

Southwest Economy



Do Rising Oil Prices Threaten Economic Prosperity?

This year's sharp oil price increases have led to concerns about a threat to continued economic prosperity, and with good reason. Rising oil prices have preceded eight of the nine post-World War II recessions. But rising oil prices do not seem to be having much effect on U.S. economic growth this year. Are we waiting for the other shoe to drop, hoping oil prices will fall, or has there been a change in the relationship between oil prices and the economy?

Most of us have become accustomed to thinking of supply shocks originating in the Middle East as being the primary impetus to rising oil prices. OPEC meetings have helped reinforce this thinking. And much of the analysis about the possible economic effects of rising oil prices shares this conventional wisdom.

But the oil price increases occurring in 2000 owe more to growing world demand fostered by a robust world economy than to a supply shock. Consequently, U.S. economic activity has been and should remain much less responsive to rising oil prices than the conventional wisdom might have us expect. The *unconventional* wisdom sug-

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How Energy Prices and FOMC Actions Are Affecting the U.S. Economy

Monetary Policy: On the Right Track?

The Federal Reserve's Federal Open Market Committee (FOMC) raised its federal funds interest rate target by 175 basis points between June 1999 and June 2000. From June 2000 to this writing (in mid-October), monetary policy has been on hold.

As is often the case, the FOMC's actions have been controversial. Some analysts, citing unprecedented stock market valuations and a historically low unemployment rate, have claimed that an increase in the funds rate was long overdue.¹ Others have questioned the need for any policy tightening at all, arguing that the old rules no longer apply—that greater competition, the globalization of product and capital markets, and the spread of new technologies have made traditional measures of labor-market slack and stock market overvaluation obsolete. Evidence that U.S. productivity growth has been strongly increasing has put the first group of analysts on the defensive,

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In 2000, the data suggest a sharp rise in world oil demand with both price and quantity increasing dramatically.

Chart 1

Real Oil Prices Remain Strong

Real WTI price
(September 2000 dollars per barrel)



NOTES: Data are annual for 1970–84, monthly for 1985–2000. Oil prices are deflated using Bureau of Labor Statistics Consumer Price Index.
SOURCE: *Wall Street Journal*.

gests that rising energy prices are more evidence of a robust economy than a threat to it. That bodes well for the sustainability of the current economic expansion in the United States and the Southwest, as well as for the continued recovery of the oil and gas industry.

The Upward Pressure on Oil Prices

Since hitting a low around \$10 per barrel for West Texas Intermediate crude (WTI) in early 1999, oil prices have risen sharply (*Chart 1*). This increase has occurred because the world capacity to supply oil has not kept pace with the growth of oil demand spurred by a resurgent world economy. A short supply of oil tankers, rising shipping rates and low inventories of refined product and crude oil have added upward pressure to spot crude oil prices.

As shown in *Chart 2*, world oil demand generally rose from 1993 through 2000, as is evident in the increase in both quantity and price. The decrease in price and increase in quantity in 1998 suggest increased supply in that year, which was followed by a supply reduction in 1999. In 2000, the data suggest a sharp rise in world oil demand with both price and quantity increasing dramatically.

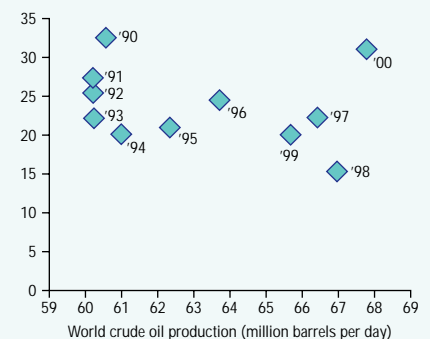
Oil consumption among the member countries of the Organization for Economic Cooperation and Development (OECD) grew steadily during the

1990s (*Chart 3*). Over the past two years, U.S. oil consumption grew moderately as the economy accelerated because the shift to the New Economy improved energy efficiency. In contrast, oil consumption in the non-OECD countries increased dramatically over the past few years. The strongest growth in demand seems to be taking place in the industrializing Asian countries, such as China and Korea, that are experiencing a resurgence in economic activity.

