Changing Texas Economy: Dynamics of the Free Market

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THE CHANGING TEXAS ECONOMY: DYNAMICS OF THE FREE MARKET

Recent declines in the price of oil and the possibility of further declines give us a reason to examine our past experiences with falling oil prices and the effects on the Texas economy. In doing so, we go beyond an examination of the direct and indirect effects of changing oil prices to also consider how the state reinvented itself after the oil and real estate bust of 1986.

In a sense, the Texas economy could be viewed as a laboratory for observing the dynamics of a free market. The boom and bust of the Texas economy and the subsequent recovery and expansion provide us with a dramatic view of the churn at work.

Taking the composition of the Texas economy as given could be a serious mistake. Had we predicted the growth of the Texas economy during the past 30 years on the basis of the composition of the industries here 30 years ago, we would have seen only half as much growth as actually occurred.

For that reason, we are taking a broad or macroeconomic perspective on the boom, bust and recovery of the 1970s and 1980s. It is during these cyclical swings that we can most clearly see the operation of the churn. We will examine how the market forces underlying the churn built a new Texas economy by moving resources between Texas and the rest of the world and between industries within the Texas economy. We will then examine some of the implications, which are generally good.

Market Forces Behind the Churn

Over the past 50 years Texas employment had a trend rate of growth of 3.3 percent—half again faster than for the United States as a whole. During the boom, Texas was able to grow at more than double its trend rate of growth because it was able to attract resources from outside the state. Without the inflow of capital and labor, the boom would have been nearly impossible.

Figure 1

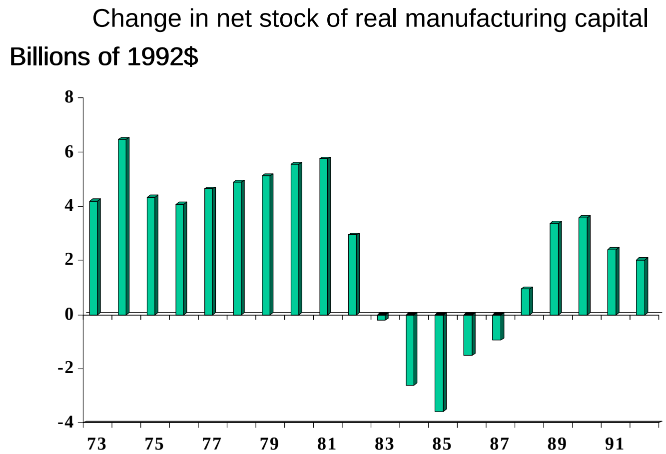
Migration reshaped the Texas economy

During the boom, Texas was a people magnet. As figure 1 illustrates, 1.9 million people moved to Texas from other states and other countries between 1971 and 1981. In 1981, Texas population grew at four times the national rate. These people filled many of the 3.3 million jobs Texas added during the boom. Without in-migration, we estimate that 1 million jobs would have gone begging—even if the labor force participation rate had risen and the unemployment rate had fallen to zero.

The Texas labor market was also quick to adjust during the bust. Three hundred thousand people moved out of Texas during the three-year period from July 1986 to July 1989.

