



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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China Deflates Despite Growth

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

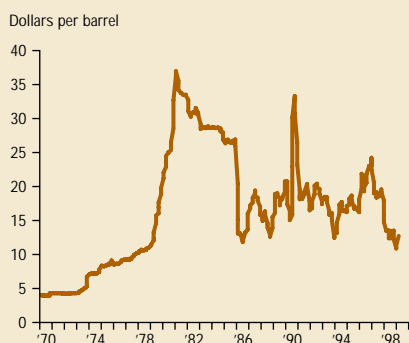
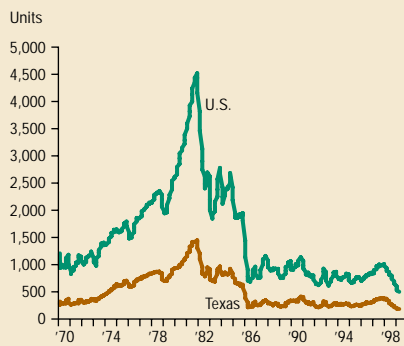


Chart 2
U.S. and Texas Rig Counts



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

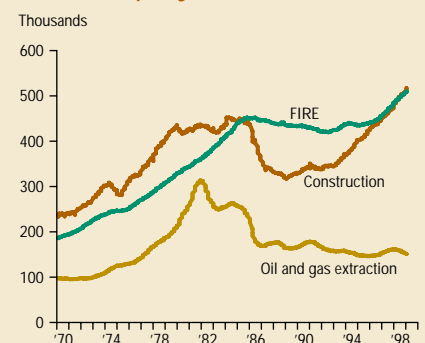
efforts to increase output in response to an increase in the price of their product. After oil prices rose sharply in the wake of the 1973–74 Arab oil embargo, drilling activity for new oil surged, as evidenced by the rig count, in both Texas and the United States. By 1982, the rig count had more than 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.

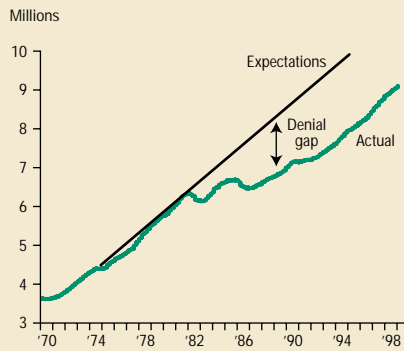
With the benefit of 20–20 hindsight, we now know that oil prices above \$30 were not sustainable and that the influx of workers and their families to Texas would eventually recede and, for a short time, reverse. As shown in Chart 4, by 1986 the gap between the anticipated level of employment and actual 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

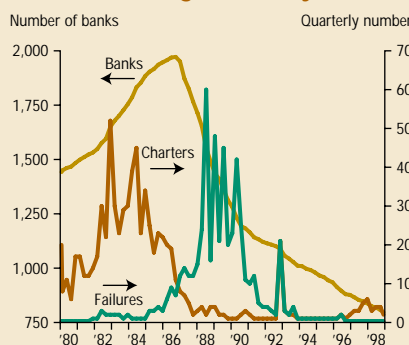
Chart 4
Total Texas Nonagricultural Employment



(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.

