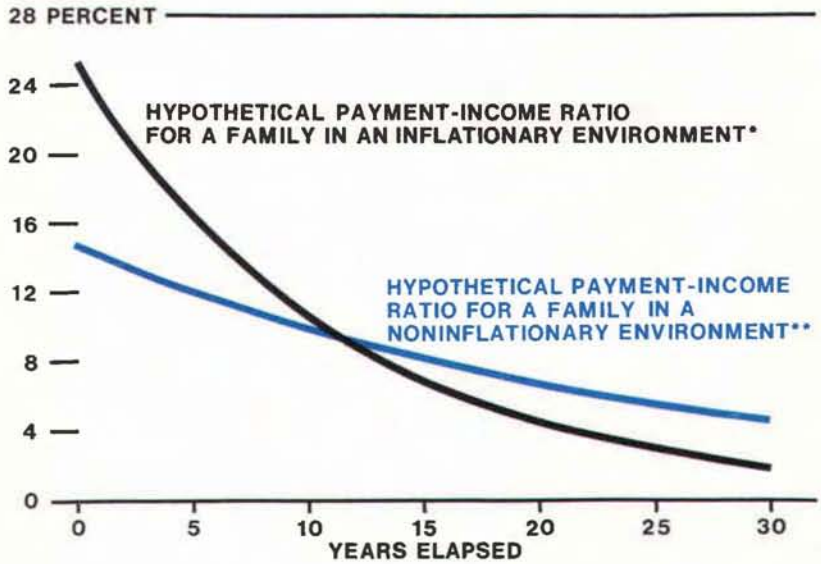
The housing sector of the American economy is very susceptible to the deleterious effects of inflation. This vulnerability exists because mortgage markets are poorly designed for allocating credit to housing in an inflationary environment.

A basic problem is the specialization of major mortgage institutions in lending to long-term markets with funds borrowed through short-term time and savings deposits. This, coupled with the underestimation of the long-term rate of inflation, has resulted in the average return on mortgage portfolios rising slower than the market cost of short-term funds. Mortgage specialists have been dependent on regulated interest ceilings on time and savings deposits to moderate this squeeze on their earnings. But when short-term market rates of interest rise above these ceilings, funds are diverted from mortgage markets through disintermediation.

Many proposals have been put forth to help eliminate this problem, including the authority for mortgage lenders to diversify their assets and extend the types of deposits they offer. But the continuation of inflation may call for a change in the mortgage instrument itself, if mortgage markets are to efficiently allocate resources to housing.

The standard level-payment mortgage provides a means of financing housing primarily out of current income, which is necessary for the majority of families to own homes. But it is not well suited to financing housing in an inflationary environment. When new inflation is expected, the upward adjustment in payments on new mortgages can be much faster than wage or salary adjustment, making it more difficult for an increasing number of families to buy homes. The purchasing-power mortgage has been proposed as a possible solution to this problem. The instrument has both advantages and disadvantages for the home buyer, as well as consequences for the solvency and liquidity of lending institutions.

Inflation raises payments relative to income in early years of mortgage



*Assumes 9-percent mortgage, with wages growing 9 percent annually.
**Assumes 4-percent mortgage, with wages growing 4 percent annually.

The financing gap

Incomes of families borrowing to buy a house are normally expected to rise over the years, making early instalments on fixed or level-payment loans a greater burden than instalments paid later as the loan matures. This higher real cost of making mortgage payments in the early repayment period is referred to as a financing gap.

Financial adjustments made in anticipation of new inflation can increase the gap, since loan payments tend to be adjusted upward faster than most family incomes. Inflation depreciates the purchasing power of principal and interest on a loan outstanding. Therefore, when a lender makes a level-payment mortgage loan and expects

prices to increase, he will want to include a charge in the interest rate to compensate for these losses. Borrowers, on the other hand, tend to accept the extra charges for much the same reason. They expect the price of the housing asset being financed to increase. Consequently, market-determined mortgage yields are adjusted to forecasts of inflation, resulting in relatively large increases in payments on new loans.

Suppose, for example, that the inflation-free–or "real"–rate of interest is 4 percent but prices are expected to increase an average of 5 percent annually in the foreseeable future. Adjustment for this inflation would raise the nominal interest rate on long-term loans from 4 percent to 9 percent. For a level-payment mortgage with a 30-year term and $30,000 principal, this would, in turn, push payments on new loans almost 69 percent higher.

Usually, the adjustment in family incomes due to inflation is more gradual. Suppose that each year, wages and salaries tend to be adjusted by an extra amount equal only to the rate of inflation–5 percent in the above example. If mortgage payments on a new loan would have initially taken 15 percent of a person's income in the noninflationary environment, the more rapid rise of payments than income in anticipation of inflation increases the ratio to 25 percent.

If inflation actually developed as originally anticipated, subsequent adjustments to wages would reduce the payment-income ratio faster than in the noninflationary environment. But the ratio remains higher in the inflationary environment for a considerable period–12 years in the example used here.

To avoid a higher financing gap between initial payments and income, the maturity of the mortgage can be lengthened or more downpayment can be provided. Nominal payments on the 9-percent, 30-year loan could be maintained at the level for the 4-percent mortgage if another $9,545 were paid down to reduce the principal.

But most families have trouble accumulating enough transferable wealth to make large downpayments. And mortgage lenders are reluctant to increase loan maturities without larger downpayments to protect them against defaults. Consequently, for many families, the increased financing gap resulting from inflation precludes the purchase of a home. And for those that might still be able to afford a house, the gap may restrict the size and quality of the house they can buy.

A new kind of mortgage

The severity of recent inflation has created interest in finding a mortgage instrument better suited to an inflationary environment than the standard level-payment plan. The new instrument would have to protect the lender from depreciation of principal and interest due to inflation. At the same time, it would have to provide a closer match between the level of payments over the life of the loan and the level and pattern of income of the borrowers. Both requirements could be met with a mortgage incorporating a flexible payment schedule.

A step in that direction was taken in February 1974, when the Federal Home Loan Bank Board authorized federal savings and loan associations to make mortgages with initial payments that were less than those needed for level-payment loans. Payments during the first five years of the loan need only cover the interest. Not until the sixth year would the mortgage have to become fully amortized.

By requiring only interest payments, such mortgages offer borrowers substantial reductions in payments during the first few years of the loan. But because payments suddenly jump at the beginning of the sixth year, many borrowers would, no doubt, be discouraged from using the plan–if lenders offered it.

In addition, the relative cost advantage to the borrower under this plan declines as the mortgage yield and term increase. With the 30-year, $30,000 loan example, payments in the early years of such a contract with a 4-percent yield could be as much as 31 percent below those on a level-payment mortgage. But if the yield were 9 percent, the maximum possible reduction would be only 7 percent.

Purchasing-power mortgage

A better adjustment to inflation can be provided by the purchasing-power mortgage–a mortgage with an interest rate negotiated in real, or constant-dollar, terms. Under this plan, the loan is amortized initially at a payment level providing the real rate of interest agreed on by the two parties. Since the real rate of interest is less than the nominal market rate, this plan reduces the financing gap when inflation is expected.

Payments, however, would be adjusted upward for inflation by linking the outstanding loan principal to changes in an index of prices. For example, after each payment, the unpaid principal would be adjusted by the most recent percentage change in the index and then amortized over the unexpired term of the loan–again, to provide the real rate of interest agreed on. This increases payments by the percentage change in the index. Alternatively, adjustments could be made less frequently–say, semiannually or annually.

Increases in payments resulting from the adjustment would not be expected to put an exceptionable burden on typical family budgets. Commensurate changes in wages and salaries generally take place as inflation occurs, and the adjustment might be calculated to move with family incomes. Payment adjustments made this way would provide payment-income ratios over the life of the purchasing-power mortgage approximately equal to those for a standard level-payment mortgage in a noninflationary environment.

Home buyers may also benefit from purchasing-power mortgages if inflation slows during the term of the loans. Individuals financing their homes through standard mortgages when inflation is anticipated are, because of prepayment penalties, normally locked into paying an inflation premium. These borrowers, in effect, pay a penalty if price forecasts turn out to be too high. But with purchasing-power mortgages, the borrowers automatically pay a smaller dollar amount for interest if inflation declines.

An alternative adjustment scheme for purchasing-power mortgages maintains the mortgage payment at a fixed level while allowing the maturity of the loan to vary. Under this arrangement, a larger portion of the payment is allotted to repayment of principal if prices fall, so the mortgage might be paid off sooner than originally planned. On the other hand, if prices rise, a smaller portion of the payment goes to repay the principal and the maturity is extended.

If prices rise fast enough, it is even possible that the interest charge will exceed the payment, so the loan might never be fully amortized. This drawback to a price-adjusted mortgage with a variable maturity reduces the chance of its acceptance. Therefore, the remainder of this discussion will be limited to fixed-maturity mortgages.

The borrower's net worth . . .

The flexible payment schedule provided by purchasing-power mortgages can yield substantial economic benefits to home buyers. But these benefits can only be gained by giving up some of the economic advantages and familiar features of fixed-payment loans.

