

CAN LOW OIL PRICES CRIPPLE THE TEXAS BANKING SYSTEM?

DURING THE 1970s, the price of oil rose dramatically. Partly as a result of this unanticipated price shock, Texas experienced an economic, financial and population boom, while much of the nation suffered from the burden of higher energy prices. These trends were reversed during the 1980s, especially after the precipitous decline of oil prices in early 1986. What followed for Texas and many other energy belt states was a deep economic recession, accompanied and reinforced by a banking and real estate depression. Over the last few years, oil prices have remained volatile, but the impact of this volatility has been muted in comparison with the 1970s and '80s episodes.

Throughout the 1990s, Texas has enjoyed employment growth well above the national average. Over the last five years, a healthy Texas banking industry has been willing to extend credit, unlike during the 1986–92 period. The construction industry also has been robust in recent years, with anecdotal evidence suggesting construction activity would be growing faster were it not for a shortage of construction workers and cement.



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In late 1998 and the early months of 1999, nominal oil prices fell to levels not seen since 1986, and inflation-adjusted oil prices dropped to Depression-era levels. Although oil prices rebounded in March and April 1999, stabilization of prices at under \$10 per barrel remains a possibility. The mergers of major oil companies and oil service companies, which once were contingency plans to deal with low oil prices, have now been under way for more than a year. This article explores the implications for Texas' economy and its banks of a sustained retreat in oil prices. I conclude that Texas is much less sensitive to oil prices than it was in the early 1980s and that oil prices in the \$10–\$12 range would not likely disrupt the Texas economy—or its banks—as in the 1980s.

From Boom to Bust

Political turmoil in the Middle East during the 1970s shifted the fortunes of oil producers and consumers throughout the world. Following the Yom Kippur War between Israel and its neighbors in October 1973, the Arab members of the Organization of Petroleum Exporting Countries (OPEC) embargoed the sale of oil to countries that supported Israel. The disruption of oil supplies caused oil prices to more than double over the next few years (*Chart 1*). A revolution in Iran in 1979 further disrupted oil output, and oil prices more than doubled again, reaching a peak in 1981.

In the early 1980s, three forces combined to reverse the upward trend of oil

Chart 1
Oil Prices

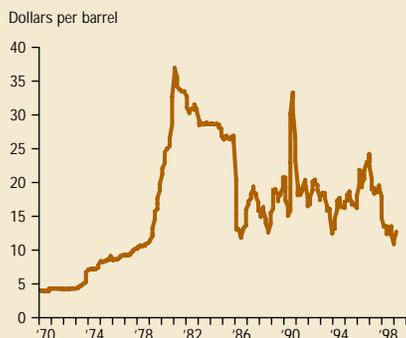


Chart 2
U.S. and Texas Rig Counts



prices. Oil production in non-OPEC countries increased in response to high oil prices; efforts to conserve oil consumption intensified as oil prices rose; and the United States entered a deep and prolonged recession. The net result of growing supply and diminished demand was a sharp break in oil prices and a reduction in cohesion among the member countries of the OPEC cartel. By 1985, some OPEC members had increased their output above their OPEC quotas in an effort to maintain oil revenue in the face of falling prices. In January 1986, OPEC output discipline broke down, and oil prices fell from the high \$20s to the low teens. Since then, with the exception of the spike in oil prices at the outset of the Gulf War in 1990, oil prices have for the most part remained in the range of \$14–\$20 per barrel (*Chart 1*).

Impacts of Changing Oil Prices

Throughout the 20th century, Texas has been a major oil producer, exporting its oil, refined products and downstream petrochemicals to the rest of the United States and other countries as well. In 1981, when oil prices were at their highest, 19.3 percent of Texas gross state product (GSP) came from oil and gas output. If Texas were a country, it would have thought of significant changes in the price of its major export product as a terms-of-trade shock, in the same way that Chile thinks about copper prices or Brazil thinks about coffee prices.

Oil companies, just like the producers of most goods and services, make

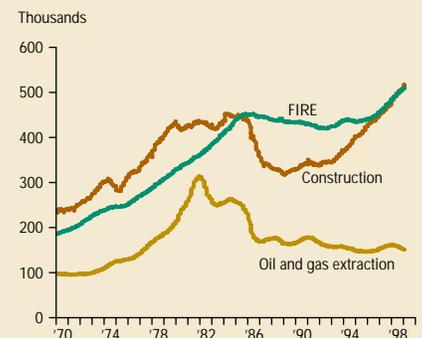
efforts to increase output in response to an increase in the price of their product. After oil prices rose sharply in the wake of the 1973–74 Arab oil embargo, drilling activity for new oil surged, as evidenced by the rig count, in both Texas and the United States. By 1982, the rig count had more than doubled from its pre-embargo level (*Chart 2*). Following the break in oil prices in 1981, the opposite response occurred. By 1986, the rig count had fallen by two-thirds from its 1982 peak.

Changing oil prices had a dramatic impact on employment in the oil and gas extraction industry. By the late 1980s, employment in the Texas oil and gas extraction sector had fallen by half from the 1982 high (*Chart 3*). As oil prices rose and fell, so too did employment levels in two related industries. Employment in the Texas construction industry and in the finance, insurance and real estate (FIRE) sector responded to the fortunes of the oil and gas sector (*Chart 3*).

In the year or so following the revolution in Iran, much of the U.S. economy experienced a recession, stemming at least in part from higher energy prices. Texas, however, was enjoying the prosperity that accompanied its positive terms-of-trade shock. Oil prices had more than doubled, and some oil industry experts were forecasting oil prices would go to \$60 or more in the coming years. Employment growth in Texas was rapid and was expected to continue (*Chart 4*).¹

In response to the U.S. recession, President Reagan introduced and Congress passed the Employment Recovery

Chart 3
Texas Employment



Tax Act of 1981 (ERTA), one section of which provided for rapid depreciation for tax purposes of new commercial construction projects of all types. This new tax incentive spurred construction throughout the nation but particularly in Texas, where overall economic prospects and population growth projections were well above the national average.

With the benefit of 20–20 hindsight, we now know that oil prices above \$30 were not sustainable and that the influx of workers and their families to Texas would eventually recede and, for a short time, reverse. As shown in Chart 4, by 1986 the gap between the anticipated level of employment and actual levels was about a million workers. However, a real estate construction boom had been set off to provide homes, apartments, offices and stores for these anticipated million workers and their families. Perhaps the most dramatic swing in construction activity in response to oil price fluctuations and the ending of ERTA’s real estate tax incentives in 1986 was the number of permits issued for new apartment construction. From its peak of just under 17,000 apartment permits issued in October 1983, the number of permits dropped to a mere 81 in December 1987. The health of the Texas banking industry, which had provided credit for the expansion of oil and gas exploration and for construction, was impacted severely by these twists and turns in oil prices and government policies.

The Financial Health of Texas Banks

Following Texas’ economic boom in the 1970s, most Texas banks entered the 1980s as the envy of the U.S. banking system. Texas banks were among the most well-capitalized and highly profitable banks in the country. This situation was quickly reversed.

