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 *un*conventional wisdom sug-

(Continued on page 2)

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.

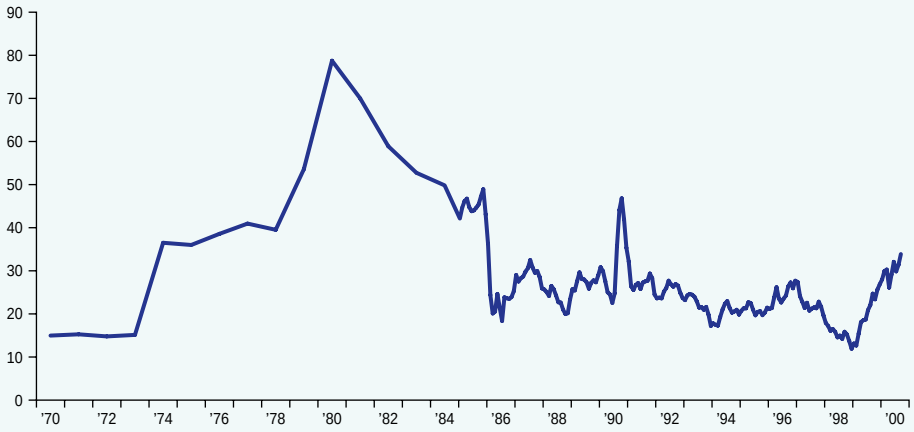
As is often the case, the FOMC's actions have been controversial. Some analysts, citing unprecedented stock market valuations and a historically low unemployment rate, have claimed that an increase in the funds rate was long overdue.[1] Others have questioned the need for any policy tightening at all, 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,

(Continued on page 6)

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



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

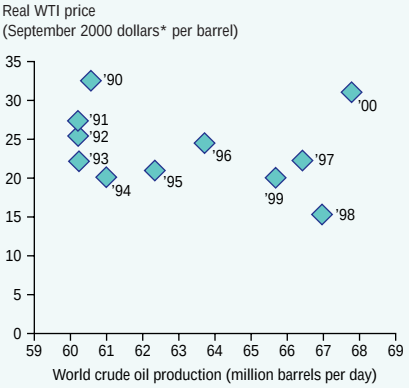
Since hitting a low around $10 per barrel for West Texas Intermediate crude (WTI) in early 1999, oil prices have risen sharply (*Chart 1*). This increase has occurred because the world capacity to supply oil has not kept pace with the growth of oil demand spurred by a resurgent world economy. A short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



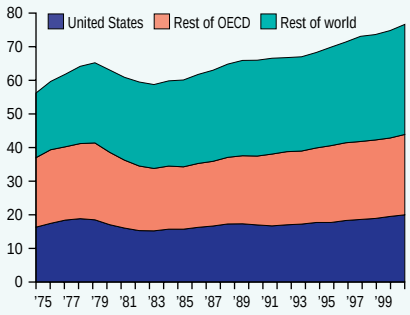
* Seasonally adjusted.