Since the unpaid principal can increase after the loan is contracted, implementation of this type mortgage would require modification of current legal concepts of debt and usury. Moreover, this characteristic detracts from the economic benefits of the purchasing-power mortgage, because it can result in a temporary reduction in the borrower's wealth–or net worth.

The net worth of a buyer financing the purchase of a home depends on the difference between the market value of his house and its remaining mortgage liability. This same difference also determines the realized gain in his liquid wealth, which can be applied to the purchase of another residence if the home is sold.

Suppose a buyer needing a 30-year, $30,000 loan to finance the purchase of a house could choose between a standard level-payment mortgage and a purchasing-power mortgage. The level-payment mortgage is offered at a constant 9 percent. Payments on the purchasing-power loan begin at 4 percent interest but have to be adjusted every year for price changes. Suppose that, over the course of the loan, inflation causes annual increases of 5 percent.

If the buyer picks a standard mortgage, he can look forward to the unpaid principal on his loan being reduced every time he makes a payment. But his liability under the purchasing-power mortgage will continue to increase through the 15th year. At that point, it will exceed the balance on the standard loan by $16,000. The difference begins to decline thereafter, but the debt remains higher on the purchasing-power mortgage until it matures.

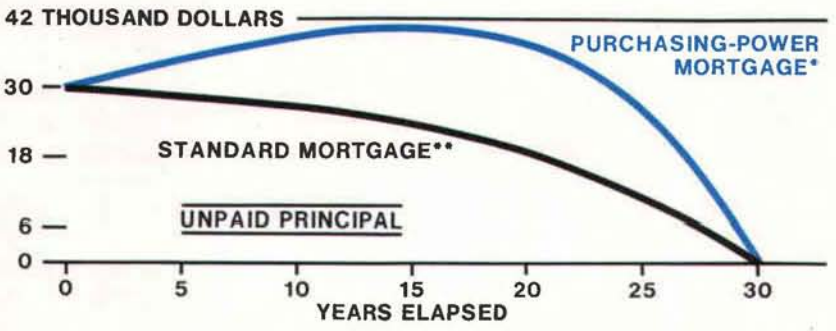
This characteristic also detracts from the purchasing-power mortgage from the lender's point of view, since he has less protection against the risk of default. To reduce this risk, lenders are apt to require larger downpayments, which would prohibit the very families needing purchasing-power mortgages from using them. However, if an insurance program to cover the possibility of default could be established, lenders might require smaller increases in downpayments.

The problem of a temporary decline in net worth could be mitigated by shortening the maturity of the loan. If the term of the loan in the example were cut to 20 years, initial payments would still start 24 percent less than the level payments on the 9-percent, 30-year mortgage. And they would remain lower for six years, even if prices rose 5 percent a year. The unpaid principal would still rise, but, in this case, the increase would be for only eight years, instead of 15. At the end of eight years, it would exceed the balance on the 30-year standard mortgage by only about $3,700, instead of $16,000.

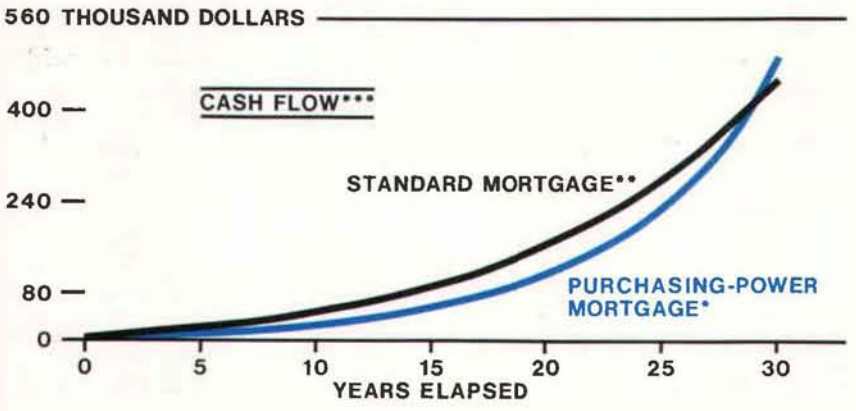
The slower the rate of inflation, the smaller is the disadvantage of the purchasing-power mortgage. And if prices remained stable over the mortgage term, the unpaid principal on the loan would decline with each payment, just as with a standard mortgage. But as the overall likelihood of an impingement on homeowners' net worth would be greater than with a standard loan, many buyers would still

In an inflationary environment, the purchasing-power mortgage allows lower initial payments relative to standard mortgage . . .

. . . but keeps debt of borrower higher than with standard mortgage . . .



. . . and reduces initial cash flow to the lender



*Assumes the loan is for $30,000 and matures in 30 years. Initial payments begin at a "real" rate of interest taken to be 4 percent. Subsequent payments are increased 5 percent at the end of each year.
**Assumes the loan is for $30,000 at 9 percent interest and matures in 30 years.
***Assumes payments are reinvested in the identical mortgage form at the original terms.

not be satisfied with purchasing-power mortgages.

. . . and uncertainty over payments

Another disadvantage of purchasing-power mortgages lies with the uncertainty surrounding future mortgage payments. The possibility that payments might increase without offsetting increases in family income creates a risk many people would want to avoid.

Indeed, in early experiments with purchasing-power mortgages abroad (in Israel, for example), a large number of defaults occurred because of sudden increases in payments. But these failures are largely traceable to the improper selection of linkages, such as indexes linked to foreign exchange rates or construction costs, that often diverge widely from movements in wages and salaries.

The discomfort arising from an unknown future mortgage obligation can be assuaged by administering an index that is closely correlated with family incomes. Moreover, alternative indexes might be administered for different occupational groups to provide additional insurance against adverse changes in payments that might encroach on family incomes. But since some families would still be unwilling to accept a mortgage where the dollar cost of future payments is unknown, the purchasing-power mortgage is not for everyone.

Graduated-payment schedules

The purchasing-power mortgage might be combined with features of a graduated-payment mortgage to offer flexibility in the payment pattern while eliminating the uncertainty over the level of future payments. With a graduated-payment mortgage, a definite payment schedule is decided when the loan is negotiated, like a standard mortgage. But payments might be scheduled to start low and gradu-

ate upward as the loan matures. Or they might start high and decline over time.

Like a standard mortgage, the loan is negotiated in advance to provide a nominal yield over the life of the loan, incorporating an inflation premium based on the outlook for prices. If the forecast is correct and payments are scheduled to start low, characteristics of the loan will be identical to a purchasing-power mortgage. But the future dollar cost of payments is predetermined by the yield requirement, so it is known in advance.

Suppose the yield to maturity on a standard mortgage is 9 percent. A graduated-payment mortgage with a 9-percent yield to maturity could be designed with an initial payment beginning, for example, at the 7-percent level. This would require subsequent payments to increase each adjustment period by 2 percent. Alternatively, if the initial payment were negotiated to begin at 4 percent, subsequent payments would be scheduled to increase 5 percent each period for the loan to provide a 9-percent yield to maturity.

Graduated-payment mortgages can reduce the financing gap and still allow the future dollar costs of payments to be known with certainty. But they do not reduce the uncertainty that future payments could move adversely against family incomes. If the forecast of inflation incorporated into the mortgage yield is too high, family income will not keep up with the increasing mortgage obligation.

Similarly, the problem of a reduction in the home buyer's net worth can be more severe with a graduated-payment mortgage than with a purchasing-power mortgage. This is because of the tendency for home prices to move apace with general price changes. The inflation forecast embodied in the graduated-payment schedule determines the increase in indebtedness during the early years of a loan. But if the forecast is too high, home values may not keep up with the mortgage liability. Purchasing-power mortgages avoid this possibility by providing for changes in principal to be determined by the inflation that actually occurs.

Instead of relying on either the graduated-payment mortgage or the purchasing-power mortgage, it might be better to utilize an instrument that combined features of both. Since the purchasing-power mortgages do not depend on price forecasts, they can provide protection against deterioration in the borrower's payment-income ratio. But to reduce the uncertainty of future payment levels, graduated payments could be scheduled over short periods–as for example, the three-year interval corresponding to many union wage negotiations.

The graduation in payments over each period could be determined by the differential in the current nominal yield on a comparable level-payment mortgage and the real rate of interest negotiated at the time the purchasing-power mortgage was issued. This differential approximates the market forecasts of inflation embodied in the nominal yield.

Suppose a mortgage was negotiated with payments beginning at a real rate of interest of 4 percent and that the yield on comparable level-payment mortgages with the same principal and term was 8 percent. Payments on the purchasing-power loan would increase over the first interval at an annual rate of 4 percent. If at the end of that interval, market yields on new level-payment mortgages have declined to 6 percent, payments over the next period would increase only 2 percent.

Adverse changes in the payment-income ratio can be avoided if the adjustment interval is not too long–the shorter the forecast period, the more accurate market predictions of inflation tend to be. For the same reason, fairly frequent adjustment will protect lenders against depreciation in the value of principal and interest due to inflation.

Impact on lender's profits . . .

Purchasing-power mortgages are designed primarily to enable more families to buy housing. To do that, however, these mortgages must also satisfy minimal lender requirements for safety, liquidity, and profitability. Opportunities for mortgage lenders to improve profits in an inflationary environment are generally increased by this type mortgage.