Figure 2

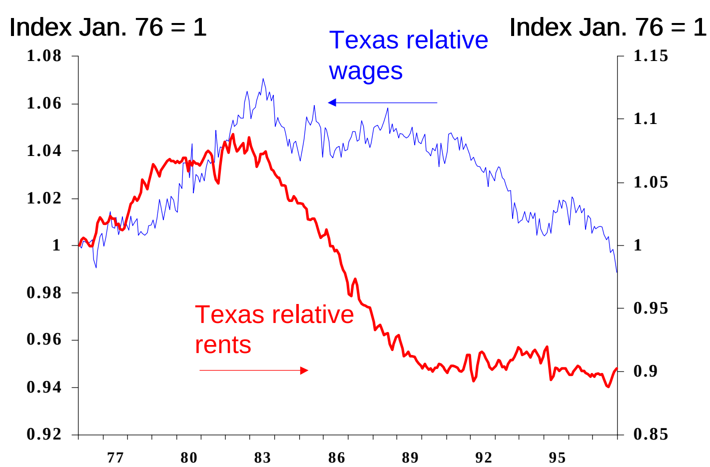
Capital flowed out of Texas during bust



As figure 2 illustrates, labor wasn't the only factor of production to respond rapidly to changing economic conditions in Texas. Capital also moved into and out of the state. We estimate that real manufacturing capital in Texas grew nearly 80 percent during the boom, and shrank by roughly 8 percent during the bust.

Figure 3

Prices signaled market response



The movements of capital and labor were a response to changing prices in a free market. The boom increased the returns to labor and capital in Texas relative to those for the United States—as shown in figure 3—attracting labor and capital to the state. The bust reduced relative wages and rents, which lowered the cost of doing business in Texas, and sowed the seeds of recovery. Since the start of the recovery, Texas rents have moved with those for the United States, while relative wages have continued to slip. Both help to maintain Texas' competitive position for business expansion.

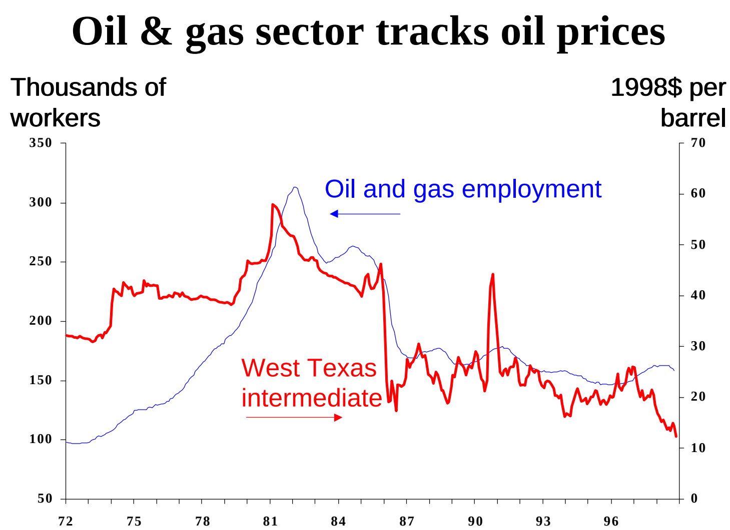
In addition to the flows of labor and capital into the state, resources also flowed between industries, changing the composition of the Texas economy. The industrial landscape in Texas is quite different now than it was either before or during the boom years.

The Changing Composition of the Texas Economy

Oil

Once upon a time, the oil industry defined the Texas economy—and as can be seen in figure 4, the Texas oil industry tracks oil prices very closely.

Figure 4



Employment in the oil and gas sector grew threefold from 1972 to 1981, when the industry peaked. The share of oil and gas in Texas' gross state product grew from 8.5 percent to nearly 20 percent, surpassing the share of manufacturing. In early 1986, a number of small to middling Midland oil firms began making plans to celebrate their 10-year anniversaries; by year-end, most of them were out of business.

Their plans were shattered when oil prices fell to $11 per barrel. By February 1987, extraction employment had declined by 80,000 jobs, and Texas had gone into recession. Texas' job losses in the oil and gas industry following the bust were comparable to the national job losses from the steel industry bust and exceeded the national losses from the auto industry bust.