Chart 2

Oil Demand Rises Sharply in 2000

Real WTI price
(September 2000 dollars* per barrel)



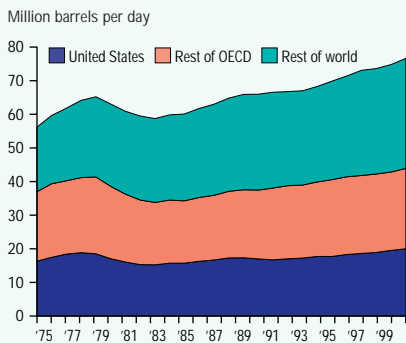
* Seasonally adjusted.

NOTE: Oil prices are deflated using Bureau of Labor Statistics Consumer Price Index.

SOURCES: *Wall Street Journal*; Energy Information Administration.

Chart 3

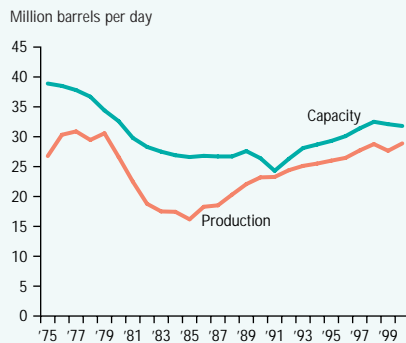
World Oil Consumption, 1975–2000



SOURCE: Energy Information Administration.

Chart 4

OPEC Crude Oil Production and Capacity, 1975–2000



SOURCE: Energy Information Administration.

Throughout much of the 1990s, however, oil and natural gas prices were too low to stimulate additions to capacity. World capacity to supply oil and natural gas did not keep pace with growing consumption. In addition, many tankers were scrapped in the 1990s when weak demand, low shipping rates and increasing environmental regulation put a lot of pressure on the tanker industry.

As rising world oil consumption has pushed OPEC closer to full capacity (Chart 4), the cartel has raised oil prices. The coordination of production among OPEC members and some nonmember countries probably makes world oil production less responsive to price movements during periods of rising demand and high capacity utilization. Rising demand would have boosted world oil prices, but probably by less than if a competitive industry produced the world's oil.

Several other factors have contributed to upward pressure on oil prices. With tankers in short supply and shipping rates substantially higher, spot prices are climbing in countries to which tankers deliver crude oil. The high demand for tankers has been exacerbated by the relatively low inventories of crude oil and product in oil-importing countries, such as the United States. In addition, high natural gas prices have kept oil demand strong.

Where Are Oil Prices Headed?

As of this writing in late October, the spot and futures markets suggest that the price of oil will begin falling after reaching \$35 per barrel for WTI in November

(Chart 5). Market fundamentals suggest that most of the near-term risks are on the upside of the price path forecast by the futures market.

Since oil prices began rising in March 1999, the futures market has consistently forecast lower prices for crude oil than eventually materialized in the spot market (Chart 6). The market's consistent underforecasting of oil prices could reflect a failure to recognize the role that strong economic activity has played in stimulating demand and boosting world oil prices. Instead, the market seems to be interpreting strong oil prices as being the result of reversible shocks to the world oil supply undertaken by an unstable cartel and temporary factors that have boosted demand. If the market

has failed to understand how economic growth has stimulated world oil demand, futures prices are likely to yield faulty predictions. Additions to world oil capacity and to the fleet of tankers to ship that oil could be slow in coming, particularly if strong prices are viewed as temporary.