By 1987, large percentages of Texas banks were severely undercapitalized, and record levels of red ink appeared on their income statements. Bank failures became noticeable in 1986 and soared in 1987–90 (Chart 5). In early 1987, the number of banks in Texas stood at nearly 2,000; if Texas were a country, it would have ranked second

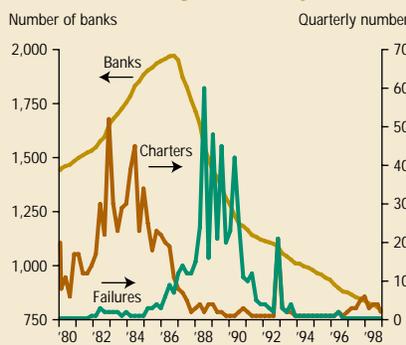
Chart 4
Total Texas Nonagricultural Employment



(the United States being first) in the number of banks. Many of the failed banks had been chartered only a few years, but many of Texas’ largest and most well-established banks failed or received outside capital infusions. At one point in 1988, more than half of all Texas banks were rated “problem banks” by their primary federal supervisory agency.²

To examine the overall financial condition of Texas banks, I devised a somewhat oversimplified measure of financial health. I considered a bank to be healthy if it simultaneously passed three tests: (1) it was well capitalized; (2) it was profitable; and (3) it had a below-average ratio of troubled (nonperforming) assets. Banks that passed all three tests were designated “healthy” banks; those that failed all three were deemed “sick” banks.³ Banks that passed only one or two of these criteria were considered “not well.” While such a measure may not give a strictly accurate or

Chart 5
Texas Banking Industry



complete picture of a bank’s financial health, it may nonetheless provide some clues about a bank’s propensity (that is, its willingness and ability) to expand credit. By this particular measure of financial health, fewer than half of Texas banks were healthy in 1988 (Chart 6), and these healthy banks accounted for less than one-fourth of Texas banking assets at the time (Chart 7). While “only” 15 percent of Texas banks were sick in 1988, they accounted for almost 30 percent of Texas banking assets. Roughly three-fourths of Texas banking assets were in the hands of banks that were either sick or not well.

Sick Banks Don’t Lend

As the number of sick and financially weakened Texas banks began to increase, their loans and assets began to shrink. Unprofitable and undercapitalized banks concentrated on collecting old loans and became reluctant to make new ones. Between 1985 and 1991, the volume of loans on the books of Texas banks fell by more than half, adjusted for inflation (Chart 8). Within Texas, talk of a “Texas credit crunch” was widespread. Debate raged about whether the drop in bank lending was primarily a decrease in loan demand stemming from the recession levels of economic activity; whether banks were simply unwilling or unable to lend due to constraints imposed by their balance sheet weakness; or whether regulatory standards designed to curtail bank asset expansion actually encouraged asset contraction to achieve minimum required capital-to-asset ratios.⁴

While it is difficult to ascertain whether it was a drop in loan demand or loan supply that brought about the shrinkage in bank assets and loans at Texas banks, I concluded from a review of the economic literature at the time that sick banks don’t lend. In the recessionary economic environment that prevailed at the time, weak banks were too scared to lend for fear they themselves would become sick banks, and healthy banks were too small and controlled too little a percentage of the state’s banking assets to make a difference, even if they were inclined to expand

Chart 6
Financial Health of Texas Banks
(Number of Banks)

Percent of total number of all Texas banks



credit.⁵ In other words, a credit crunch from the supply side could not be ruled out and was a plausible explanation of what borrowers were experiencing.

The remainder of this article addresses whether a sharp and sustained drop in oil prices today could wreak similar havoc on the Texas economy and banking system and limit Texas citizens' access to credit, with the attendant negative feedback on economic activity.

Will History Repeat?

To examine whether history will repeat itself, we look at three questions: (1) is it likely that oil prices will sink, on a sustained basis, to levels below the \$11–\$13 range reached in early 1999; (2) how sensitive is the present-day Texas economy to lower oil prices vs. its sensitivity in the past; and (3) what else is currently different about the Texas economy and the U.S. financial system?

Oil Price Volatility. The extremely low Texas and U.S. rig counts suggest that the oil industry anticipates oil prices will remain at the low end of their recent trading range or decline still further. Megamergers of major oil companies announced in the last year have been driven, at least in part, by the expected decline in profitability that would accompany lower oil prices.⁶ The net

effect of these mergers, should they all be completed, would be to reassemble much of the Standard Oil Co., which was broken up by a U.S. Supreme Court decision in 1911. Although oil prices have remained in double-digit territory since 1974, the possibility of prices returning to single-digit levels has begun to receive serious discussion.⁷

Reduced Sensitivity to Lower (or Higher) Oil Prices. When oil prices peaked in 1981, oil and gas extraction

accounted for 19.3 percent of Texas GSP. Chemicals and petroleum-related products constituted another 4.7 percent of GSP. Together, oil and its by-products made up just under one-fourth of the Texas economy in 1981. By 1996, the latest year for which detailed data are available, oil and related products composed a little less than one-eighth of the Texas economy. With other segments of the economy growing in importance, oil output and changes in oil prices are now less significant.

Earlier research at the Dallas Fed demonstrates quite clearly that Texas is currently about one-fourth as sensitive to changes in oil prices as it was in 1982. Research by Brown and Yücel (*Chart 9*) illustrates how each of the states is impacted by changing oil prices.⁸ The U.S. economy is presently about half as sensitive to changing oil prices as it was two decades ago. A few selected Brown and Yücel estimates are shown more precisely in Table 1. A sustained 10-percent decrease in oil prices would increase U.S. employment by 0.11 percent, not quite half the 0.18-percent increase a similar change in oil prices would have produced in 1982. Texas, on the other hand, would suffer an employment decline of 0.3 percent—about 22 percent as much as in 1982— if oil prices fell by 10 percent in 2000.

For the sake of comparison, Dela-

Chart 7
Financial Health of Texas Banks
(Total Assets)

Percent of total assets in all Texas banks

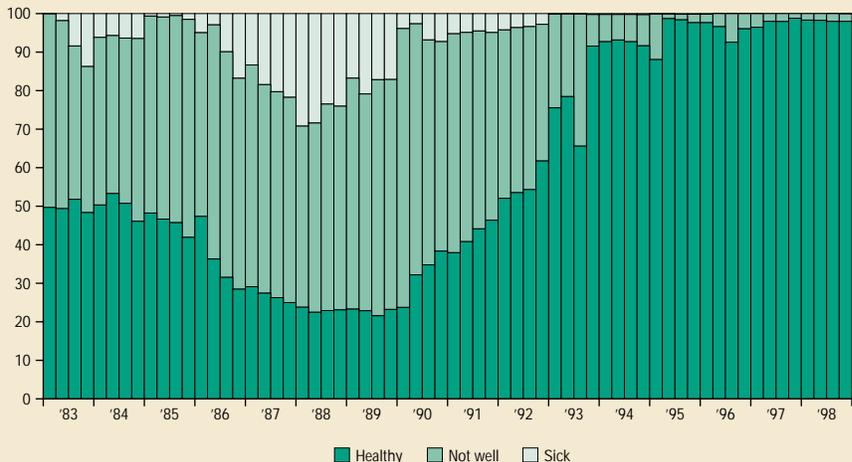
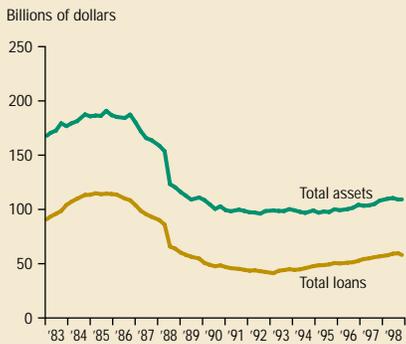


Chart 8
Assets and Loans at Texas Banks
(Adjusted for Inflation)