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

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

Chart 3

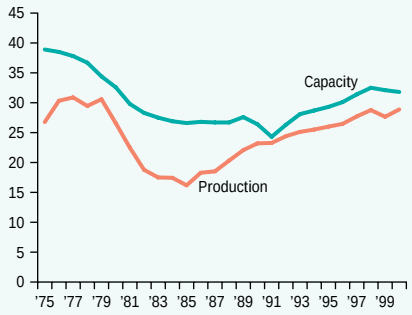
World Oil Consumption, 1975–2000



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

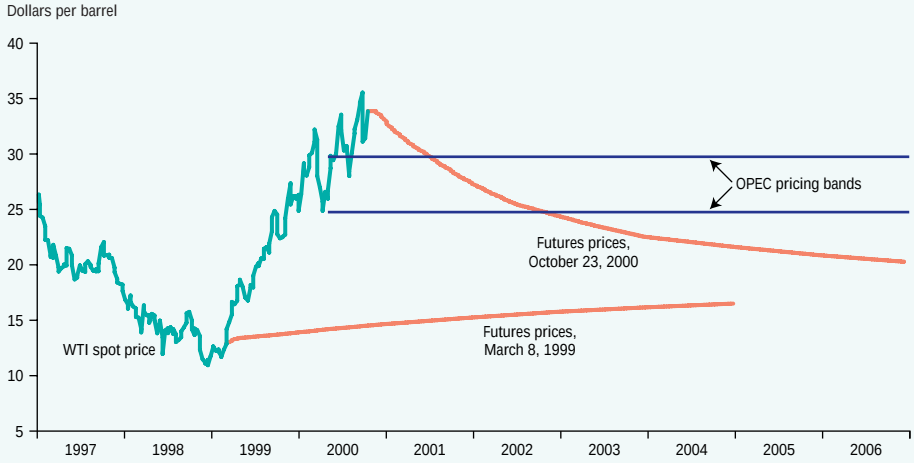
During mid-October, the wellhead price of natural gas was $5.50 per million Btu—more than twice what it had been a year earlier and the highest real natural gas price in 15 years. Adjusted for inflation, natural gas prices reached comparable heights in the early 1980s. High oil prices have prompted fuel 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

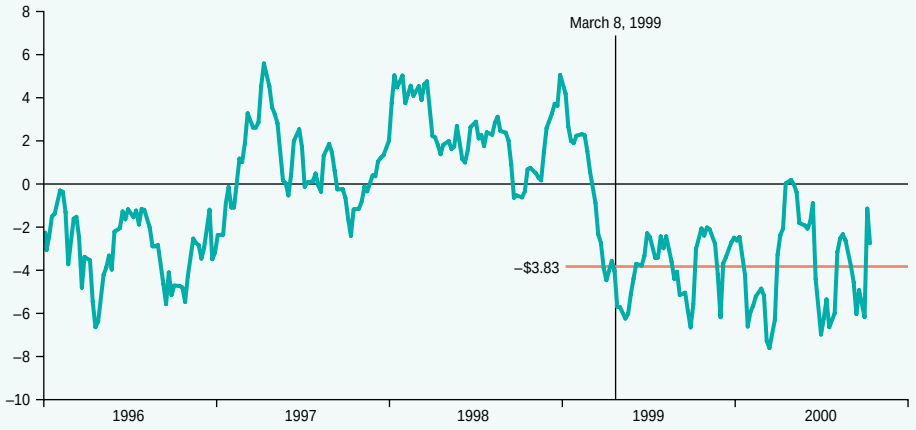


SOURCE: *Wall Street Journal*.

Chart 6

Futures Market Has Underforecast Spot Oil Prices

Difference between three-month futures price and WTI spot price



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.

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.

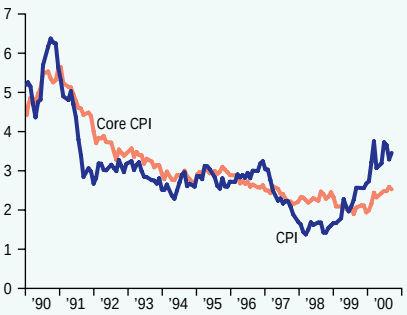
For a more complete analogy, consider the airline industry. We know that rising fuel costs hurt the airline industry, but we also know that the industry has been helped considerably by the strong demand for transportation services that came with a robust economy. Strong demand is allowing airlines to 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

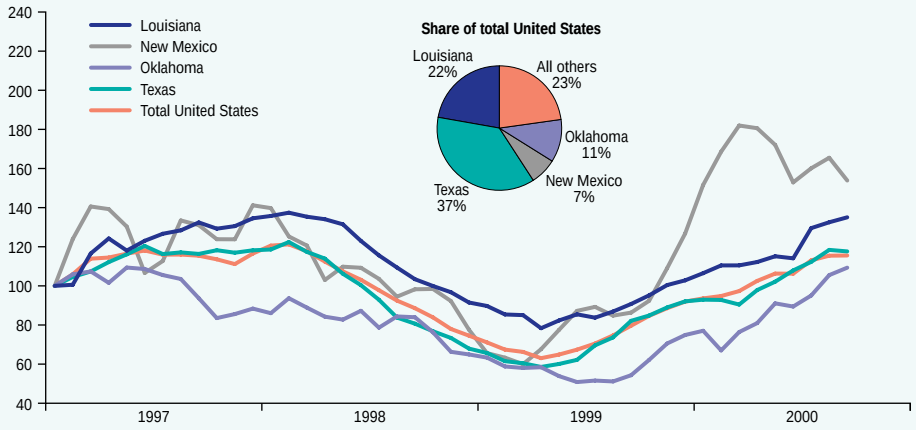


SOURCE: Bureau of Labor Statistics.