Natural Gas Prices

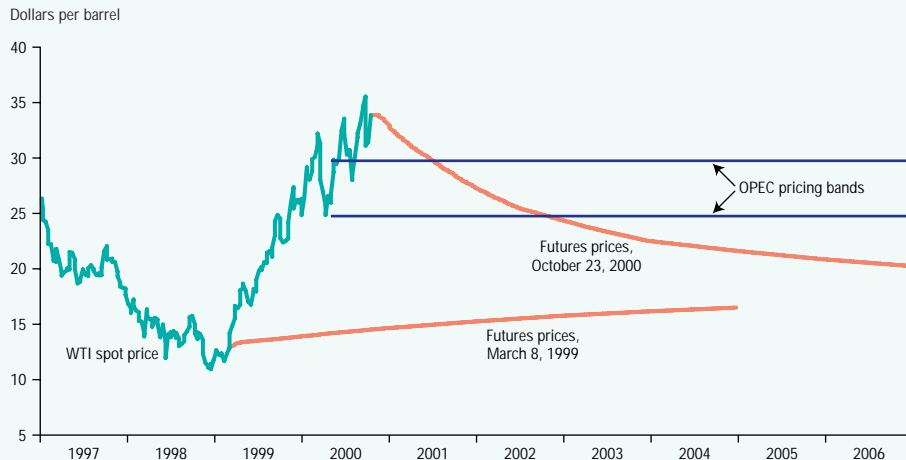
During mid-October, the wellhead price of natural gas was \$5.50 per million Btu—more than twice what it had been a year earlier and the highest real natural gas price in 15 years. Adjusted for inflation, natural gas prices reached comparable heights in the early 1980s. High oil prices have prompted fuel switching away from oil to natural gas, and much hotter than normal summer weather in some areas of the United States led to increased demand for cooling. Both factors reduced inventories of natural gas and pushed its price upward. The futures market suggests moderate declines in natural gas prices over the coming years, but again the market forecast may be unreliable.

Implications for U.S. Economic Activity

In assessing the effect of rising oil prices on economic activity, the conventional wisdom has been to attribute rising oil prices to supply shocks. For example, Brown and Yücel (2000) estimate each \$10-per-barrel increase in the oil price will reduce U.S. GDP growth by 0.3 percentage points and boost the GDP defla-

Chart 5

Futures Market Suggests Oil Prices Will Fall



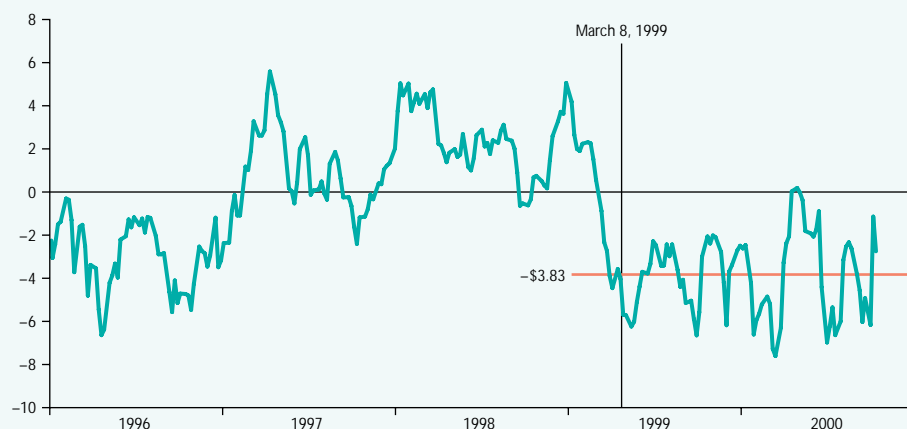
SOURCE: Wall Street Journal.

Rising oil and natural gas prices do not seem to be hurting U.S. economic growth as much as the conventional wisdom might suggest.

Chart 6

Futures Market Has Underforecast Spot Oil Prices

Difference between three-month futures price and WTI spot price



SOURCE: Wall Street Journal.

tor by 0.3 percent during the first year. The OECD estimates are a 0.2 percentage point reduction in U.S. GDP and a 0.4 percent increase in consumer prices in the first year.