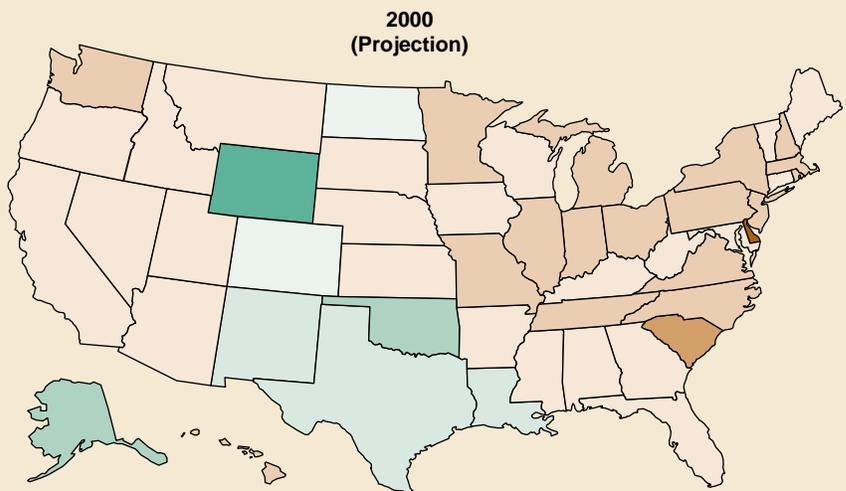
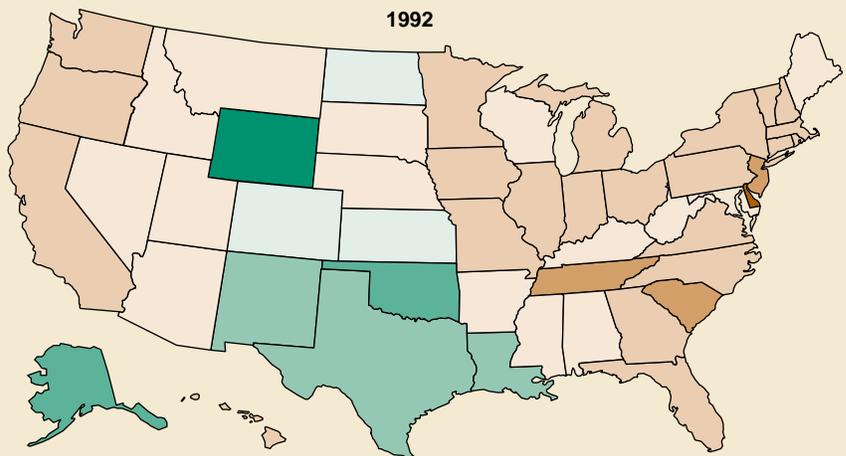
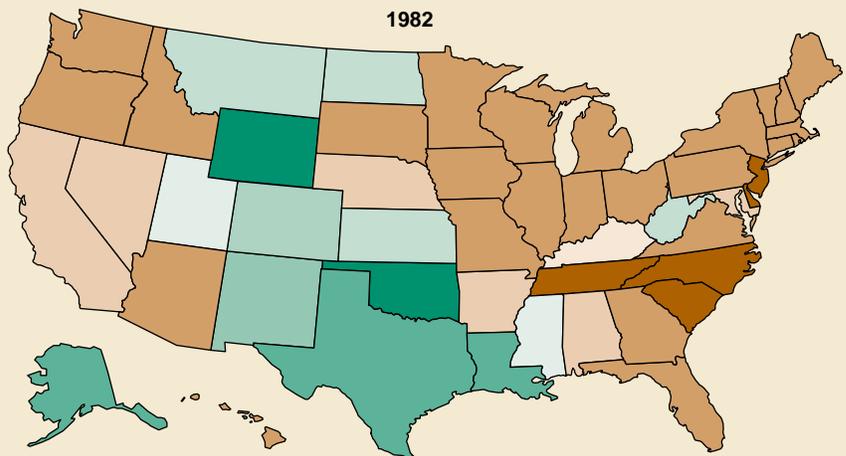
ware and Pennsylvania are included in Table 1. Delaware continues to benefit from lower oil prices because a major part of its economy involves the production of chemicals and other products that use oil, but Delaware's benefit is only about three-fifths what it used to be. Pennsylvania also gains from lower oil prices, but less than half as much as it did in 1982. I include Pennsylvania to illustrate that a state can make the transition from one that benefits strongly from higher oil prices to one that benefits noticeably from lower oil prices. At the turn of the last century, Pennsylvania was the oil capital of the United States.⁹ The Texas economy could evolve like Pennsylvania's as Texas oil fields are depleted and new oil fields become increasingly expensive relative to oil production in the Middle East.

Other Differences. Several changes in the Texas economy since 1986 will lessen the impact of oil price swings in 1999 and the next few years. One condition that has not changed is the over-

Table 1
Employment Impact of 10 Percent Decrease in Oil Prices

	(Percentage change)		
	1982	1992	2000
Texas	-1.37	-.53	-.30
Delaware	2.51	1.86	1.54
Pennsylvania	.43	.22	.19
United States	.18	.12	.11

Chart 9
Oil Price Sensitivity



■ States that benefit from higher oil prices ■ States that benefit from lower oil prices

NOTE: The darker the shading the greater the impact of the oil price change.

*The balance sheets
of Texas banks
reflect more caution
than they did
a decade and a
half ago.*

all health and strength of the Texas economy, which for the last several years—just as in the early 1980s—has enjoyed a high job-growth rate relative to the nation. We turn now to what is different about the Texas economy and its financial conditions besides its reduced sensitivity to oil price volatility.

Oil price expectations. In the early 1980s, many Texans anticipated oil prices could rise to \$60 or more and, as mentioned previously, bought land and constructed new buildings. In recent years, the expectation has been that oil prices would be flat to down and that increased profits would have to come primarily from reducing costs of production, mainly through new and improved technology. In this environment, speculative drilling and related activities have been kept to a minimum.

Zombie thrifts. Throughout much of the 1980s, a large number of Texas savings and loans went bankrupt yet were allowed to continue operating because the federal government had neither the financial nor human resources to close them down. It was not uncommon for some of these “walking dead” to make new, extremely risky investments in the hope they would earn extraordinary returns, thereby recouping previous losses. Rarely did these long shots pay off; instead, the “zombie thrifts” financed many office buildings and shopping centers that were never occupied until many years later, when the government sold them off at a fraction of their construction cost. The zombie thrifts created a real estate inventory so large that otherwise prudent real estate lending by Texas’ commercial banks became unprofitable and nonperforming. Fortunately, no zombie thrifts or banks are operating now.

FDICIA. In 1991, Congress passed the Federal Deposit Insurance Corporation Improvement Act (FDICIA). Through this act, Congress altered the incentive structure under which banks and their supervisory agencies operate. Banks are now charged deposit insurance premiums that increase as the risk they impose on the deposit insurance fund rises. Prior to FDICIA, all banks paid the same deposit insurance rates regardless of the probability of the bank failing. FDICIA also required all banks to hold higher

levels of capital than previously, with a bank’s capitalization requirement rising as the bank incurred higher levels of credit risk. In addition, FDICIA requires bank supervisors to apply “prompt corrective action” whenever a bank’s capital ratios fall below specified minimums.

Presumably, with banks knowing in advance the harsh penalties that will be imposed should they lose capital through risky lending and investment activity, banks are motivated to reduce risk exposure on their own. The Texas and U.S. banking industries have been quite healthy since about 1993, and the U.S. economy is currently in one of its longest expansions on record. Thus, the risk-based deposit insurance, risk-based capital and prompt corrective-action regime has never been stress tested; we have no idea whether it will really prevent risky and speculative lending in today’s highly competitive financial environment. Nonetheless, banks clearly face much stronger disincentives toward taking excessive risk now than before FDICIA.

Interstate branching. Bank branching was prohibited in Texas before 1987, with the result that Texas banks could not diversify their risks geographically. These banks were subject to the particular forces that moved the Texas economy, chiefly oil prices. More recently, many of Texas’ larger banking entities have become part of very large, multistate branching networks, thereby diversifying their geographic risks across many different economic markets. Other things equal, such diversification should reduce the impact of oil price swings on the Texas banking industry. Texas banks with a limited geographic market and heavy lending to oil-related businesses, or operating in communities where oil is a significant part of the local economy, are still vulnerable to lower oil prices. In 1998, 54 percent of Texas banking assets were controlled by banks headquartered outside Texas; that percentage was zero before 1987. This provides additional evidence that Texas banks should be better able to withstand a sustained drop in oil prices in coming years.