Chart 8

Rig Counts on the Rise

Index, January 1997 = 100*



* Seasonally adjusted.

SOURCE: Baker Hughes.

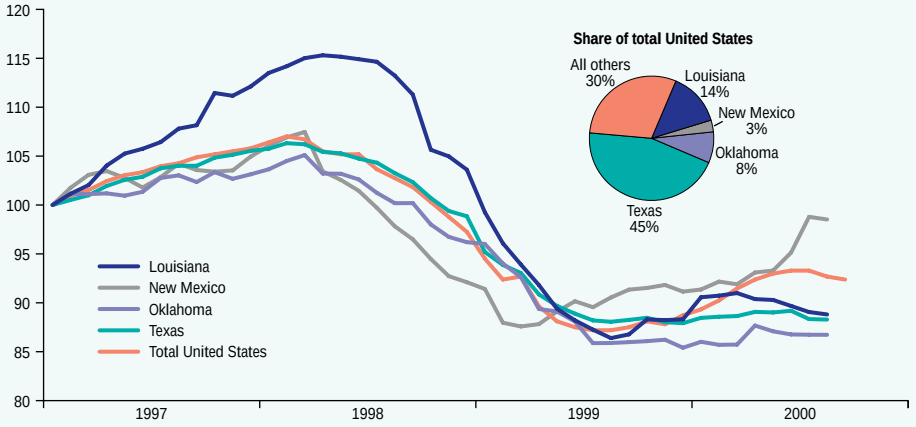
prices had not increased and all other factors had remained constant. For example, if oil prices remain close to the current spot price of $35 per barrel, annualized U.S. real GDP could be about 0.2 percent to 0.5 percent lower in the final quarter of 2002 than would occur if oil prices fell to the $25 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.

Chart 9

Oil and Gas Extraction Employment Recovering Only Moderately

Index, January 1997 = 100*



* Seasonally adjusted.

SOURCE: Bureau of Labor Statistics.

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.

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.

Monetary Policy: On the Right Track?

(Continued from front page)

because most economists recognize that rising productivity growth can prevent tight labor markets from putting upward pressure on inflation and that high trend productivity growth can justify high stock market valuations (Koenig 2000).

The main point of this article is that one doesn't need to believe in stock market bubbles or a stable inflation–unemployment trade-off to understand the motivation for the Fed's latest round of tightening. In particular, recent policy actions have been entirely consistent with the FOMC's past response, under Alan Greenspan's leadership, to direct signs of building inflationary pressure in product markets. This consistency will be reassuring to those who feel that the Greenspan Fed has generally done a good job of holding inflation in check without unduly damping real growth. A secondary goal is to provide some insight on the likely course of real economic activity in coming quarters, as the interest-rate increases of the past 18 months begin to bite.

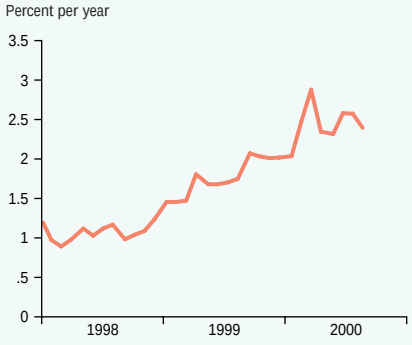
Some Perspective on Inflation

Chart 1 shows the path of inflation from January 1998 to the present, as measured by the chain price index for personal consumption expenditures.

Chart 1

Reason for Concern

(12-month percent change, price index for personal consumption expenditures)