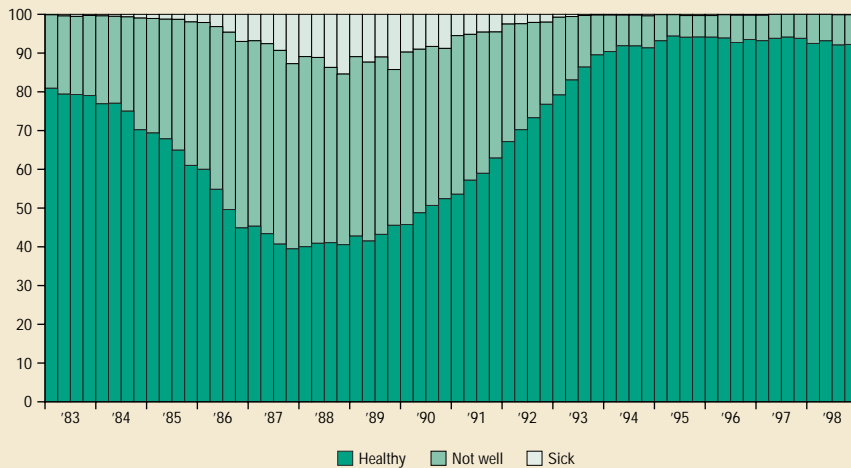
Sick Banks Don’t Lend

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

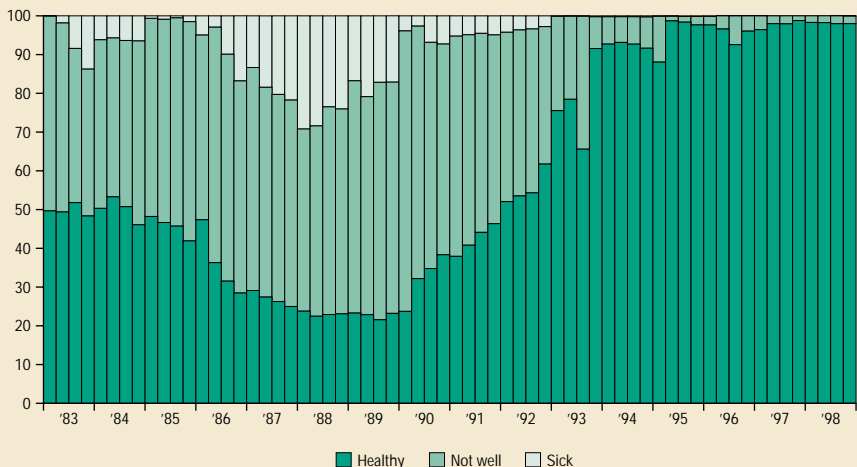
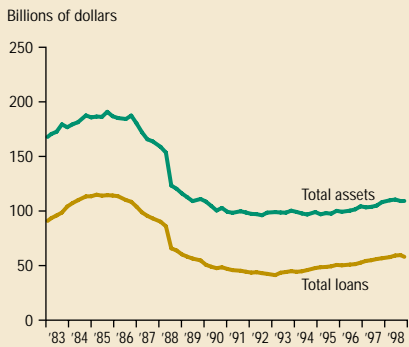


Chart 8
Assets and Loans at Texas Banks
(Adjusted for Inflation)



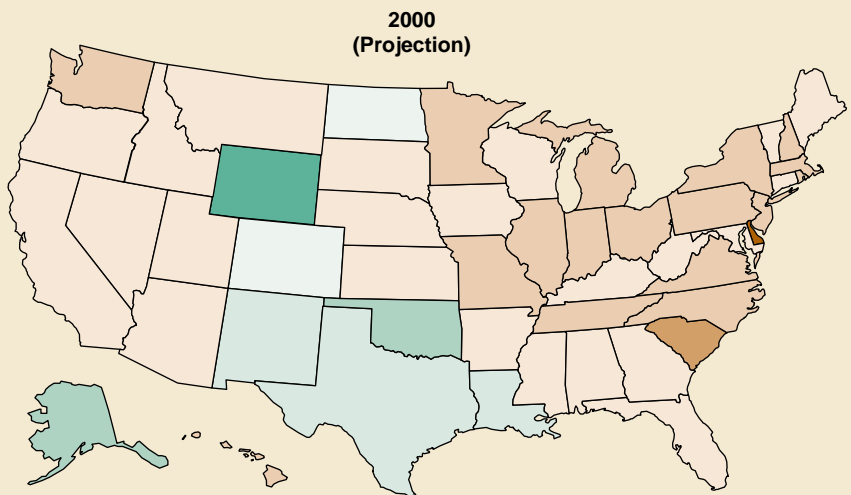
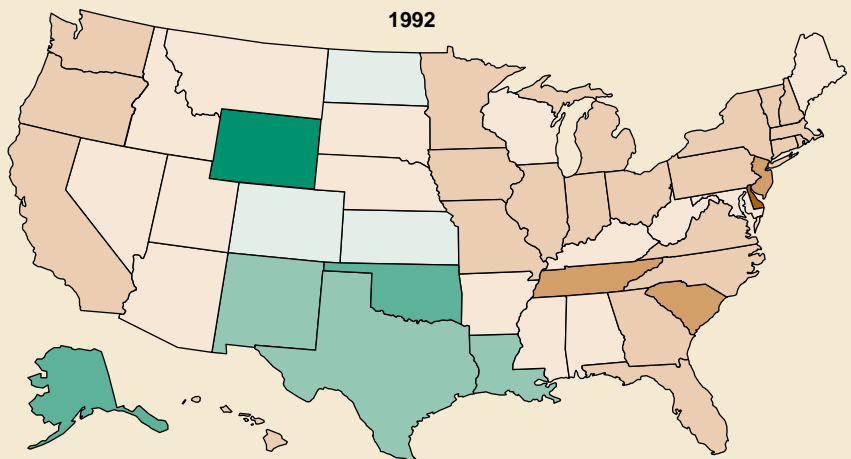
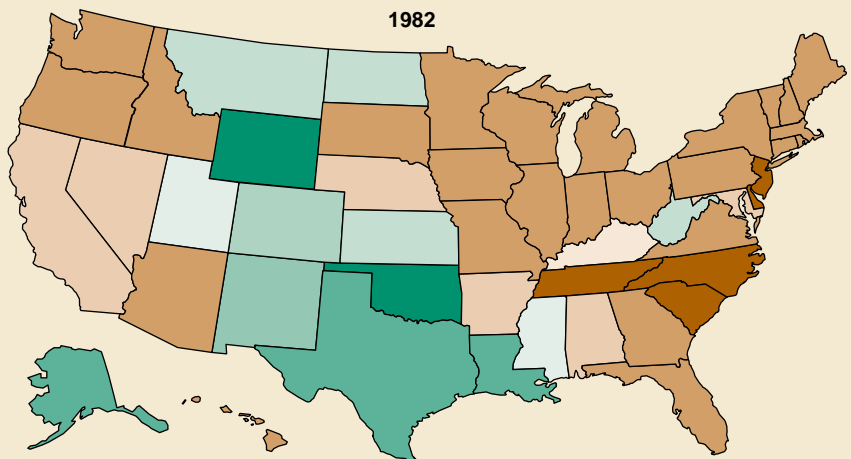
ware and Pennsylvania are included in Table 1. Delaware continues to benefit from lower oil prices because a major part of its economy involves the production of chemicals and other products that use oil, but Delaware's benefit is only about three-fifths what it used to be. Pennsylvania also gains from 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.