As Brown and Yücel found, the U.S. economy is about half as sensitive to rising oil prices resulting from an oil shock as it was in the early 1980s, and prices have risen to about half what they were at that time. The economy's reduced sensitivity can be attributed to lower energy use per unit of GDP, as well as the fact that the economy never fully adjusted to the oil price declines of 1997 and 1998. The conduct of monetary policy may also have weakened the link between oil-price movements and core inflation since the mid-1980s.

But, as noted previously, rising oil and natural gas prices do not seem to be hurting U.S. economic growth as much as the conventional wisdom might suggest. The principal reason is that the current rise in oil and natural gas prices is more the result of strong world economic activity than a shock to world oil supplies. Consequently, rising energy prices would have less effect on economic activity—restraining only slightly what would otherwise be extremely strong growth. For example, Americans are paying higher prices for gasoline to get to work, but they have jobs to go to and greater income to buy the gasoline.

For a more complete analogy, consider the airline industry. We know that

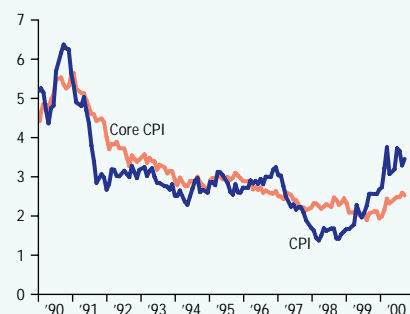
rising fuel costs hurt the airline industry, but we also know that the industry has been helped considerably by the strong demand for transportation services that came with a robust economy. Strong demand is allowing airlines to boost fares and pass the increased fuel cost forward to the passengers while maintaining high load factors. All things considered, the airline industry is better off with strong demand, higher fares and higher fuel costs than it is with weak demand, low fares and low fuel costs.

This is not to argue that rising energy prices help the U.S. economy. In fact, strong energy prices are likely to reduce U.S. GDP below the baseline trajectory that analysts might have expected if oil

Chart 7

U.S. Consumer Price Index Is Rising

12-month percent change

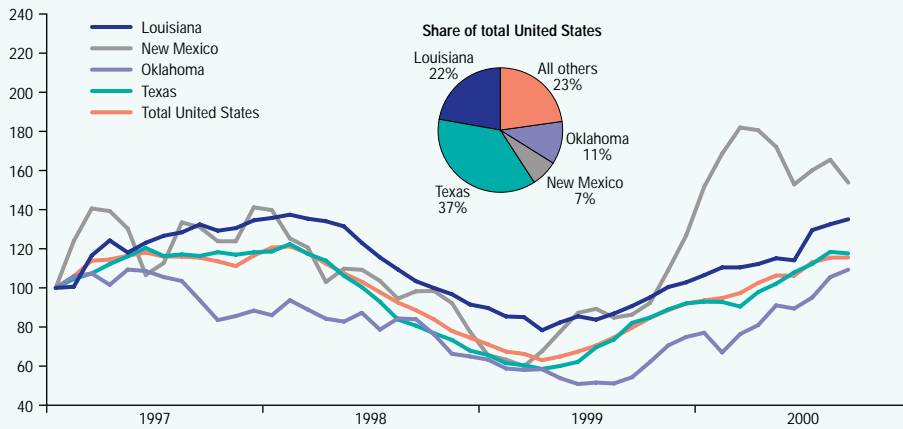


SOURCE: Bureau of Labor Statistics.

Chart 8

Rig Counts on the Rise

Index, January 1997 = 100*



* Seasonally adjusted.
SOURCE: Baker Hughes.

prices had not increased and all other factors had remained constant. For example, if oil prices remain close to the current spot price of \$35 per barrel, annualized U.S. real GDP could be about 0.2 percent to 0.5 percent lower in the final quarter of 2002 than would occur if oil prices fell to the \$25 per barrel that is forecast by the futures market. Against a backdrop of strong economic growth, however, the slowing effects of rising oil prices will not be very visible.