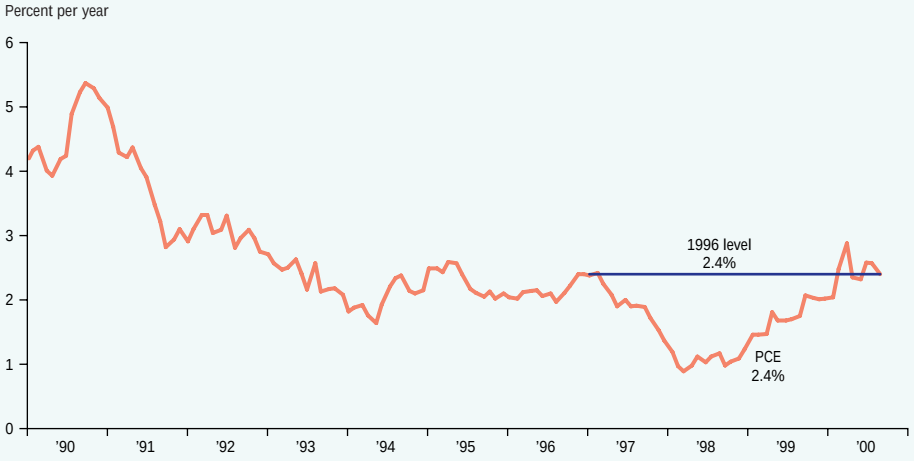


SOURCE: Bureau of Economic Analysis.

Chart 2

Some Perspective

(12-month percent change, price index for personal consumption expenditures)



SOURCE: Bureau of Economic Analysis.

The strong upward trend from December 1998 onward is prima-facie evidence that over this period demand was outstripping supply and, hence, that a tightening of monetary policy was appropriate.[2] To quote Robert McTeer, president of the Dallas Fed: "I didn't think we should shoot inflation while it is trying to surrender. But, more recently, it's been showing signs of resisting arrest" (McTeer 2000).

Should the Fed have acted sooner or more vigorously? Chart 2 puts the recent inflation increases in perspective by extending the plot displayed in Chart 1 backward to 1990. The revised plot makes it clear that recent increases have only brought inflation back to where it was in 1996, before the Asian economic crisis. With the collapse of the Asian economies, resources around the world that had been devoted to meeting the needs of consumers overseas suddenly became available to people in the United States. In other words, from the U.S. perspective, the Asian economic crisis amounted to a favorable supply shock. It gave U.S. businesses and consumers an opportunity to purchase imports and import substitutes at bargain-basement prices.

Given the rapidity with which events unfolded, the Fed could hardly have avoided—even if it had desired to do so—the dip in inflation that began in 1997 and extended into 1998. And given the uncertainty surrounding recovery of the Asian economies during much of 1999, it is also unrealistic to expect that the Fed could have acted quickly enough to prevent an inflation rebound over the past year. Indeed, according to some theories of optimal monetary policy, a temporary decline in inflation is exactly what one would *want* to see in response to a shock like the Asian downturn and recovery (Koenig 1995).

In short, the inflation genie is still in its bottle. It remains to be seen whether the policy actions taken during the second half of 1999 and the first half of 2000 will keep it there.

Monetary Policy on Target

Given the Federal Reserve's success in engineering a soft landing for the economy in 1994–95 and its near success in achieving a soft landing in 1990, it is reassuring that the Fed's latest round of tightening is consistent with its past behavior.[3] In particular, recent increases in the federal funds rate bear the same

relationship to various direct measures of inflation pressure in product markets as have past changes. This implies that the motivation for the latest funds-rate increases can be understood without reference to tight labor markets, rising wages or stock market bubbles.

Chart 3 displays the 12-month change in the federal funds rate along with each of four variables measuring supply–demand imbalance or emerging inflationary pressure in product markets. The charts show that during 1999 we saw accelerating unfilled orders and inflation expectations, along with slower supplier deliveries and rising rates of capacity utilization. Over the period during which Alan Greenspan has chaired the FOMC, it is apparent that the Federal Reserve has typically responded to such signs of excess demand by tightening monetary policy.

Chart 4 shows actual and expected changes in the federal funds rate, where the expected changes are from a regression of the funds rate on the excess-demand indicators displayed in Chart 3. (For details, see the box titled "Understanding Federal Funds Rate Changes.") Chart 4 suggests that as of the third quarter of 2000, the funds rate was within 25 basis points of where one would have expected it to be, given the past behavior of the Greenspan Fed. There is no indication that the FOMC has acted any more or less aggressively lately than in the past.