Credit exposure. During the second half of the 1980s, the Texas banking industry experienced a *depression*. Unlike

a recession, a depression is more than an economic event; it is a psychological trauma that becomes indelibly stamped in one's memory and in the industry's "genetic code." In these circumstances, it takes a long time to forget the ordeal, and behaviors are altered to avoid repeating past mistakes associated with the event. On average, Texas banks have a loan-to-asset ratio about 10 percentage points below its 1986 levels, and their ratio of commercial and industrial loans to total loans is three-fifths of what it was in the early 1980s. The balance sheets of Texas banks reflect more caution than they did a decade and a half ago.

Relative population and economic growth. Texas has enjoyed above average employment growth over the last few years. However, over this recent period, the nation also has experienced strong employment growth and close to record unemployment rates. In this environment, it is more difficult for Texas firms to attract employees from other parts of the nation because of the high cost of moving relative to the expected benefits. The opposite was true during much of the 1970s and early 1980s, when Texas underwent a boom at the same time many other states were experiencing deep recessionary conditions. During the 1975–85 period, Texas recorded unprecedented population growth, which reinforced the demand for construction activity predicated on the erroneous assumption that oil prices could only rise. With the U.S. economy at full employment in the late 1990s, labor shortages are among the most common complaints of American businesses. In this environment, Texas population growth has slowed, and although apartment and other construction has sometimes gotten ahead of absorption, vacancy rates have never soared. However, a regional downturn has not occurred in this national expansion cycle, so it is hard to conclude that Texas—or any other region for that matter—is not vulnerable to overexpansion of real estate relative to population growth.

NAFTA. The North American Free Trade Agreement (NAFTA) took effect in 1994. NAFTA helped stabilize Texas' trade flows with Mexico, especially during the period following Mexico's de-

valuation of the peso in 1995.¹⁰ Partly because of NAFTA, the importance of manufacturing has increased in Mexico, while oil has become less significant. In 1998, oil accounted for 6 percent of Mexico's exports; in 1985, oil accounted for 55 percent. Mexico's reduced reliance on oil has indirectly made Texas less vulnerable to swings in oil prices than it was in the 1970s and early 1980s.

Fiscal policy. As mentioned earlier, federal fiscal policy provided tax incentives to construct commercial real estate in 1981, only to eliminate those incentives in 1986. Such incentives cannot vanish in 1999 because there are none to begin with. Commercial real estate activity in 1999 presumably is driven by the economics underlying a project, and these economics are not distorted by tax incentives. Overbuilding is possible but much less likely under these circumstances.

Conclusions

In the 1970s and early 1980s, oil was such a significant part of the Texas economy that the wide swings in oil prices were the "tail that wagged the dog." In addition, the 1970s boom and the 1980s bust were amplified by the Texas banking industry, which became a propagating mechanism reinforcing the regional business cycle. As we prepare to enter the 21st century, oil and its related products make up a much smaller part of the Texas economy, making it considerably less sensitive to changing oil prices than it was in previous decades. Moreover, Texas seems less prone to many of the excesses of the past. In addition, the Texas banking system has exhibited restraint in its asset expansion compared with the 1975–85 period.

Texas is not immune to oil price shocks. Nonetheless, the state is better positioned now to weather the effects of a sustained decline in oil prices. However, should oil prices fall below \$10 and remain there, Texas producers will have difficulty covering costs and will have to cede production to lower cost areas of the world. Prices in this range would disrupt the Texas economy; however, unless sustained low oil prices are

accompanied by other negative shocks, the Texas economy should continue to grow.

—Harvey Rosenblum

Notes

- ¹ Based on their words and actions, Texans expected the employment (and other measures of economic) growth of the 1970s to continue well into the 1980s. The line labeled "Expectations" in Chart 4 is a linear extrapolation of the employment growth trend of the 1970s.
- ² Banks are rated by their supervisory agency on a scale of 1 to 5, with 1-rated banks being the best in five characteristics—capital, asset quality, management, earnings and liquidity—and 5-rated banks being the worst. A bank rated 3, 4 or 5 is considered a "problem bank."
- ³ To use a medical analogy, it is possible that a person who is obese and who has seriously elevated blood pressure and cholesterol is, nonetheless, healthy. Over long periods, however, a group of people with these characteristics is likely to behave differently from a group of people with more normal profiles in these three areas.
- ⁴ Banks could satisfy their higher risk-based capital-to-asset ratios by (1) increasing their equity capital (that is, by selling new shares of common stock and/or retaining more earnings); (2) reducing assets; and/or (3) changing the asset mix by reducing loans to businesses and households and increasing their investments, especially in U.S. Treasury securities. This higher capitalization requirement provided powerful incentives for banks to reduce business (and household) credit, especially during the transition phase until the new requirements were satisfied.
- ⁵ Harvey Rosenblum, "The Macroeconomic Impact of Bank Regulatory Policies," in *Proceedings of a Conference on Bank Structure and Competition*, Federal Reserve Bank of Chicago, 1992, pp. 434–45; and Harvey Rosenblum, "The Pathology of a Credit Crunch," *Southwest Economy*, Federal Reserve Bank of Dallas, July/August 1991.
- ⁶ Recently completed or announced mergers include many of the world's largest oil companies: British Petroleum, Amoco, Arco, Exxon, Mobil, Texaco and Chevron.
- ⁷ See "Drowning in Oil," p. 19, and "Cheap Oil: The Next Shock?" pp. 23–25, *The Economist*, March 6, 1999; and Russell L. Lamb and Chad R. Wilkerson, "Can U.S. Oil Production Survive the 20th Century?" *Economic Review*, Federal Reserve Bank of Kansas City, First Quarter 1999, pp. 51–62.
- ⁸ Stephen P. A. Brown and Mine K. Yücel, "The Energy Industry: Past, Present and Future," *Southwest Economy*, Federal Reserve Bank of Dallas, Issue 4, 1995; and Stephen P. A. Brown and Mine K. Yücel, "Energy Prices and State Economic Performance," *Economic Review*, Federal Reserve Bank of Dallas, Second Quarter 1995, pp. 13–23.
- ⁹ Daniel Yergin, *The Prize: The Epic Quest for Oil, Money and Power* (New York: Simon and Schuster, 1991). According to Yergin, "Spindle-top [discovered in Texas in 1901] was to remake the oil industry, and with its huge volumes move the locus of production away from Pennsylvania and Appalachia and toward the Southwest." A few years later, "Oklahoma, not Texas, became the dominant producer in the area, with over half the region's total production in 1906; only in 1928 did Texas recapture the number-one rank, a position it would continue to hold until the present day." (p. 87)
- ¹⁰ David Gould, "Distinguishing NAFTA from the Peso Crisis," *Southwest Economy*, Federal Reserve Bank of Dallas, September/October 1996.

REDLINING OR RED HERRING?

Are low-income neighborhoods the victim of redlining? Absent government constraints, would the financial marketplace delineate entire city blocks as unworthy of credit, despite the potential presence of creditworthy borrowers? Would some communities find themselves cut off from access to lending services, based not on their creditworthiness but on their predominant race or ethnicity?

Two decades ago, concerns about discriminatory housing and lending policies gave rise to a vast regulatory and compliance infrastructure aimed at improving the workings of our credit markets. At the center is the Community Reinvestment Act (CRA), which advocates contend remains the primary force preventing the financial marketplace from cutting off credit to low-income neighborhoods.