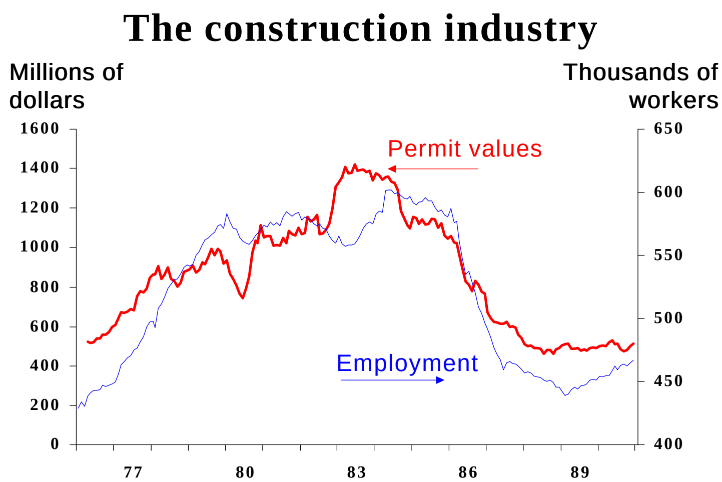
Since the bust, the oil and gas industry has played a steadily decreasing role in the Texas economy. Today, oil and gas extraction accounts for less than 7 percent of Texas' gross state product. Not surprisingly, the indirect effects of the industry are also greatly reduced.

Real estate and construction

Figure 5 shows two indicators of Texas construction activity: building permit values and construction employment. During the first half of the 1980s, the industry was buoyed by real estate appraisals that floated on a bubble of oil, favorable tax policies, and easy money from deregulated interest ceilings and increased deposit insurance.

Even before the bust, sharply rising vacancy rates indicated that supply was outpacing demand for apartments and offices. In 1986, when oil prices collapsed and many of the tax distortions favoring real estate disappeared, Texas construction activity dried up. For all practical purposes, no apartments were built in Texas between 1987 and 1993.

Figure 5



The New Texas Economy

The bust may have been a nightmare for the oil and construction industries, but it was a dream come true for other industries such as high-tech and distribution. The oil industry released a flood of labor into the market, and the real estate collapse sharply reduced the cost of doing business in the state.

High-Tech

These were favorable conditions for a high-tech industry poised for expansion. The Texas history of research and development for the oil industry also contributed to the incubation of the high-tech industry. Texas Instruments, for example, built its initial success on scientific equipment for use in oil field exploration.

Today Texas boasts hundreds of high-tech firms employing nearly 350,000 workers, second only to California's 750,000. Texas leads the United States in semiconductor manufacturing and is the third largest producer of personal computers in the world. Electronic equipment and parts, computers and scientific instruments account for one-third of the value of all goods shipped from the state.

In addition to Texas Instruments, Texas is home to Dell Computer, Compaq, and the telecom giants GTE, Nortel, Ericsson, Fujitsu and Samsung.

Distribution

Another industry that benefitted from the bust was distribution services—that is, transportation, warehousing and wholesale trade. The bust sharply reduced fuel costs, and over the next few years transportation deregulation, just-in-time inventory management, NAFTA, expansion of Mexico's maquiladora program and Mexico joining GATT boosted demand for distribution services. Today Texas is home to three major airlines (American, Continental and Southwest), as well as the nation's two largest railroads (Burlington Northern-Santa Fe and Union Pacific).

The Old Versus New Texas Economy

At the height of the boom, the Texas economy was dominated by oil. Today, the oil industry shares the stage with other players. In general, services have displaced manufacturing, and manufacturing has gone high-tech (see figures 6 and 7). The bottom line is that Texas has become as much a knowledge-based economy as it is a resource-based economy.