Many problems in mortgage markets today can be traced to the specialization of mortgage lenders in borrowing short to lend long. Their profits come from the difference in interest revenues on mortgage assets and interest expense on short-term deposits. It is fairly easy in a noninflationary environment for a mortgage specialist to maintain a satisfactory margin, since long-term rates are usually higher than short-term rates to compensate for additional risks of capital losses.

But the task of maintaining profitable operations for this type of financial intermediary becomes more difficult in an inflationary environment. Both short and long-term yields embody a market forecast of inflation. Long-term forecasts have tended to underestimate inflation. On the other hand, market forecasts are more accurate for short periods.

So, portfolios heavily weighted with mortgages issued when prices were relatively stable have not provided adequate revenues to offset the rising cost of short-term funds in a prolonged and accelerat-

ing inflation. Laws and regulations that suppress yields on newly issued mortgages have made the pinch on profits even more severe.

Under these circumstances, mortgage specialists have remained solvent only because competition for short-term funds has been partially eliminated by the imposition of regulated interest ceilings on deposits placed with financial intermediaries. But this arrangement has an adverse effect on both borrowers and lenders when cyclical pressures push money market yields above the ceilings intermediaries can pay, diverting funds from mortgage markets through disintermediation.

Since purchasing-power mortgages do not incorporate a long-term forecast of prices, adoption of this type mortgage could eliminate the threat to profits from unanticipated inflation. If all investments in mortgage specialists' portfolios were compensated on the basis of current price changes, prospects of these lenders for profitable operations during an inflation would be improved considerably. That, in turn, would go a long way in enabling them to compete more freely for funds, allowing the abolishment of interest ceilings on time and savings deposits–a major source of trouble for the cyclical liquidity of mortgage lenders.

. . . and liquidity

Together with expansion of deposits, sale of mortgages in secondary markets is another source of liquidity for lending institutions. The usefulness of this source depends on the size of the market–which, through the support of federally sponsored credit agencies, has increased significantly in recent years.

Adoption of purchasing-power mortgages holds potential for more progress in expanding the size of the market. They could very likely be well received by investors, such as retirement and pension funds, that have a long holding period and a strong need to hedge against inflation.

The hedge against inflation gives purchasing-power mortgages another attribute in their favor as a source of liquidity in secondary markets. This type mortgage gives a seller some protection from capital losses resulting from inflation-induced increases in market yields.

Secondary sources of liquidity are usually needed to meet loan demand when aggregate economic activity is strong and interest rates are rising along with other prices. When a level-payment mortgage that was issued at a lower market yield is sold under these circumstances, the seller has to accept a price below book value to match current yields.

But payments and nominal yields on purchasing-power mortgages are adjusted for price changes. If the rise in market yields is due to inflation, purchasing-power mortgages can be sold without loss to the lender, making more funds available for new loans.

Although these benefits of purchasing-power mortgages would tend to increase the lender's liquidity, there are initial cash flow problems with setting up a portfolio of these loans that offset some of the gains. Cash receipts from returned principal and interest are a source of funds for making new investments and covering current liabilities. But since payments on newly issued purchasing-power mortgages start lower than on standard mortgages during an inflation, new portfolios comprised of purchasing-power loans will initially return fewer funds.

Consider the example of the 30-year, $30,000 mortgage discussed earlier. If prices were rising 5 percent a year, the purchasing-power mortgage equivalent of a 9-percent level-payment loan would call for initial payment at the 4-percent level. If receipts from interest and principal for these two types of mortgages were periodically reinvested in the original forms, annual cash flows from the standard mortgage would exceed flows from the purchasing-power mortgage through the 25th year–cumulating at that point to almost $46,000.

Thereafter, a substantial advantage would accrue to the purchasing-power mortgage. But the initial disadvantage in cash flow would have to be weighed against advantages of purchasing-power mortgages in secondary mortgage markets and any possible gains mortgage specialists had made in attracting deposits.

Conclusions

Society must develop institutional arrangements to satisfy the needs of its members. Most households are ill equipped to amass the amount of transferable wealth necessary for acquiring private housing. Thus, long-term amortized mortgages evolved as a means of financing the purchase of such assets out of anticipated income. But these loans were developed in a noninflationary environment, and the inadequate adjustment they make for inflation can result in a large financing gap, raising a serious obstacle to homeownership.

Similarly, mortgage lending specialists have provided an important social service by amassing huge amounts of funds through thrift markets to finance housing. But they do not function efficiently in an inflationary environment, largely because their mortgage revenues are dependent on the difficult task of correctly forecasting inflation over long periods. They have remained viable only as a result of regulated interest ceilings that

have muted price competition on deposit liabilities. And as a consequence of these interest controls, they experience periodic losses of funds through disintermediation.

Purchasing-power mortgages can help home buyers by providing an efficient adjustment to inflation that reduces the financing gap. Since the revenue-earning capacity of purchasing-power mortgages does not depend on long-term forecasts of inflation, they can also enhance the ability of mortgage lenders to attract and retain funds. This can benefit both borrowers and lenders.

But purchasing-power mortgages have disadvantages. The home buyer accepting a purchasing-power mortgage faces the probability that both his payments and debt will increase for a time. Lenders may face initial cash flow problems in adopting such mortgages, as well as greater risk from default. So, although the purchasing-power mortgage offers hope in an inflation, it is not for every borrower or lender.

–William R. McDonough

Industrial Production–

Changes to Texas Index Present Different Picture

The Federal Reserve Bank of Dallas has revised its Texas industrial production index, adding new benchmark data and making technical improvements.

The monthly index, first developed by this Bank in 1953, is designed to measure the state's output in manufacturing, mining, and utilities, which account for between a third and a half of the state's gross product.

The 1972 Census of Manufactures and the 1972 Census of Mineral Industries provided new benchmark data for the series. Since the previous revision in 1971–which used 1967 census data–errors in estimating industrial output had accumulated.

Three revisions upgraded the index:

- Industry weights were recomputed to show shifts in the composition of the state's industrial production.
- Productivity factors were eliminated since, over time, they had given an upward bias to the index.
- A production function that affords variability in the capital-labor ratio was introduced.

The revised index shows a pattern in the state's output in recent years somewhat different from that shown by the old index. After 1969, the new index consistently falls below the old index. And where the old index was stable during the March 1970-March 1971 period–a period of recession in Texas–the new index indicates production declined moderately.

The revised index also dates the current recession in the state from June 1974–five months earlier than the old index. And the index shows that declines in manufacturing output since then have been larger than previously reported.

State economy strengthens

Even with its downward revision of output, the new index shows that Texas industrial production has been strong in recent years. In the late 1960's and from mid-1971 to early 1973, growth trends were significant. And the impact of the 1969-70 recession was decidedly less severe for Texas than for the nation as a whole.

The Texas index shows the state faring well in comparison with the nation, as depicted in the index of industrial production prepared by the Board of Governors of the Federal Reserve System. In May 1975, the national index was at 109.6 percent of its 1967 base. But the state index was at 120.6 percent, meaning that from 1967 to May 1975, the gain in production in Texas outpaced the gain in the nation by 11.0 points.

Industrial production in Texas has increased despite declines in crude petroleum since 1972. Exclusion of mining and utilities from the index, in fact, shows that from 1967 to May 1975, the increase in manufacturing output in Texas outpaced the increase in the nation by 16.1 points.

Changes in data . . .

Since new benchmark data were available, weights were redistributed among industry groups. Weights were assigned according to the contribution of each industry group to the total value added by all industries in 1972.

Proportions of total output for each major industry group–manufacturing, mining, and utilities–changed little. But substantial shifts occurred within the groups. In manufacturing, for example, the contribution of chemicals and allied products increased sharply while the share for transportation equipment decreased.

As might be expected, the structure of industry in Texas has changed considerably since 1967. With its industry weights updated to the most current data, the index better represents industrial output in the state.

. . . and methodology . . .