But others believe redlining may have become a red herring, drawing attention away from the effectiveness of market forces in breaking down the types of financial barriers prevalent when the CRA was enacted. If this is true, the CRA may not be needed in today's financial environment to ensure all segments of our economy enjoy access to credit.

Legislating Universal Access

A veritable alphabet soup of acronyms describes government attempts to regulate the flow of credit—CDB, CDFI, CRA, ECOA, FHA, HMDA and SBA, to name a few. At bottom, these interventions reflect the view that lending patterns produced by unfettered financial markets are unfair, in the sense that creditworthy low-income borrowers and neighborhoods tend to be cut off from receiving loans. Intervention advocates sometimes contend these programs not only enhance the availability of credit to previously neglected bor-

rowers and areas but also help boost profits for financial institutions.

Perhaps the government's most well-known attempt to enhance the availability of credit is the CRA, passed as Title VIII of the Housing and Community Development Act of 1977. The CRA requires that federal banking regulators encourage commercial banks and thrifts to help meet the credit needs of the communities in which they are chartered,

Redlining may have become a red herring, drawing attention away from the effectiveness of market forces in breaking down the types of financial barriers prevalent when the CRA was enacted.

consistent with safe and sound operations. The legislation's primary purpose is to prevent creditworthy residents of low-income neighborhoods from being denied access to lending services.

Economic Pessimism Doubting the Market

It is easy to understand why the CRA was enacted in 1977. Until the late 1940s, government agencies themselves

often relied on racial and ethnic composition to classify neighborhoods according to perceived lending risk. Real estate appraisers took explicit account of racial composition until the late 1970s. In this environment, it would not be surprising if some financial institutions redlined, curtailing funding and development in low-income neighborhoods with a high proportion of minority residents. Three characteristics common to the financial services marketplace when the CRA was passed help explain why redlining may have occurred: limited competition, information barriers and coordination problems.

Limited Competition. One of the virtues of a fully competitive financial system is that it normally would resolve a lack of credit availability resulting solely from racial or ethnic discrimination. Non-discriminatory lenders would step in to serve the communities that had been discriminated against. Discriminatory practices would then have little effect other than to strengthen rival lenders.

However, the regulatory structure in place when the CRA was enacted did not foster competition. From the 1930s through the 1970s, financial institutions faced numerous, stringent restrictions on the types of products and services they could provide, the geographic scope over which they could operate and the range of interest rates they could offer depositors or charge borrowers. Moreover, strict chartering requirements raised the cost of establishing new financial entities.

In this restrictive environment, a bank or small group of financial institutions may have been the only major source of credit for local residents. When community groups in the early 1970s documented that bank mortgages tended to be concentrated in predominantly white neighborhoods, it was concluded that banks had restricted the supply of loans to minority communities.

Information Barriers. Also contributing to the lack of competition among

financial institutions was limited information technology, which hampered the ability of out-of-market institutions to enter less competitive markets. Information costs may also have had a direct effect on the potential for redlining. Given that lenders have historically faced uncertainty in assessing the creditworthiness of individuals, they may have seen residence in a low-income neighborhood as an indication of unobservable factors that would detract from a borrower's overall repayment capacity.¹ Such a strategy may have been profitable if information on certain borrower characteristics, such as job stability, was difficult or costly to obtain but correlated with place of residence. But the practice would disadvantage low-income communities, since it would restrict credit to all individuals in a neighborhood, even those who were creditworthy.

Similarly, questions about the value of the property pledged as collateral reduce the expected value of a loan to the lender. Because lending volume and real estate appraisal activity were limited in low-income neighborhoods, uncertainty about property values may have been particularly high. This lack of information may have worked against any growth in lending to low-income communities. Individual lenders would have been less interested in expending the resources required to generate more information on property values if they thought doing so would resolve uncertainty in the real estate market generally and thereby benefit competitors.

Coordination Problems. Coordination problems may also have contributed to redlining. The value of any property is typically influenced by the value of other properties in the same neighborhood. If an owner remodels and repaints an older home and adds new landscaping, the entire street generally benefits. Conversely, when a single property is allowed to deteriorate, the entire street can suffer.

As a result of such spillover effects, existing and potential homeowners may hesitate to make improvements in a neighborhood if they believe other residents will not follow suit or, worse yet, will allow their properties to deteriorate. Similarly, lenders may hesitate to finance improvements to a particular

property if they feel the overall neighborhood is likely to remain in poor condition.

However, if agreement can be reached concerning the degree of improvement that should take place, more improvement could occur. Property owners and their lenders would know that the external benefits associated with improvement projects would be matched by similar external benefits generated by improvements to other properties in the neighborhood.

It is possible that fears about potential spillover effects held back improvement of low-income neighborhoods during the 1970s and earlier. Individual homeowners and lenders may have hesitated to invest in isolation, even though their investments would have been successful had they been made in concert.

Economic Optimism

Credit Access Through Competition

CRA advocates argue that these types of problems not only existed in 1977 when the CRA was enacted but remain today, implying the financial services marketplace lacks appropriate self-correcting mechanisms. While the flow of credit to low-income neighborhoods has increased greatly since the 1970s, some believe the CRA is responsible and, absent the law, previously neglected neighborhoods would see their supply of credit cut off.

But an alternative scenario is also plausible. Government lending mandates could be largely unnecessary today if the dynamics of the financial services marketplace have improved the conditions that may have limited access to lending services in the past.

Limited Competition Revisited.

The erosion of interest-rate and geographic restrictions, in addition to other forms of deregulation, has worked with technology to transform the once static financial industry into a fast-paced, competitive environment involving all sorts of players. Forgoing profitable lending opportunities in today's financial marketplace would mean, in most cases, giving a boost to competitors. If a lender cuts off access to credit for a predominantly low-income or minority neighbor-

Forgoing profitable lending opportunities in today's financial marketplace would mean, in most cases, giving a boost to competitors.

Financial institutions now have access to large databases, rich with information on both individual borrowers and their neighborhoods.

hood, the profit motive would lead another one to move in and fill the void. These considerations suggest that widespread redlining as the result of direct discrimination is far less probable in today's financial environment.

The subprime mortgage market, which makes funds available to borrowers with impaired credit or little or no credit history, offers a good example of competition at work. In the past, subprime borrowers were often seen as a captive segment of the mortgage market, with few opportunities to obtain credit. But in the early 1990s, increased competition in the mortgage market overall led to a surge in subprime lending by specialty lenders. Today, large mainstream lenders are also increasing their presence in the subprime mortgage market, and subprime borrowers are benefiting from increased access to funds. They are not limited to a single institution or compelled to settle for the first one that will provide credit. While individual cases of fraud and abuse tend to be well publicized, they represent a small portion of subprime lending. The vast majority of subprime borrowers—many of whom have relatively low income—have benefited from the emergence of this market.

Information Barriers Revisited.

Information barriers have been substantially reduced since the 1970s. Rapid advances in computer, telecommunication and financial technology have brought us from the 1970s, when lending decisions were primarily based on personal contact and loan officer discretion, to the information age, in which many such decisions are increasingly automated and often made across great distances.

Financial institutions now have access to large databases, rich with information on both individual borrowers and their neighborhoods. Real estate transaction information, including prices, is widely and instantly available in a variety of forms. With all this information in hand, lenders are increasingly moving to automated systems for underwriting and risk-based pricing. The growing ability of lenders to package and sell mortgage loans made to individuals with below-prime credit ratings is evidence of how much information flows have improved.

While some barriers to information remain, it is difficult to square the hypothesized existence of high information costs with today's typical fear that other parties—including lending institutions—know too much about our lives, rather than too little.

Coordination Problems Revisited.

While spillover effects and the associated coordination problems are important considerations in low-income neighborhoods, they also affect investment decisions in relatively affluent communities. Moreover, by focusing mainly on the behavior of individual lenders, the CRA may not give lenders sufficient incentive to coordinate their activity.