Figure 6

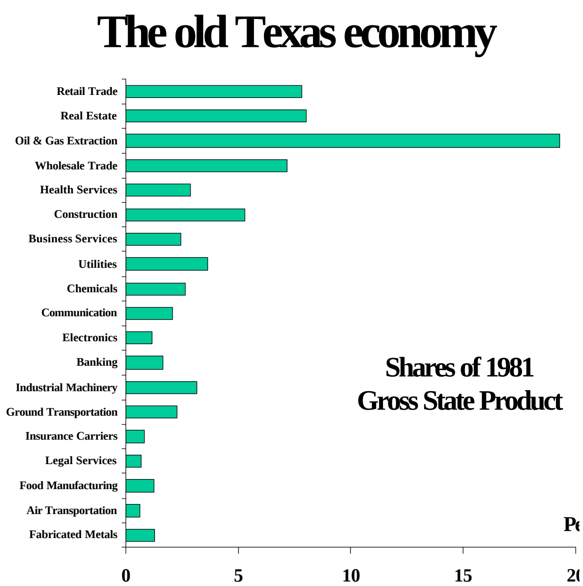


Figure 7

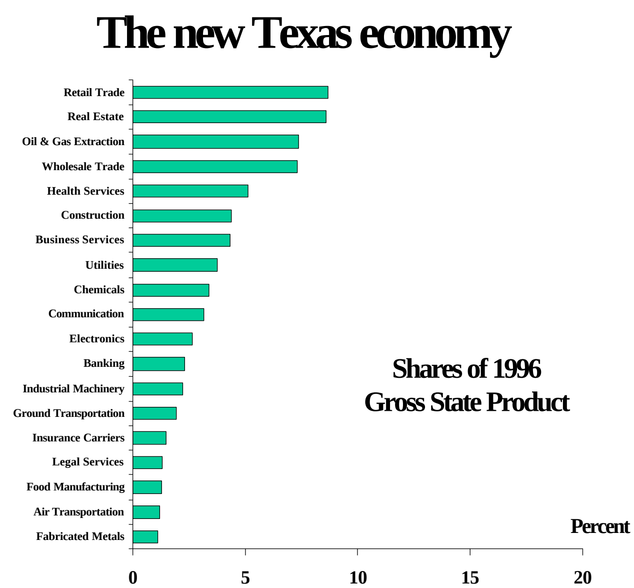


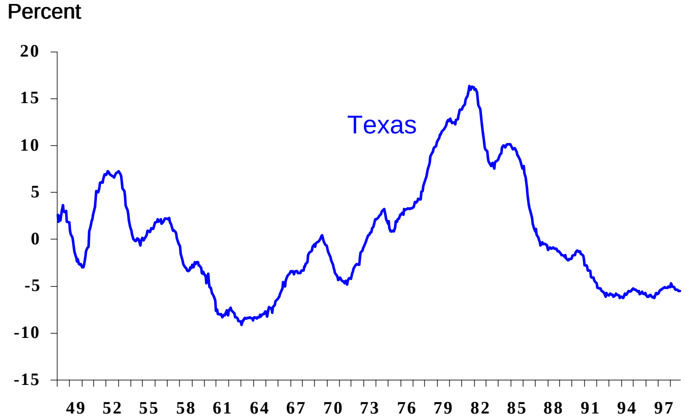
Figure 7 shows that in 1996 health and business services were more important to the Texas economy than any single manufacturing sector (more recent data are unavailable). Furthermore, health care's share is probably an underestimate because it does not include governmental medical facilities like the Parkland and M.D. Anderson hospitals.

Some Implications of a New Texas Economy

The new economy, born from the ashes of the bust, is both similar and dissimilar to the Texas economy of past years. Texas is still hurt by falling oil prices, but much less so than in 1982. The Texas economy is about as volatile as it was prior to the boom. The state's economy has a greater correlation with the U.S. economy than it had during the boom.