With the strength in energy prices coming from the demand associated

with a robust economy, looking at core measures of inflation, which exclude energy prices, may not be appropriate for assessing the overall inflationary pressures in the economy. Rising energy prices could be evidence of inflationary pressure in a strong economy that is beginning to hit supply constraints in basic commodities. As shown in Chart 7, the overall Consumer Price Index (CPI) has been increasing more rapidly over the past few years than the core CPI. Much of the difference is rising energy prices.

Implications for Energy-Exporting States in the Southwest

Rising oil and natural gas prices continue to stimulate a recovery in the oil and gas extraction industry in the Southwest. Since early 1999, rig counts have been rising in Texas, Louisiana, New Mexico and Oklahoma as well as the United States as a whole (Chart 8). Rig counts in Texas and the nation have grown at about the same rate. Strong growth in drilling for natural gas has stimulated greater gains in New Mexico. Falling energy prices hurt drilling in Louisiana less than in Texas, and Louisiana continues to maintain an edge during the recovery.

The recovery of employment in oil and gas extraction has been more muted, in part because firms are having trouble finding employees who are willing to work in the volatile industry. As with drilling activity, the growth of employment in oil and gas extraction has been strongest in New Mexico (Chart 9). Employment in oil and gas extraction is growing at a slower pace in Louisiana, Texas and Oklahoma.

Because Louisiana, New Mexico, Oklahoma and Texas are net exporters of crude oil and natural gas, their economies are stimulated by rising oil and natural gas prices. Nevertheless, the increased diversification of their economies and the presence of industries—such as petrochemicals—that are hurt by rising energy prices have substantially reduced these states' sensitivity to movements in oil and natural gas prices. And because the rise in energy prices is associated with a strong national economy, the non-energy industries in the Southwest are likely to continue to see strong demand associated with a robust economy. Consequently, the net effects of rising energy prices should remain largely favorable for the energy-exporting states in the Southwest.

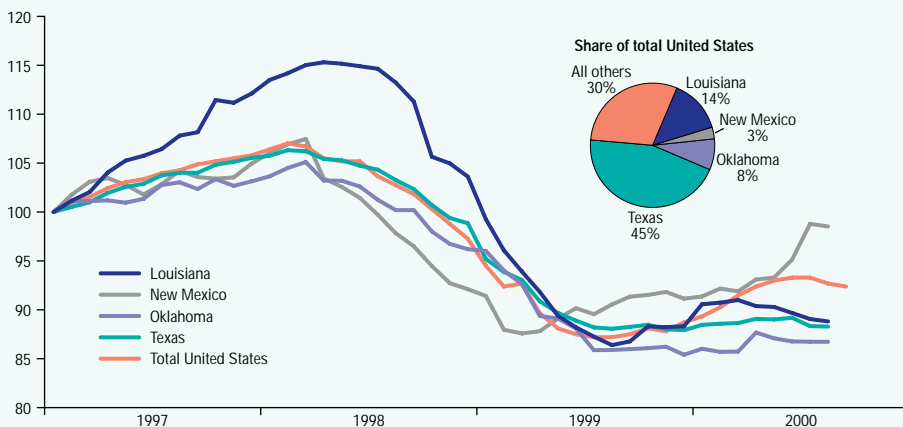
—Stephen P. A. Brown

Brown is Director of Energy Economics and Microeconomic Policy Analysis at the Federal Reserve Bank of Dallas.

Chart 9

Oil and Gas Extraction Employment Recovering Only Moderately

Index, January 1997 = 100*



* Seasonally adjusted.
SOURCE: Bureau of Labor Statistics.

Reference

Brown, Stephen P. A., and Mine K. Yücel (2000), "Oil Prices and the Economy," Federal Reserve Bank of Dallas *Southwest Economy*, Issue 4, July/August, 1–6.