Several factors suggest that private initiatives can solve coordination problems through the creation of formal coordinating mechanisms. The work of real estate developers, for example, largely involves a coordinating role. With respect to property owners, neighborhood associations facilitate group decisions about potential spillover effects. Another possibility is that individual institutions might be able to fully meet loan demand in particular areas, thereby obviating the need for coordination across different lending institutions.

In addition, coordination problems have arguably been reduced substantially, even in situations where no formal arrangements exist. Homeowners and lenders generally become more willing to invest in individual properties when their expectations for the neighborhood are revised upward. While formal coordinating mechanisms can raise expectations, confidence in a neighborhood might rise for other reasons as well.

Consider the potential benefits of deregulation and technology in promoting competition and universal service. In the past, existing and potential homeowners in a deteriorated area may not have sought financing for improvement projects because the neighborhood was partially sealed off from credit. Even if they, as individuals, were to receive a loan, not many others in the neighborhood would, implying the improvement would be isolated and therefore have reduced value. But this type of negative expectation should be ameliorated in the current environ-

ment, to the extent that deregulation and technological advances have improved access to credit.

Economic Reality: Is Optimism Justified?

These counterpoints raise the issue of whether the CRA is still needed to encourage financial institutions to pursue profitable lending activities in low-income neighborhoods. Without repealing the legislation, it may be difficult to demonstrate conclusively the current effects of the CRA. It is possible, though, to determine whether recent trends in lending are at least consistent with the view that deregulation, technological advances and heightened competition have promoted universal access to credit.

Some Evidence. If lending to low-income neighborhoods really would be cut off in the absence of the CRA, one would expect to find that the most active lenders to these neighborhoods would be institutions subject to the law's lending requirements. Put another way, if financial institutions outside the purview of the CRA widely compete for lending opportunities in these neigh-

borhoods, why is the CRA necessary?

Growth in lending to low-income neighborhoods by institutions outside the CRA's jurisdiction would suggest that deregulation and technological advances have increased competition, lowered information costs and increased access to financial services. In this case, a good part of the lending to low-income neighborhoods by financial institutions subject to the CRA also might reflect the benefits of deregulation and technological advances, rather than CRA lending mandates.

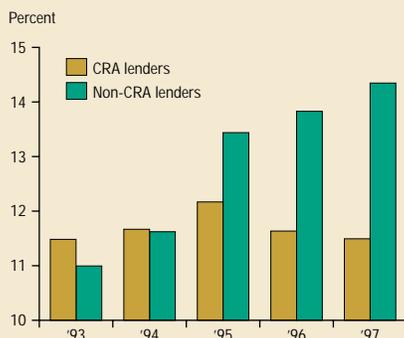
A New Twist on HMDA Data. The mortgage market offers fertile ground for empirically assessing which force is providing the greater impetus to lending in low-income neighborhoods: the CRA's mandates or competition. Concerns over disparities in residential mortgage lending were the primary force behind the creation of the CRA, and home-purchase lending is an important component of CRA evaluations. In addition, lenders subject to the Home Mortgage Disclosure Act (HMDA) are required to report detailed information on the home-purchase loans they originate, including the location of the property backing each loan and the income of the borrower.²

Lending to Low-Income Neighborhoods. By dividing HMDA data between financial institutions covered directly or indirectly by the CRA and those not covered at all, it is possible to determine which group of lenders has been more active in low-income neighborhoods.³ The analysis used here defines low-income neighborhoods as census tracts having a median household income less than 80 percent of the median for the corresponding metropolitan statistical area.⁴

To get a clear picture of the two groups' relative strength in serving low-income neighborhoods, it is useful to examine the portfolio shares they devote to such lending. Chart 1 shows the proportion of the total number of one-to four-family home-purchase loans made by CRA-covered institutions that was extended to households in low-income neighborhoods. The corresponding portfolio share for institutions not covered by the CRA is also shown. The analysis begins in 1993, when data for indepen-

If financial institutions outside the purview of the CRA widely compete for lending opportunities in these neighborhoods, why is the CRA necessary?

Chart 1
Portfolio Share of
Home-Purchase Loans to
Low-Income Neighborhoods



NOTE: Low-income neighborhoods are defined as census tracts having a median household income less than 80 percent of the median for the corresponding metropolitan statistical area. CRA lenders include commercial banks, savings associations and their affiliates. Non-CRA lenders include independent mortgage and finance companies and credit unions.

SOURCE: Federal Financial Institutions Examination Council.

As a group, lenders not covered by the CRA have devoted a growing proportion of their home-purchase lending to low-income communities.

dent mortgage companies—an important component of lending activity not covered by the CRA—were first reported under HMDA. The analysis ends in 1997, the latest year for which HMDA data are available.

As a group, lenders not covered by the CRA have devoted a growing proportion of their home-purchase lending to low-income communities, with the community lending share of their loan portfolios rising from 11 percent in 1993 to 14.3 percent in 1997.⁵ This expanding portfolio share implies that for financial institutions outside the CRA's reach, lending to low-income communities grew faster than other lending activity. Moreover, these institutions are not a small part of the total lending picture. Lenders not covered by the CRA accounted for just under 40 percent of all one- to four-family home-purchase loans extended to low-income neighborhoods in 1997. These findings indicate CRA lending mandates are not necessary to invoke a significant focus on lending to low-income neighborhoods.

In contrast, CRA-covered lenders, as a group, devoted about the same proportion of their home-purchase loans to low-income neighborhoods in 1997 as they did in 1993. In both years, their community lending share was about 11.5 percent. Even though these institutions were subject to the CRA, their lending to low-income communities grew no faster than other lending.

This is not the type of pattern that could be expected if the CRA were the impetus for recent increases in lending to low-income neighborhoods. It is, however, consistent with deregulation and technological advances leading to lower information costs and increased competition in the mortgage market. Independent mortgage companies tend to have more leeway to specialize in relatively risky lending than their more conservative and more heavily regulated counterparts in the banking industry. It is not surprising, then, that independent companies appear to have taken the lead in focusing on lending activity in the riskier segments of the mortgage market.

Lending to Low-Income Borrowers.

While the CRA places a heavy emphasis on lending to low-income communities,

it also considers lending to low-income borrowers, irrespective of their neighborhood. To analyze this type of lending, low-income borrowers are defined as having income less than 80 percent of the median for the metropolitan statistical area in which the property is located.

Chart 2 shows the proportion of the total number of one- to four-family home-purchase loans made by CRA-covered institutions that was extended to low-income borrowers, along with the corresponding proportion for lenders not subject to the CRA. Consistent with the findings for low-income neighborhoods, lenders outside the CRA have devoted a growing proportion of their home-purchase lending to low-income borrowers. Their portfolio share of such loans rose from 25 percent in 1993 to 32 percent in 1997.⁶ In contrast, as a group, CRA-covered lenders extended 27 percent of their home-purchase loans to low-income borrowers in 1993 and 26 percent in 1997.

These trends are consistent with the view that in recent years, progress predicated on technology, financial innovation and competition—not the CRA—has broadened the U.S. financial services marketplace. The fundamental role of competition in this process suggests that not only have an increasing number of

Chart 2
Portfolio Share of Home-Purchase Loans to Low-Income Borrowers



NOTE: Low-income borrowers are defined as having income less than 80 percent of the median for the metropolitan statistical area in which the property is located. CRA lenders include commercial banks, savings associations and their affiliates. Non-CRA lenders include independent mortgage and finance companies and credit unions.

SOURCE: Federal Financial Institutions Examination Council.

consumers gained access to credit, but in the vast majority of cases they have done so at competitive prices and terms.