Figure 8

Deviations from Texas employment trend

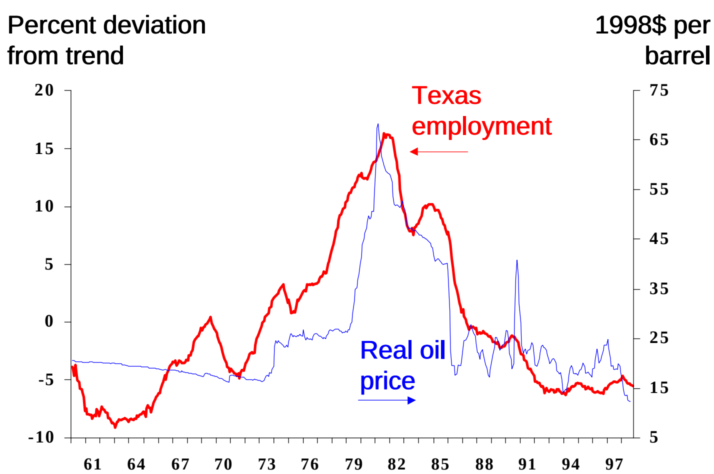


To better examine the cyclical swings in the Texas economy, we focus on deviations from trend employment. These are periods in which total employment is above or below its long-term trend. A horizontal line indicates growth at trend. A rise in the line indicates growth faster than trend, and a fall in the line indicates growth slower than trend.

As shown in figure 8, the boom and bust of the 1970s and 1980s really stands out. Although Texas employment began to rise by the end of 1987, the falling line indicates the rate of employment growth was generally below the historical trend rate until 1993. Since then, the line has been essentially flat, indicating employment has been growing at about trend.

Figure 9

Texas sensitivity to oil prices lower



As seen in figure 9, the cycles in the Texas economy were strongly shaped by oil prices during its boom and bust. The effects of oil prices have weakened considerably since the bust. According to research conducted at the Dallas Fed by Stephen Brown and Mine Yücel, the Texas economy is still hurt by falling oil prices, but Texas employment is about 75 percent less sensitive to fluctuations in oil prices than it was in 1982.

In 1982, a 10-percent reduction in oil prices would have reduced total Texas employment by an estimated 1.37 percent (about 85,000 jobs) when multiplier effects are included. In 1998, the same 10-percent reduction would reduce total Texas employment by an estimated 0.36 percent (about 32,000 and jobs) including multiplier effects. The estimates still represent a substantial difference from the U.S. norm because U.S. economic activity as a whole is helped by falling oil prices. However, some areas of the state, such as Houston, are still greatly affected by falling oil prices.

Figure 10

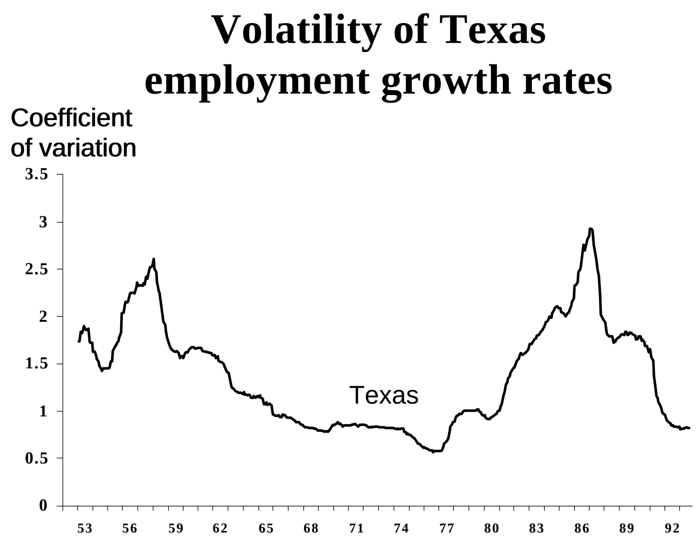
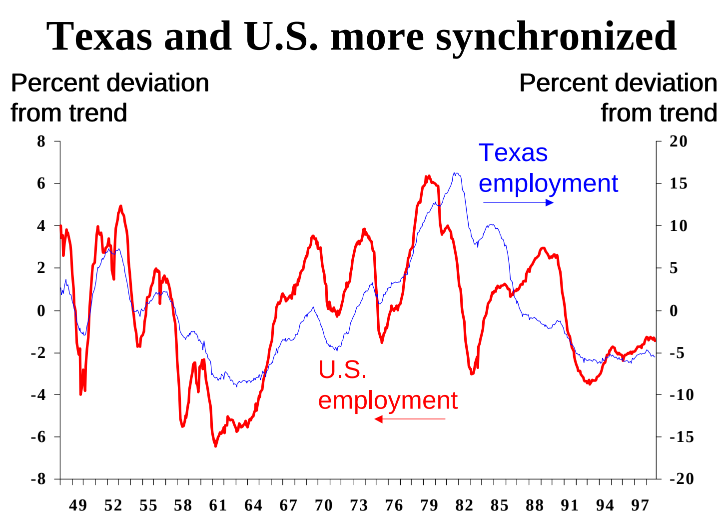