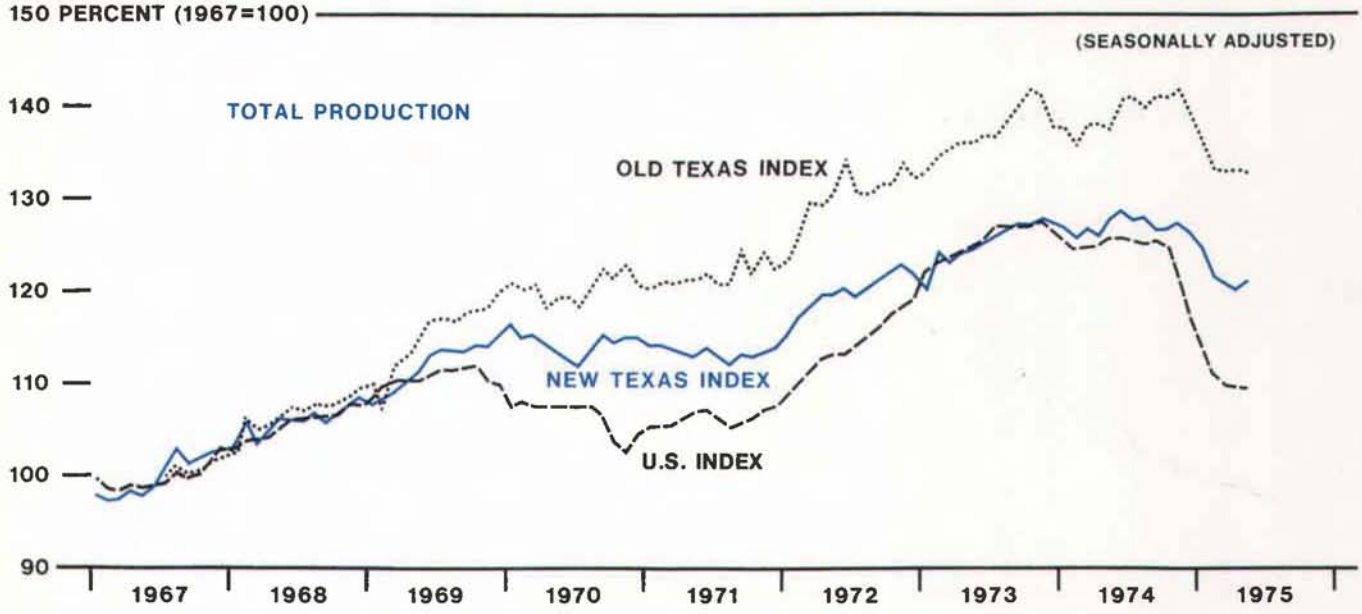
The methods used in calculating the old index have been refined. Productivity factors had given the index an upward bias. And the production function had overstated changes in output.

Productivity factors had been used to improve the estimate of output. Ideally, a production index would be formulated from production data reported by each industry. But because only a third of the state's industries are able to provide these data on a monthly basis, proxies for capital and labor inputs are used to estimate output in most industries.

For those industries, capital and labor inputs were derived by combining kilowatt-hours used and manhours worked with a productivity factor–an estimate of the increase in output per kilowatt-hour or output per manhour.

Difficulties arose, however, from the assumption that productivity increases at a constant rate over time, when, in fact, gains are

Revised Texas industrial production index tracks below old index . . .



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

erratic. In a business cycle, productivity increases during recovery and decreases during recession.

With productivity factors in the index, then, the state's industrial output tended to be overstated. For example, declines in output during the 1969-70 recession are shown more clearly by the new index.

Though both indexes peaked in January 1970, the old index fell only 2.1 index points to its low in July 1970. The new index–which includes no productivity factors–declined 4.8 points over the same period. The same pattern held true for manufacturing output. The old index showed a 2.3-point fall over the six months, while the new index posted a 4.7-point drop.

Problems with the production function, a mathematical equation used to estimate total output from inputs of capital and labor, stemmed from the assumption that the ratio of capital to labor–kilowatt-hours to manhours–was constant for each industry. The assumption proved to be false, especially in the light of recent economic developments.

Dramatic increases in costs of electricity have prompted some industries to reduce use of electricity even as they maintain levels of output. Consequently, ratios of capital to labor have changed.

With the old index, a reduction in electric power would have signaled a decrease in output–even though a falloff might not have occurred. But the new index accommodates changes in the input mix, since it uses a production function–the Cobb-Douglas form–that allows for variability in the ratio of inputs.

Incorporating a new production function with variable coefficients improves the accuracy of the index. Use of the previous equation had produced a pattern in the index where shifts in the direction of output were exaggerated.

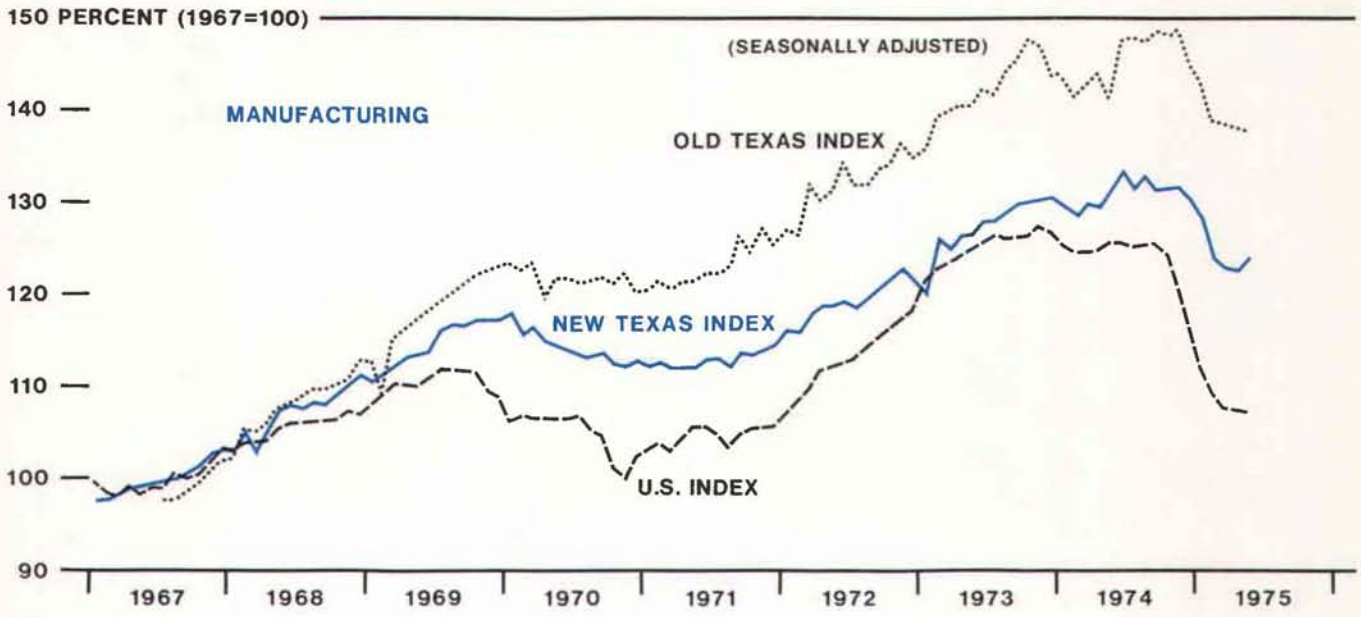
. . . produce new perspective

Eliminating productivity factors and providing for changes in the capital-labor ratio have produced a significantly different index, one that is believed to be superior.

Improvements in the new index can be illustrated by the change in output after the Arab oil embargo began late in 1973. In response to the oil embargo, industries in Texas and in the nation as a whole began conserving electric power even as they tried to maintain production.

But where the old index declined 5.8 points from October 1973 to February 1974, the new index indicated a more moderate downturn, 1.6 points. Since it treated the input variables independently, the new index more accurately gauged

. . . but shows output in Texas outpaces production in nation



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

the effects of energy conservation on total output.

Several aspects of the Texas industrial production index increase its value as a measure of the state's industrial performance. Not only is the index a broadly based indicator of output, but it is free of inflationary bias. Because the index is calculated by using data that are independent of changes in prices, growth rates in and levels of production are unaffected by rates of inflation.

The index is a coincident indicator of the business cycle, as measured by total manhours worked in the Texas economy. Manufacturing employment and output are generally more sensitive to cyclical movements than are employment and output for such sectors as finance, government, and services. Movements in the index, therefore, are attuned to general business conditions in Texas.

Moreover, since it was patterned after the U.S. index of industrial production prepared by the Board of Governors, the Texas industrial production index facilitates comparison of the state and national economies.

–Brian P. Sullivan

Manufacturing Capacity–

New Texas Index Assesses Utilization

To monitor economic conditions within the Eleventh District more closely, the Federal Reserve Bank of Dallas has developed a Texas manufacturing capacity utilization index. The index shows the extent to which the capital stock of the state's manufacturers is used to produce goods.

Just as employment data indicate the utilization of the labor force, capacity utilization data show the extent to which manufacturing plant and equipment are being used. A capacity utilization index complements other economic indicators in providing an overview of economic conditions in the state.

For example, such an index shows the ability of manufacturers to increase output without adding to available plant and equipment. Expansion of capacity is generally a long and costly process. The ability to quickly step up output, therefore, depends on the percentage of idle capacity and, of course, on the availability of materials and labor.

Once that percentage becomes low, manufacturers usually begin programs of capital expansion. A capacity utilization index, therefore, gives insight into likely capital appropriations. The magnitude of capital expansion, in turn, influences the degree and length of an increase in economic activity.

A capacity utilization index also provides clues to probable inflationary pressures. When firms are near capacity, increased demand for output is often accompanied by higher prices. But when capacity utilization is low, there is greater opportunity to increase output without increases in costs and prices.

Performance in Texas . . .

In the new index, capacity utilization in 1972 was set at 100 percent. Therefore, in years when capacity was used more intensively than in 1972, rates of capacity utilization exceeded 100 percent.

Capacity utilization in Texas manufacturing has fluctuated sharply in recent years. Since 1967, two periods of rising utilization were followed by periods of declining utilization–showing the business cycle in Texas.

The decline in the index beginning at mid-1969 lasted until year-end 1971–about 30 months–coinciding with a mild recession in the nation as a whole. The decline resulted from continuous capacity growth during a period when manufacturing output was relatively stable.