Conclusion

Today's financial marketplace far exceeds yesterday's in its ability to serve a broad array of customers. Previously, rigidities in housing and credit markets helped make the case for remedies such as the CRA. While this legislation may have been instrumental in initially improving the flow of credit to neglected areas, fears that low-income neighborhoods would still suffer from a lack of credit if not for the CRA may be unjustified. Consideration of the conditions that previously may have limited access to lending services suggests that deregulation and technological advances have enhanced linkages between low-income neighborhoods and the credit markets.

In this regard, the mortgage lending data presented above are consistent with the view that today, low-income neighborhoods' access to credit may not depend on the CRA. In terms of portfolio allocations, financial institutions not covered by the CRA have become more active lenders in low-income neighborhoods than their CRA-covered counterparts. Since economywide market forces have led relatively unregulated financial institutions to increase their lending activity in low-income communities, it is likely those same market forces are also responsible for a large part of the community lending that has occurred at CRA-covered institutions.⁷

These conclusions are subject to some caveats. The analysis covers only home-purchase loans, and the findings may not carry over uniformly to other types of lending. In addition, the conceptual analysis focuses on the positive role of market forces in promoting universal access to credit services, while other factors—including a wide variety of government programs not mentioned here—may also have increased lending to low-income neighborhoods.

Nonetheless, the developments and data reviewed here suggest it is unlikely the CRA is responsible for the recent increases in home-purchase lending to

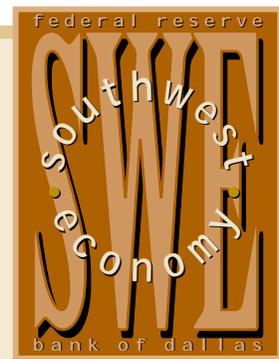
low-income neighborhoods. Instead, deregulation and technology have lowered information costs, heightened competition and increased access to financial services. These findings raise questions about the degree to which the CRA is needed to ensure all segments of our economy have fair access to credit.

— Jeffery W. Gunther
Kelly Klemme
Kenneth J. Robinson

Notes

Jeffery Gunther and Kenneth Robinson are economists and Kelly Klemme is a financial analyst in the Financial Industry Studies Department, Federal Reserve Bank of Dallas.

- ¹ Lenders also could have interpreted the race or ethnicity of individual borrowers as sending such a signal. However, because this type of discrimination is not based on neighborhoods but on specific nonfinancial characteristics of individual applicants, the enforcement of existing fair lending laws—not the CRA—is the appropriate policy response.
- ² Rural and certain small-scale lenders are not required to report HMDA data.
- ³ Commercial banks and savings associations are directly covered by the CRA. Because mortgage and finance companies affiliated with these types of lenders may also be influenced by the CRA, they, too, are included in the group of CRA-covered lenders. Independent mortgage and finance companies and credit unions are not covered by the CRA.
- ⁴ The analysis treats all low-income tracts equally and does not attempt to distinguish between tracts that are within or outside a particular institution's primary market area. The market area for many mortgage companies is very broad, so such a distinction often becomes irrelevant.
- ⁵ To provide a complete picture of lending activity in any given period, the analysis uses all the HMDA data available for each year. Because the boundaries of metropolitan statistical areas are periodically redrawn, the geographic area covered by the analysis is not constant.
- ⁶ Moreover, lenders not covered by the CRA accounted for nearly 40 percent of all one- to four-family home-purchase loans extended to low-income borrowers in 1997.
- ⁷ This view is supported by research indicating most of the recent growth in lending by CRA-covered institutions to low-income neighborhoods has occurred in areas where the institutions do not operate banking offices and so have no CRA obligations. See "Trends in Home Purchase Lending: Consolidation and the Community Reinvestment Act," *Federal Reserve Bulletin*, February 1999.



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China Deflates Despite Growth

REDUCTION IN THE overall price level of goods and services—or deflation—has not typified America's economic landscape since the Great Depression. But it has lately become an important and seemingly persistent phenomenon in China, even though the nation's economy continues to grow.

During the early 1990s, inflation accelerated in China. Expansions in industrial capacity became overexpansions. By the mid-1990s, the Chinese government had begun to respond with an austerity program that lowered inflation from more than 20 percent in 1994 to 7 percent by the end of 1996. By the end of 1997, however, the country had moved from slowing inflation to absolute deflation. China's consumer price index for March 1999 was down 1.8 percent, and its retail price index was down 3.2 percent from a year earlier.

Mainly because of past overexpansions, China still has an estimated 40 percent excess manufacturing capacity despite falling prices. Not only have currency devaluations in other Asian countries made export competition more difficult for China, but import competition appears to have intensified. Still wary of purely market solutions to economic problems, China's government has begun to impose narrow price controls, assessing penalties, for example, on television manufacturers who sell below some measures of their costs.

Meanwhile, consumer spending, which accounts for about half of China's gross domestic product (GDP), has been edging down as unemployment moves up—again in the face of measured economic growth. China's ailing state-owned enterprises have been permitted to carry out mass layoffs. In the absence nowadays of any structured social safety net, laid-off workers have little to fall back on except their personal savings. The number of layoffs in urban state-owned enterprises is estimated to reach 7 million

for 1999, a million more than last year.

This number may seem small in a country whose population exceeds 1.2 billion; but considering that the urban population is only 30 percent of the total population, that the average labor force participation rate is 60 percent and that the state-owned enterprises employ 60 percent of urban workers, the layoffs' impact will be significant. In addition, more than 100 million people in the hinterland are unemployed. And, in the past, the state bore most of the cost of education, medical care and housing for state workers. Now the burden is being shifted to the individual, further sapping consumer spending power. Russian-style paycheck slowdowns also have begun to lower consumer demand. Beijing's Capital Iron and Steel, which employs 230,000 people, has not paid its workers in more than two months.

In part, China's deflation may be seen as a response to other Asian nations' currency devaluations and associated crises of the last two years. While China has declared that it will not devalue its currency, the nation could adjust to foreign competition indirectly through price deflation. Argentina has allowed its economy to make similar

substitutions of deflation for devaluation in the present decade. Despite reductions in prices, foreign demand for Chinese output has begun to slip. In the first quarter of 1999, exports dropped 7.9 percent from a year earlier for the first decline in 15 years, and the trade surplus dropped 59.8 percent. But China did not fall into the red.

In an effort to strengthen the economy, the government has been attempting to stimulate consumer expenditures by easing credit. However, despite repeated interest rate cuts, consumer demand remains weak. Moreover, with falling prices and positive nominal interest rates, China's real interest rates are still in the 7-percent range (*Chart 1*).

In addition, the government is trying to reflate the economy through a national program for infrastructure construction that began with a \$12.5 billion bond issue last August. Largely due to the effect of this infrastructure program and an equivalent amount in mandated lending by state banks, industrial output rose 8.9 percent for 1998 and shot up 10.1 percent in the first quarter of 1999 compared with the same period last year. GDP grew 8.3 percent in the first quarter year over year. At \$860 per person, China's output per capita is less than one-fourth Mexico's and is slightly less than that of Bolivia.

China still faces many economic and policy problems. The ability to pursue its fiscally driven infrastructure package is limited by the central government's relatively weak financial condition, which is marked by a high level of national debt service charges. The country suffers serious overcapacity in its unprofitable state sectors—the sectors other nations are rapidly privatizing. Unemployment is on the rise. The social safety net is still in its infancy. But despite these problems and a deflation that analysts typically associate with output decline, China persists in growing.

—Dong Fu

Chart 1
Real Interest Rate in China
Remains Painfully High



SOURCES: Quarterly Statistical Bulletin, People's Bank of China; China Monthly Statistics, China Statistical Information and Consultancy Service Center.