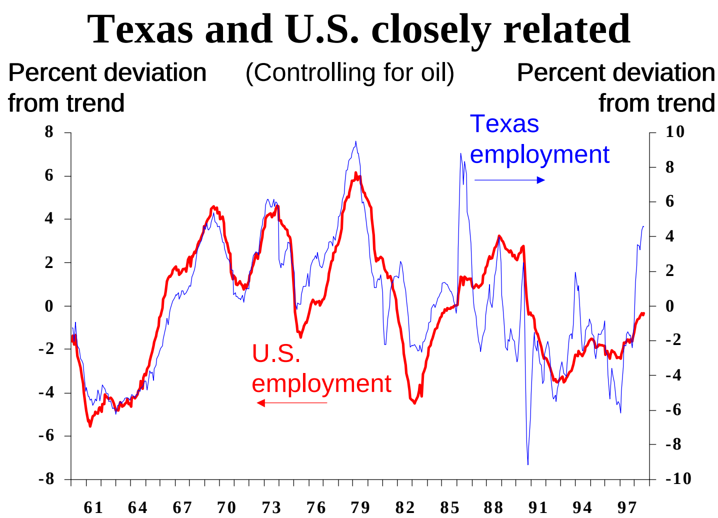
Figure 10 shows estimates of the volatility in Texas employment growth. These data represent 10 years' worth of monthly data centered about the date shown below. For instance, the data for the peak in 1986 represent a 10-year window from 1981 to 1991. As is shown here, the variability of the Texas economy rose during the boom and bust and then declined to about the same levels it was prior to the boom. Although decreased volatility in oil prices has contributed to the decline since the bust, the reduced share of the oil industry in the Texas economy has contributed more.

Figure 11



We compare the cyclical movements of the U.S. and Texas economies in figure 11. The Texas and U.S. economies had similar cyclical movements from the late 1940s to the early 1970s. Because rising oil prices helped the Texas economy and hurt the U.S. economy, the correlation between the cyclical movement in Texas and U.S. employment declined during the Texas boom and bust years. With the declining influence of the oil industry on the Texas economy and reduced oil price volatility, the similarity returned in the 1990s.

Figure 12



If we adjust for the influence of oil prices, we see a fairly strong correlation between Texas and U.S. employment throughout recent history. One exception seems to be from the mid-1980s through the early 1990s. The Texas real estate problems may account for some of the difference.

Another exception is evident at the end of figure 12. Here we see that if we control for the negative influence of falling oil prices, Texas is well above its long-term trend in 1998. In other words, the Texas economy is doing much better than would be predicted on the basis of its historical relationships with oil prices and the U.S. economy. This illustrates the declining importance of oil price fluctuations to Texas economic activity.

Conclusions

Over the past 15 years, we have seen a situation in the Texas economy that is not unlike that experienced by Yellowstone National Park. Like the forest fire in Yellowstone 10 years ago, the oil and real estate bust destroyed much of the old Texas economy. That destruction sowed the seeds of a new Texas economy. The natural play of free market incentives driving the churn created the stronger and more diverse Texas economy of today.

The new Texas economy shows less volatility, and its employment growth is more closely related to that of the United States. In light of the recent declines in oil prices, it may be reassuring to know that the Texas economy of today is also much less sensitive to oil prices than it was only 15 years ago. It should also be reassuring to see that valuable resources turned loose by job destruction create the very market incentives that put those resources back to work.