The utilization index then increased steadily, peaking in September 1973. The slight decline that followed reflected the oil embargo in October. Growth resumed, and in early 1974, rates of capacity utilization were high–the index was over 100 percent. But rates began sliding at midyear, coinciding with the beginning of the current recession in the state.

The severity of recession is indicated by the decline in the utilization index from 103.0 percent in June 1974 to 91.6 in June 1975. The sharp downturn resulted from a drop in manufacturing output. As measured by the Texas industrial production index, manufacturing fell from 133.1 to 123.4 over the same period.

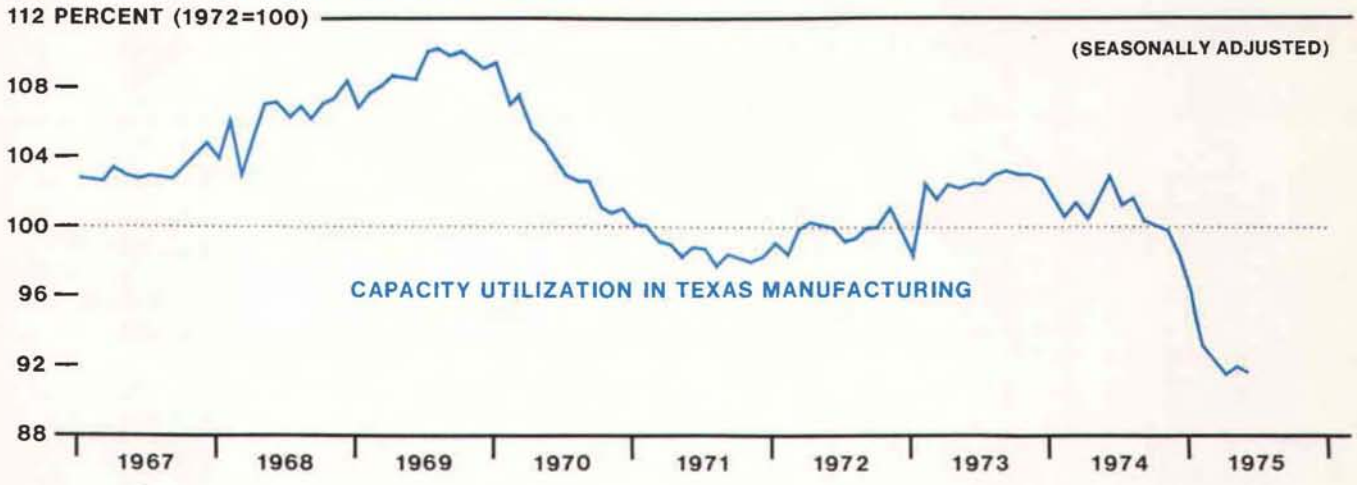
. . . and in the nation

Comparison of the monthly state index and the quarterly national index published by the Board of Governors of the Federal Reserve System shows declines in capacity utilization in the past year were less steep for Texas than for the

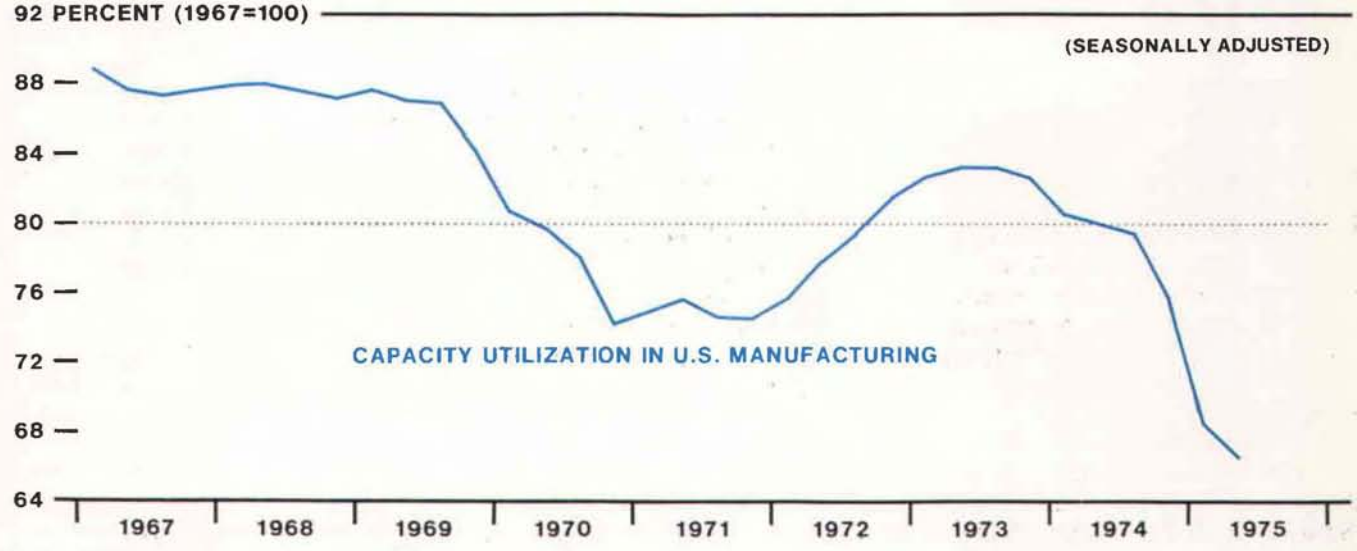
Methodologies of indexes

Technical discussions of the methodologies used to compute the Texas industrial production index and the Texas manufacturing capacity utilization index, as well as historical data for each series, are available free on request to the Research Department, Federal Reserve Bank of Dallas, Station K, Dallas, Texas 75222.

Though the indexes track at different levels . . .



. . . both show large shifts in capacity utilization



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

nation as a whole. This is consistent with lower unemployment in Texas than in the nation.

Construction of the indexes varies in several ways. The national index is supported by more extensive data on capacity. And it uses a different concept of capacity.

In the national index, full capacity represents the absolute physical capacity of capital stock, where in the Texas index, it refers to an optimum rate of production somewhat below the physical limit of plant and equipment. Consequently, the national index has never reached 100 percent, and it consistently tracks lower than the Texas index. Comparison of the indexes, therefore, should focus on movements in the indexes–not absolute levels.

Declines in capacity utilization in Texas have been concurrent with those in the nation. From mid-1969 to mid-1971, the Texas index declined 11.7 percent of its peak level while the national index fell 14.1 percent of its peak. And both indexes show that the high rates of capacity utilization in the late 1960's have not been regained.

Both indexes reflect the extent of the current recession. In the second quarter of this year, the national index was 20.2 percent below its peak in the third quarter of 1973. While severe, the drop in Texas–the index fell 11.4 percent from September 1973 to June 1975–was not as large as the drop in the nation.

Defining full capacity

As used in the index, full capacity refers to an optimum rate of production that is defined in terms of a firm's average total cost–all costs incurred in a given period divided by the number of units produced in the period. If a firm is producing at low levels, average total cost is high since overhead costs are spread among few units.

As production increases, average total cost declines. That is because some costs cannot be changed in the short run. These fixed costs–insurance premiums and charges for plant and equipment, for example–do not vary with changes in output. As output rises, fixed costs are spread over more units of production, resulting in a tendency for average total cost to fall.

But increasing production does not reduce average total cost continually. At some level of output, average total cost begins to rise again. At that point, costs are mounting at a faster rate than output is increasing.

While some short-run costs are fixed, others vary with changes in output. Wage costs are variable, for example, because increased production is generally accompanied by either increased overtime or new hirings. When production increases and more labor is applied to a fixed capital stock, wages grow proportionately faster than output does. And at some level of output, average variable costs will rise faster than average fixed costs decline, causing average total cost to rise.

This level of output where average total cost is minimized–defined in the index as 100-percent capacity utilization, or full capacity–is determined by the amount of capital stock available at a given point in time. As the capital stock of manufacturers grows over time, the minimum point of average total cost coincides with rising levels of manufacturing output.

The optimum level can be exceeded when strong demand makes it more profitable for firms to raise output. And weakness in demand can, at times, link profit maximization with output below that level.

Because of the definition used in the index, capacity utilization, as measured here, can exceed 100 percent. Consequently, rather than indicating the absolute level of capacity utilization, the index serves as a measure of changes in capacity utilization.

Estimating total capacity

Because the size of the capital stock determines the level of output where average total cost is minimized, these data provided information on the average annual growth rate of full-capacity output. Estimates of total capacity are obtained from the trend growth rate in the capital stock of Texas manufacturers.

To assume that capacity grows at an exact trend rate each year is unrealistic. As a rule, capacity grows faster than the trend rate in prosperous periods and lags the trend rate during recession and early recovery.

Therefore, in the late 1960's, when economic growth was strong and sustained, capacity may have been expanding faster than the trend rate. If so, actual capacity utilization would have been slightly lower than the index showed. Over the course of the business cycle, however, the trend rate of growth provides an approximate measure of the growth of manufacturing capacity.