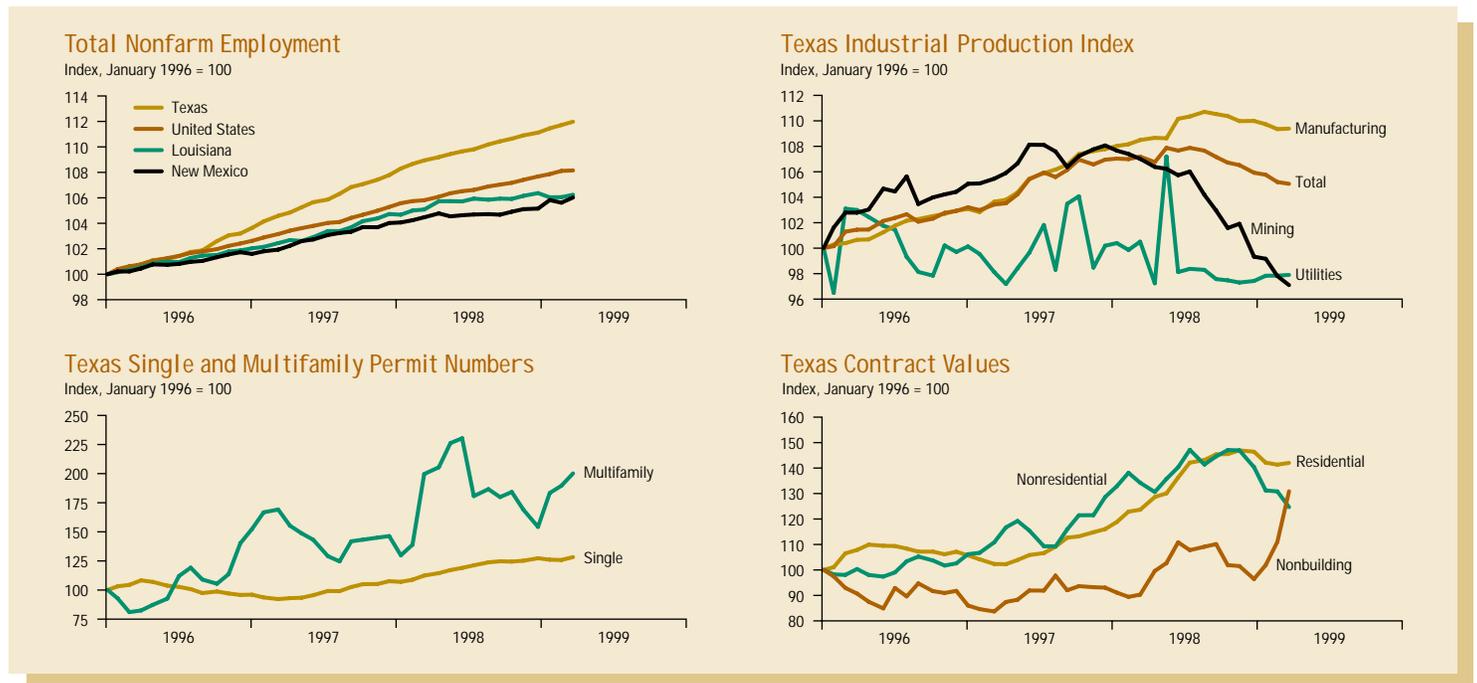
Regional Update

TO THE DELIGHT of home sellers and homebuilders, the Texas housing market has not slowed as expected. New home sales continued very strong across much of Texas in the first quarter; building permits were up 11 percent compared with the first quarter of 1998. In addition to constructing these recently sold homes, builders are struggling to complete the backlog of houses sold in previous months. With construction activity so strong, builders report it is taking longer to complete homes due to shortages of skilled labor and construction materials. While cement was in short supply last year, builders' latest difficulties are in getting drywall and bricklayers. These delays in new home building have also made existing homes more attractive to buyers. Existing homes are reportedly being snapped up in as little as two days in certain areas, with some

buyers making offers in excess of the asking price.

Competing for these resources are road improvements funded by the federal highway bill and construction of apartments and offices. The current high levels of office and apartment construction are due in large part to projects started months ago. Contract values for nonresidential building in the first quarter were down 17 percent compared with a year earlier, indicating slowing in new office and industrial projects. However, road construction is just getting under way. Non-building contract values, which include road construction, were up 78 percent in the first quarter compared with a year earlier. These highway projects may help keep demand for construction labor high; construction jobs surged an annualized 8.5 percent in the first quarter.

—Sheila Dolmas



Regional Economic Indicators

	Texas Leading Index	TIPI** total	Texas employment*					Total nonfarm employment*		
			Mining	Construction	Manufacturing	Government	Private service-producing	Texas	Louisiana	New Mexico
3/99	121.8	126.5	159.0	517.5	1,100.6	1,537.2	5,794.6	9,108.9	1,901.2	730.4
2/99	121.8	126.7	159.2	516.8	1,101.5	1,534.3	5,775.7	9,087.5	1,897.8	727.6
1/99	121.8	127.4	159.9	511.8	1,103.1	1,532.7	5,758.9	9,066.4	1,897.6	729.0
12/98	121.3	127.6	162.2	507.1	1,103.9	1,527.2	5,738.8	9,039.2	1,903.5	724.4
11/98	120.7	128.3	162.6	505.8	1,103.8	1,525.7	5,723.4	9,021.3	1,899.6	724.1
10/98	122.3	128.6	164.2	503.4	1,105.4	1,521.5	5,705.8	9,000.3	1,895.3	722.7
9/98	120.4	129.1	165.5	500.4	1,106.0	1,518.4	5,693.1	8,983.4	1,895.7	721.1
8/98	120.8	129.7	166.7	500.5	1,106.2	1,511.8	5,678.5	8,963.7	1,894.2	721.4
7/98	123.3	129.9	167.4	497.4	1,103.8	1,502.5	5,661.1	8,932.2	1,895.7	721.2
6/98	123.7	129.7	168.1	493.4	1,108.0	1,499.6	5,650.2	8,919.3	1,891.8	720.8
5/98	124.8	130.0	168.5	491.9	1,107.3	1,501.4	5,633.4	8,902.5	1,892.2	720.2
4/98	124.6	128.6	168.5	490.4	1,107.3	1,497.1	5,619.1	8,882.4	1,892.0	721.8

* in thousands
 ** Texas Industrial Production Index

Further Information on the Data

For more information on employment data, see "Reassessing Texas Employment Growth" (*Southwest Economy*, July/August 1993). For TIPI, see "The Texas Industrial Production Index" (Dallas Fed *Economic Review*, November 1989). For the Texas Leading Index and its components, see "The Texas Index of Leading Indicators: A Revision and Further Evaluation" (Dallas Fed *Economic Review*, July 1990).

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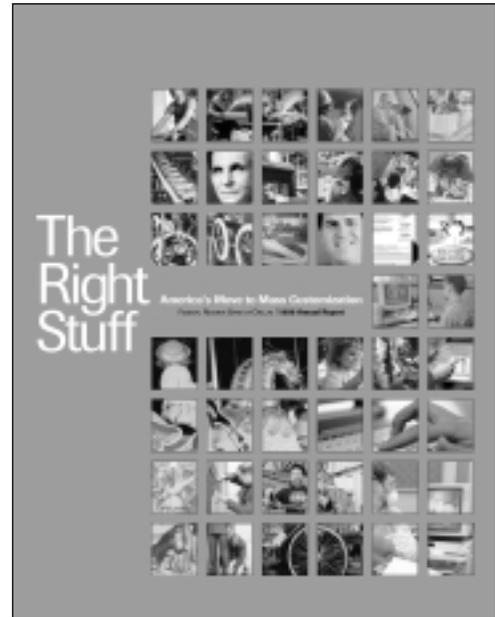


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