Forming the index

The amount of capacity available to manufacturers in Texas is expressed as a percentage of manufacturing output in 1967. Data on manufacturing output are obtained from the Texas industrial production index, which uses 1967 as a benchmark. That is, manufacturing output in a given period is defined as a percentage of 1967 manufacturing output.

Capacity utilization in Texas was assumed to be near 100 percent in 1972 for several reasons. Consequently, that year was set as a benchmark.

The labor force in 1972 was at reasonably full employment, as annual average unemployment was 3.8 percent. The average workweek in manufacturing–41 hours–was very near the 1961-71 average, suggesting that manufacturers may have been near optimum rates of capacity utilization. In addition, the quinquennial Census of Manufactures, which provides the most current data on manufacturing value added, was conducted for 1972. For these reasons, therefore, capacity utilization in 1972 was set at 100 percent.

To calculate the rate of capacity utilization, manufacturing output is divided by the capacity estimate. Thus, actual output–as measured by the Texas industrial production index–is divided by the estimate of full-capacity output.

To illustrate, suppose that a firm that produced 1,000 units in 1967 produces 1,200 in 1975. But if the firm operated at the level that minimized average total cost (full capacity), it would produce 1,500 units.

Total capacity utilization for the firm would be actual output–120 percent of 1967 output–divided by full capacity–150 percent of 1967 output–or 80 percent.

–Brian P. Sullivan

New member bank

Ellis National Bank, Waxahachie, Texas, a newly organized institution located in the territory served by the Head Office of the Federal Reserve Bank of Dallas, opened for business August 25, 1975, as a member of the Federal Reserve System. The new member bank opened with capital of $300,000, surplus of $300,000, and undivided profits of $150,000. The officers are: Ralph T. Hoseck, President, and Jack A. Malone, Executive Vice President and Cashier.

New par banks

King State Bank, Houston, Texas, a newly organized insured nonmember bank located in the territory served by the Houston Branch of the Federal Reserve Bank of Dallas, opened for business July 31, 1975, remitting at par. The officers are: Abraham Beaton, Jr., President; C. R. Stanley, Vice President and Cashier; and D. L. Ferguson, Vice President.

First Texas Bank, Dallas, Texas, a newly organized insured nonmember bank located in the territory served by the Head Office of the Federal Reserve Bank of Dallas, opened for business August 5, 1975, remitting at par. The officers are: Jack Nunnelee, President; Tom Frazier, Vice President; and Don Johnson, Vice President and Cashier.

Security State Bank, Stockdale, Texas, an insured nonmember bank located in the territory served by the San Antonio Branch of the Federal Reserve Bank of Dallas, began remitting at par August 5, 1975. The officers are: J. H. Bain, Jr., President; Frank L. Bain, Jr., Executive Vice President; and Corrine B. Robinson, Cashier.

Cielo Vista Bank, El Paso, Texas, a newly organized insured nonmember bank located in the territory served by the El Paso Branch of the Federal Reserve Bank of Dallas, opened for business August 15, 1975, remitting at par. The officers are: Walter D. Kleine, III, President; B. Duncan Spillar, Vice President; and Gail S. Duke, Cashier.

Federal Reserve Bank of Dallas
September 1975

Statistical Supplement to the Business Review

Member banks in the Eleventh District have made substantial net additions to their holdings of Government securities this year. The heavy investment in these issues has stemmed primarily from weakness in overall loan demand, a desire to increase liquidity, and sizable Treasury financings.

In the first seven months of 1975, member banks increased their holdings of Government securities $677 million, or 30.9 percent, to almost $2.9 billion. These holdings accounted for 28.4 percent of the banks' investment portfolios on July 30—sharply higher than the 23.6 percent of January 1. Moreover, holdings of Government issues represented 9.1 percent of total bank credit, compared with 7.0 percent at the beginning of the year.

Total loans declined 1.1 percent from January through July, as demand for all major types of loans was very weak. But the recent upturn in economic activity suggests that the demand for loans may firm fairly soon.

To allow the accommodation of a stronger future loan demand, member banks are keeping their investment portfolios liquid. In recent months, they have generally limited their acquisitions to short and intermediate-term securities and allowed their holdings of long-term securities to decline.

Based on August 1 conditions, crop production in states of the Eleventh District this year is expected to be almost 15 percent larger than drouth-reduced production last year. And if conditions remain favorable, total crop output could approach the historic level of 1973.

Much of the increase in crop production stems from a record winter wheat harvest this spring and expected gains in corn and grain sorghum. Cotton, rice, and soybeans are the major cash crops expected to fall short of 1974 production.

Reflecting both increased acreage and sharply higher yields, wheat production in states of the District advanced 58 percent over a year earlier. The largest gain was in Texas, where output was up nearly 150 percent over the below-average crop in 1974 and 33 percent over the crop in 1973.

Output of corn is expected to be higher than in recent years. Estimated at 131 million bushels—48 percent higher than a year earlier—the corn crop reflects increased acreage, higher yields (especially in Texas), and good weather during the growing season.

The same favorable factors are expected to boost grain sorghum output considerably. Although lagging the 1973 crop by possibly 7 percent, grain sorghum production this year could be a fourth higher than in 1974.

Cotton production in states of the District is projected to decline slightly from the year-earlier level and to fall substantially below 1973 output. Yields per acre are expected to increase, but fewer acres were planted to cotton this year. However, output in Texas, the main cotton-producing state in the nation, could be up as much as 25 percent.

Rice production is estimated to decline slightly this year. Although little change is expected in yields, the acreage planted to rice this year was smaller.

Output of soybeans is projected to be about 9 percent lower than in 1974. Despite acreage increases of 34 percent in Texas and 5 percent in Louisiana, significantly lower yields will limit production in both states.

Other highlights:

• Total credit at weekly reporting banks in the Eleventh District in the four weeks ended August 20 rose considerably more than in comparable periods of the past five years, as banks again made sizable net additions of Government and municipal securities. Total loans declined, even though business loan demand was stronger than usual for the second consecutive month. Demand from most other types of borrowers remained weak.

• New car sales in the Eleventh District increased rapidly this summer. New car registrations, seasonally adjusted, in the four largest metropolitan counties in Texas rose 10 percent in July. That gain came after a 16-percent advance a month before. Dealers say announced price hikes for 1976 models triggered the recent surge in sales of 1975 models. Department store purchases remained sluggish, however, as seasonally adjusted sales in the District rose modestly from mid-July to mid-August after declining slightly in the previous four weeks.

• The seasonally adjusted Texas industrial production index rose over 10 percent, annual rate, in July. After declining from June 1974 to March 1975, output in the state has trended upward, with petroleum refining and production of chemical products pacing the recovery.

• Cash receipts from farm and ranch marketings in states of the Eleventh District in the first half of

(Continued on back page)

CONDITION STATISTICS OF WEEKLY REPORTING COMMERCIAL BANKS

Eleventh Federal Reserve District

(Thousand dollars)

ASSETS	Aug. 20, 1975	July 23, 1975	Aug. 14, 1974
Federal funds sold and securities purchased under agreements to resell	1,400,825	1,540,813	1,400,740
Other loans and discounts, gross	10,419,539	10,490,936	10,563,631
Commercial and industrial loans	5,070,527	5,034,136	4,764,616
Agricultural loans, excluding CCC certificates of interest	197,309	191,666	258,712
Loans to brokers and dealers for purchasing or carrying:			
U.S. Government securities	200	200	1,259
Other securities	29,054	31,727	41,039
Other loans for purchasing or carrying:			
U.S. Government securities	1,018	1,077	3,452
Other securities	364,227	370,980	440,634
Loans to nonbank financial institutions:			
Sales finance, personal finance, factors, and other business credit companies	165,915	175,810	161,748
Other	565,690	537,953	734,941
Real estate loans	1,494,407	1,512,011	1,553,513
Loans to domestic commercial banks	54,460	62,237	57,078
Loans to foreign banks	87,096	88,608	84,477
Consumer instalment loans	1,112,905	1,109,860	1,088,673
Loans to foreign governments, official institutions, central banks, and international institutions	1,976	1,958	76
Other loans	1,274,755	1,372,713	1,373,413
Total investments	5,106,011	4,919,481	4,207,384
Total U.S. Government securities	1,595,299	1,481,053	907,427
Treasury bills	331,915	306,948	71,519
Treasury certificates of indebtedness	0	0	0
Treasury notes and U.S. Government bonds maturing:			
Within 1 year	248,472	225,960	129,883
1 year to 5 years	842,217	800,998	528,181
After 5 years	172,695	147,147	177,844
Obligations of states and political subdivisions:			
Tax warrants and short-term notes and bills	241,007	172,770	172,057
All other	2,965,352	2,965,639	2,828,849
Other bonds, corporate stocks, and securities:			
Certificates representing participations in federal agency loans	11,274	11,485	9,484
All other (including corporate stocks)	293,079	288,534	289,567
Cash items in process of collection	1,536,302	1,467,528	1,469,271
Reserves with Federal Reserve Bank	1,187,822	1,107,618	943,369
Currency and coin	139,399	139,864	130,765
Balances with banks in the United States	535,251	505,265	425,571
Balances with banks in foreign countries	41,602	92,567	30,105
Other assets (including investments in subsidiaries not consolidated)	1,113,637	1,103,712	882,200
TOTAL ASSETS	21,480,388	21,367,784	20,053,036

LIABILITIES	Aug. 20, 1975	July 23, 1975	Aug. 14, 1974
Total deposits	16,205,306	16,287,854	14,758,541
Total demand deposits	7,492,061	7,525,043	7,000,489
Individuals, partnerships, and corporations	5,478,718	5,578,873	5,106,551
States and political subdivisions	486,470	508,953	506,311
U.S. Government	87,925	56,173	52,583
Banks in the United States	1,279,045	1,206,802	1,159,046
Foreign:			
Governments, official institutions, central banks, and international institutions	2,123	2,682	2,464
Commercial banks	61,888	71,890	70,711
Certified and officers' checks, etc.	95,892	99,670	102,823
Total time and savings deposits	8,713,245	8,762,811	7,758,052
Individuals, partnerships, and corporations:			
Savings deposits	1,362,215	1,370,814	1,140,778
Other time deposits	4,696,923	4,675,238	4,369,978
States and political subdivisions	2,277,998	2,301,585	2,106,261
U.S. Government (including postal savings)	35,733	35,552	8,279
Banks in the United States	314,740	353,826	110,770
Foreign:			
Governments, official institutions, central banks, and international institutions	23,248	23,194	8,099
Commercial banks	2,388	2,602	13,887
Federal funds purchased and securities sold under agreements to repurchase	2,842,267	2,675,597	2,949,032
Other liabilities for borrowed money	50,895	45,006	223,999
Other liabilities	641,875	639,340	559,637
Reserves on loans	205,112	203,031	183,131
Reserves on securities	23,186	23,159	20,413
Total capital accounts	1,511,747	1,493,797	1,358,283
TOTAL LIABILITIES, RESERVES, AND CAPITAL ACCOUNTS	21,480,388	21,367,784	20,053,036

CONDITION STATISTICS OF ALL MEMBER BANKS

Eleventh Federal Reserve District

(Million dollars)

Item	July 30, 1975	June 25, 1975	July 31, 1974
ASSETS			
Loans and discounts, gross	21,573	21,531	21,058
U.S. Government obligations	2,867	2,658	2,109
Other securities	7,236	7,424	6,785
Reserves with Federal Reserve Bank	1,705	1,643	1,477
Cash in vault	397	384	363
Balances with banks in the United States	1,570	1,408	1,342
Balances with banks in foreign countries[e]	45	63	40
Cash items in process of collection	1,744	1,752	1,888
Other assets[e]	2,032	1,946	1,656
TOTAL ASSETS[e]	39,169	38,809	36,718
LIABILITIES AND CAPITAL ACCOUNTS			
Demand deposits of banks	1,797	1,691	1,702
Other demand deposits	12,471	12,390	12,234
Time deposits	17,486	17,208	15,485
Total deposits	31,754	31,289	29,421
Borrowings	2,979	3,073	3,244
Other liabilities[e]	1,711	1,735	1,475
Total capital accounts[e]	2,725	2,712	2,578
TOTAL LIABILITIES AND CAPITAL ACCOUNTS[e]	39,169	38,809	36,718

e—Estimated

DEMAND AND TIME DEPOSITS OF MEMBER BANKS

Eleventh Federal Reserve District

(Averages of daily figures. Million dollars)

Date	DEMAND DEPOSITS			TIME DEPOSITS	
	Total	Adjusted[1]	U.S. Government	Total	Savings
1973: July	13,259	9,567	261	13,396	2,868
1974: July	13,809	10,056	212	15,442	2,983
August	13,634	9,988	175	15,509	2,956
September	13,740	9,973	222	15,586	2,952
October	13,687	9,976	149	15,714	2,977
November	13,843	10,148	138	16,016	3,009
December	14,351	10,355	208	16,177	3,049
1975: January	14,180	10,353	166	16,842	3,079
February	13,956	10,245	150	17,052	3,124
March	14,114	10,349	165	17,177	3,226
April	14,247	10,572	213	17,196	3,325
May	14,106	10,374	195	17,303	3,348
June	14,333r	10,529r	199r	17,273r	3,409r
July	14,501	10,698	164	17,315	3,480

1. Other than those of U.S. Government and domestic commercial banks, less cash items in process of collection

r—Revised

RESERVE POSITIONS OF MEMBER BANKS

Eleventh Federal Reserve District

(Averages of daily figures. Thousand dollars)

Item	5 weeks ended Aug. 6, 1975	4 weeks ended July 2, 1975	5 weeks ended Aug. 7, 1974
Total reserves held	2,012,971	1,997,909	2,008,762
With Federal Reserve Bank	1,660,488	1,657,702	1,677,397
Currency and coin	352,483	340,207	331,365
Required reserves	1,998,602	1,986,834	2,001,836
Excess reserves	14,369	11,075	6,926
Borrowings	8,127	7,492	125,297
Free reserves	6,242	3,583	−118,371

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

SMSA's in Eleventh Federal Reserve District

(Dollar amounts in thousands, seasonally adjusted)

Standard metropolitan statistical area	DEBITS TO DEMAND DEPOSIT ACCOUNTS[1]				DEMAND DEPOSITS[1]			
		Percent change				Annual rate of turnover		
	July 1975 (Annual-rate basis)	July 1975 from June 1975	July 1975 from July 1974	7 months, 1975 from 1974	July 31, 1975	July 1975	June 1975	July 1974
ARIZONA: Tucson	$22,191,419	9%	41%	19%	$404,849	54.2	51.0	42.5
LOUISIANA: Monroe	5,660,806	−6	4	8	124,580	44.3	45.5	43.7
Shreveport	28,176,388	12	31	20	384,850	73.4	66.8	57.2
NEW MEXICO: Roswell[2]	1,529,338	−5	8	7	58,196	25.9	26.3	26.8
TEXAS: Abilene	4,779,868	1	7	8	165,910	28.9	29.2	28.7
Amarillo	11,628,973	−5	10	0	267,178	43.0	44.2	43.3
Austin	24,628,691	6	10	11	502,071	47.9	47.3	47.3
Beaumont-Port Arthur-Orange	11,290,106	4	7	5	355,183	31.6	30.6	33.1
Brownsville-Harlingen-San Benito	4,361,423	−7	0	8	133,546	31.7	33.0	34.3
Bryan-College Station	1,899,784	−8	5	10	61,622	30.2	33.2	29.3
Corpus Christi	12,576,070	7	7	3	337,898	36.7	34.5	39.1
Corsicana[2]	790,187	−9	0	7	45,243	16.8	18.7	18.7
Dallas	246,599,944	2	−5	0	3,252,930	74.4	72.7	82.1
El Paso	16,784,557	1	16	7	360,920	46.1	46.2	42.5
Fort Worth	41,058,340	0	7	4	974,484	41.7	41.6	42.7
Galveston-Texas City	5,078,814	1	6	21	150,597	33.3	32.9	34.3
Houston	260,593,993	2	17	20	4,145,326	60.9	60.1	58.7
Killeen-Temple	3,063,922	4	7	8	129,493	23.2	22.4	23.3
Laredo	2,224,380	1	15	13	72,506	30.6	29.8	29.5
Lubbock	10,196,968	−6	7	−5	247,502	40.5	43.4	39.3
McAllen-Pharr-Edinburg	5,341,152	2	32	26	182,148	28.7	28.3	25.5
Midland	4,573,211	5	19	26	216,663	20.5	19.4	18.9
Odessa	3,982,391	2	32	35	140,036	28.5	27.8	25.2
San Angelo	3,126,449	0	7	13	103,843	29.6	29.4	28.7
San Antonio	33,781,540	−4	10	11	998,965	33.9	36.3	34.4
Sherman-Denison	1,814,620	11	1	4	88,383	20.1	18.1	20.9
Texarkana (Texas-Arkansas)	2,456,903	−8	16	13	98,369	24.8	27.7	22.4
Tyler	3,844,657	2	7	11	153,060	24.8	24.7	24.6
Waco	5,730,464	−7	15	19	172,546	33.4	36.0	30.1
Wichita Falls	4,976,465	−16	1	10	187,646	25.9	30.9	29.0
Total—30 centers	$784,741,823	2%	8%	9%	$14,516,543	53.1	52.5	53.6

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

CONDITION OF THE FEDERAL RESERVE BANK OF DALLAS

(Thousand dollars)

Item	Aug. 27, 1975	Aug. 28, 1974	July 30, 1975
Total gold certificate reserves	422,062	537,031	422,062
Loans to member banks	6,185	140,420	3,489
Other loans	0	0	0
Federal agency obligations	275,855	154,205	259,867
U.S. Government securities	4,165,928	3,332,665	4,193,398
Total earning assets	4,447,968	3,627,290	4,456,754
Member bank reserve deposits	1,619,764	1,472,867	1,705,342
Federal reserve notes in actual circulation	2,827,290	2,558,611	2,803,488

VALUE OF CONSTRUCTION CONTRACTS

(Million dollars)

Area and type	July 1975	June 1975	May 1975	January—June 1975	January—June 1974r
FIVE SOUTHWESTERN STATES[1]	1,035	825	1,691	7,821	7,349
Residential building	376	359	366	2,312	2,740
Nonresidential building	369	257	618	3,089	2,886
Nonbuilding construction	290	210	707	2,420	1,723
UNITED STATES	9,044	9,324	9,143	53,598	55,496
Residential building	3,093	3,116	3,073	17,707	22,285
Nonresidential building	3,165	3,169	2,877	18,838	19,549
Nonbuilding construction	2,786	3,040	3,193	13,662	13,662

1. Arizona, Louisiana, New Mexico, Oklahoma, and Texas
r—Revised
NOTE: Details may not add to totals because of rounding.
SOURCE: F. W. Dodge, McGraw-Hill, Inc.

BUILDING PERMITS

Area	NUMBER		VALUATION (Dollar amounts in thousands)		Percent change: July 1975 from June 1975	Percent change: July 1975 from July 1974	Percent change: 7 months, 1975 from 1974
	July 1975	7 mos. 1975	July 1975	7 mos. 1975			
ARIZONA							
Tucson	559	3,610	$9,553	$59,413	50%	−8%	3%
LOUISIANA							
Monroe-West Monroe	64	500	971	8,462	−33	−55	−22
Shreveport	971	5,214	7,246	38,040	12	−60	−47
TEXAS							
Abilene	104	736	1,568	16,944	−25	−54	62
Amarillo	278	1,921	23,577	51,638	335	280	40
Austin	425	3,126	17,563	86,356	13	27	−46
Beaumont	242	1,519	10,077	28,337	233	54	−13
Brownsville	122	834	5,940	12,424	248	474	−29
Corpus Christi	288	1,783	4,045	36,361	−9	−44	−12
Dallas	2,018	11,906	45,733	162,991	279	76	−27
Denison	27	264	144	1,620	−33	121	36
El Paso	623	3,389	9,904	74,769	−11	−41	−37
Fort Worth	370	2,584	4,194	77,422	−67	−33	−23
Galveston	80	366	2,759	5,773	280	439	−80
Houston	2,051	13,274	42,563	327,178	−36	−10	−19
Laredo	77	446	1,383	8,150	−56	−70	13
Lubbock	307	1,286	9,797	78,173	74	−57	−18
Midland	109	798	2,498	14,651	−13	−30	−40
Odessa	160	831	2,370	14,084	46	33	6
Port Arthur	90	671	283	2,670	−68	10	80
San Angelo	69	514	3,336	11,796	49	603	21
San Antonio	1,575	10,112	16,224	83,930	82	−5	−38
Sherman	48	235	378	3,105	−14	25	−19
Texarkana	81	460	458	3,383	−39	−51	−41
Waco	192	1,471	2,680	10,405	149	27	−57
Wichita Falls	131	663	896	9,285	−38	−39	−1
Total—26 cities	11,061	68,513	$226,140	$1,227,360	27%	3%	−25%

DAILY AVERAGE PRODUCTION OF CRUDE OIL

(Thousand barrels)

Area	July 1975	June 1975	July 1974r	Percent change from June 1975	Percent change from July 1974
FOUR SOUTHWESTERN STATES	5,833.7	5,823.2	6,140.2	0.2%	−5.0%
Louisiana	1,808.0	1,794.7	1,943.1	.7	−7.0
New Mexico	256.9	256.0	272.2	.4	−5.6
Oklahoma	441.9	448.8	483.2	−1.5	−8.5
Texas	3,326.9	3,323.7	3,441.7	.1	−3.3
Gulf Coast	637.9	640.8	673.0	−.5	−5.2
West Texas	1,790.2	1,788.1	1,822.8	.1	−1.8
East Texas (proper)	213.8	218.6	196.0	−2.2	9.1
Panhandle	58.2	55.6	58.2	4.7	.0
Rest of state	626.8	620.6	691.7	1.0	−9.4
UNITED STATES	8,372.6	8,371.5	8,753.6	.0%	−4.4%

r—Revised
SOURCES: American Petroleum Institute
U.S. Bureau of Mines
Federal Reserve Bank of Dallas

LABOR FORCE, EMPLOYMENT, AND UNEMPLOYMENT

Five Southwestern States[1]

(Seasonally adjusted)

Item	Thousands of persons: July 1975p	June 1975	July 1974r	Percent change July 1975 from: June 1975	July 1974
Civilian labor force	9,173.0	9,176.0	8,969.1	0.0%	2.3%
Total employment	8,533.4	8,540.4	8,528.2	−.1	.1
Total unemployment	639.5	635.6	440.9	.6	45.0
Unemployment rate	7.0%	6.9%	4.9%	[2].1	[2]2.1
Total nonagricultural wage and salary employment	7,542.1	7,501.9	7,523.8	.5	.2
Manufacturing	1,246.3	1,235.5	1,323.3	.9	−5.8
Durable	698.2	691.7	746.8	.9	−6.5
Nondurable	548.1	543.8	576.4	.8	−4.9
Nonmanufacturing	6,295.8	6,266.4	6,200.5	.5	1.5
Mining	268.0	266.7	267.9	.5	.0
Construction	465.0	461.7	510.0	.7	−8.8
Transportation and public utilities	497.8	500.4	520.0	−.5	−4.3
Trade	1,815.2	1,807.6	1,780.3	.4	2.0
Finance	418.7	417.3	410.2	.3	2.1
Service	1,292.2	1,291.7	1,234.2	.0	4.7
Government	1,539.0	1,521.1	1,477.9	1.2%	4.1%

1. Arizona, Louisiana, New Mexico, Oklahoma, and Texas
2. Actual change
p—Preliminary
r—Revised
NOTE: Details may not add to totals because of rounding.
SOURCES: State employment agencies
Federal Reserve Bank of Dallas (seasonal adjustment)

CROP PRODUCTION

(Thousand bushels)

Crop	TEXAS: 1975, estimated Aug. 1	1974	1973	FIVE SOUTHWESTERN STATES[1]: 1975, estimated Aug. 1	1974	1973
Cotton[2]	3,121	2,487	4,699	4,421	4,565	6,446
Corn	115,500	73,600	60,800	131,046	88,315	73,398r
Winter wheat	131,100	52,800	98,600	326,484	206,145	280,442
Oats	19,500	8,100	26,650	24,394	12,449	34,948
Barley	2,380	1,350	3,510	15,825	12,750	21,825
Rye	760	200	648	1,408	965	1,981
Rice[3]	24,885	25,258	20,530	48,935	49,978	41,924
Sorghum grain	394,400	312,000	417,000	448,625	356,707	478,164
Flaxseed	480	374	80	480	374	80
Hay[4]	5,100	5,106	5,808	11,736	11,371	12,964
Peanuts[5]	474,300	413,280	471,225	747,335	644,054	743,867
Irish potatoes[3]	1,785	2,244	2,940	2,865	3,084	3,772
Sweet potatoes[3]	850	850	855	3,485	4,525	3,825
Soybeans	9,100	7,830	8,500	52,790	57,747	47,860r

r—Revised
1. Arizona, Louisiana, New Mexico, Oklahoma, and Texas
2. Thousand bales
3. Thousand hundredweight
4. Thousand tons
5. Thousand pounds
SOURCE: U.S. Department of Agriculture

INDUSTRIAL PRODUCTION AND TEXAS MANUFACTURING CAPACITY UTILIZATION

(Seasonally adjusted indexes, 1967 = 100 for production)

Area and type of index	July 1975p	June 1975	May 1975	July 1974
TEXAS				
Total industrial production	121.4	120.4	120.6	127.5
Manufacturing	124.9	123.5	123.7	131.4
Durable	126.0	126.2	126.8	132.0
Nondurable	124.1	121.5	121.4	130.9
Mining	107.3	107.0	107.1	113.0
Utilities	165.8	165.8	165.9	167.8
Capacity utilization in manufacturing (1972 = 100)	92.4	91.7	92.2	101.3
UNITED STATES				
Total industrial production	110.8	110.3	109.8	125.5
Manufacturing	108.9	108.5	107.8	125.2
Durable	102.2	102.6	102.4	121.6
Nondurable	118.6	116.9	115.9	130.8
Mining	106.9	106.1	107.0	110.2
Utilities	151.0	151.5	152.3	152.4

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

this year totaled $4.2 billion—15 percent lower than in the same period last year. By contrast, receipts for the United States declined 8 percent. The drop in District sales resulted from substantial decreases for both crops and livestock and livestock products.

• The number of tourists in Texas this summer was markedly higher than last summer. Over 200,000 people visited the state in July, 11 percent more than in July 1974. Through the first seven months of this year, the number of tourists was 24.7 percent ahead of the same period last year and 4.4 percent ahead of the same period in 1973—a good year for tourism in the state.

• Liquidation of the Texas cattle herd continues at a rapid pace. Slaughter of cattle and calves in the first half of this year totaled 2.6 million head, up 43 percent over the same period in 1974. As a result, the July 1 inventory of cattle and calves in Texas was 17 million head, 3 percent less than a year earlier. By contrast, the slaughter of cattle and calves in the United States in the first half of this year was almost 16 percent higher than in the same period last year. And the July 1 inventory of cattle and calves in the nation was 1 percent higher than a year earlier.