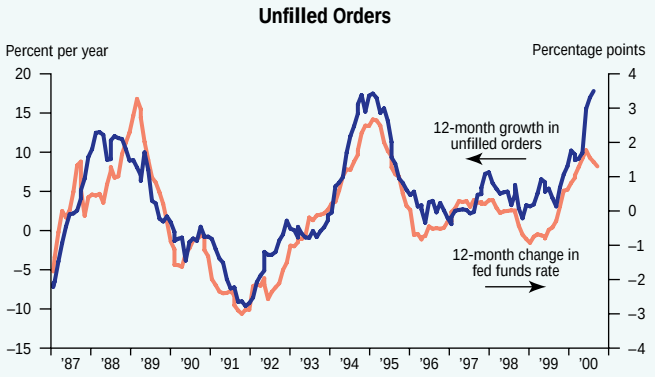
Likely Future Impact of Recent Policy Moves

How much slowing of growth in economic activity can we expect as a result of policy moves taken to date? Recent research suggests that the junk-bond spread—the yield on high-yield bonds less the yield on AAA-rated corporate bonds—is a good long-leading indicator of movements in economic activity (Gertler and Lown 1999). Other useful long-leading indicators are the real federal funds rate (the federal funds rate less professional forecasters' one-year inflation expectations) and the inflation-adjusted growth rate of the M2 money stock.

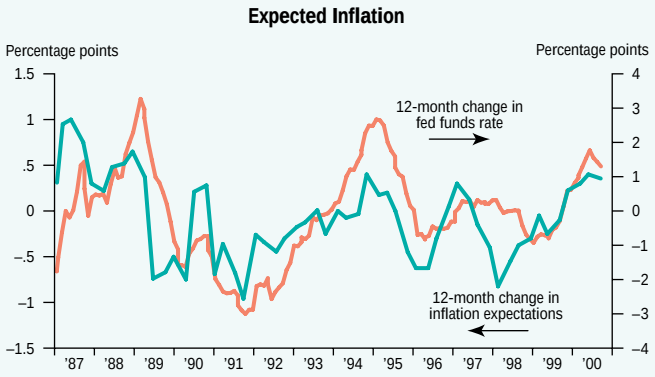
Intuitively, the junk-bond spread is a measure of the risk that marginal borrowers will default on their loans. Default risk tends to increase as economic prospects dim. The real federal funds rate is a measure of the price banks must pay to obtain funds that can, in turn, be lent out to households and businesses. It is heavily influenced by FOMC decisions. Inflation-adjusted M2 growth measures changes in the quantity of liquid assets held by the nonbank public. Variables like stock prices and the slope of the yield curve (the spread between long- and short-term interest rates) have no marginal predictive power for real activity in the 1980s and 1990s in the presence of

Chart 3

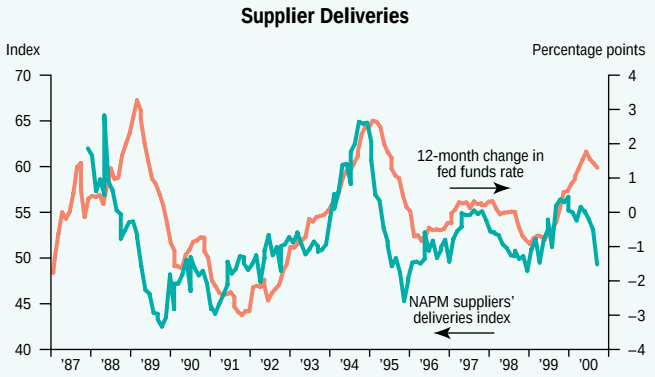
The Federal Funds Rate and Four Measures of Demand–Supply Imbalances



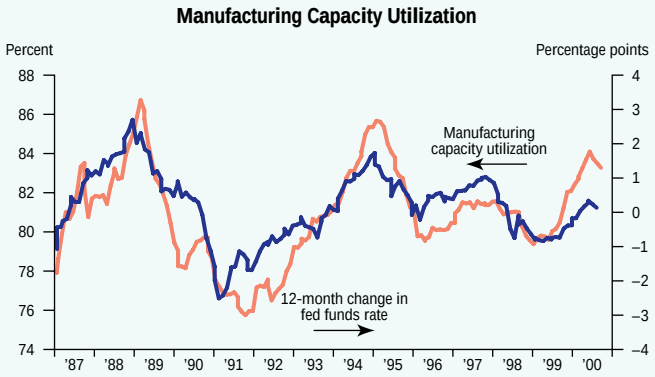
SOURCES: Bureau of the Census; Federal Reserve Board of Governors.



SOURCES: Federal Reserve Bank of Philadelphia; Federal Reserve Board of Governors.



SOURCES: National Association of Purchasing Management; Federal Reserve Board of Governors.



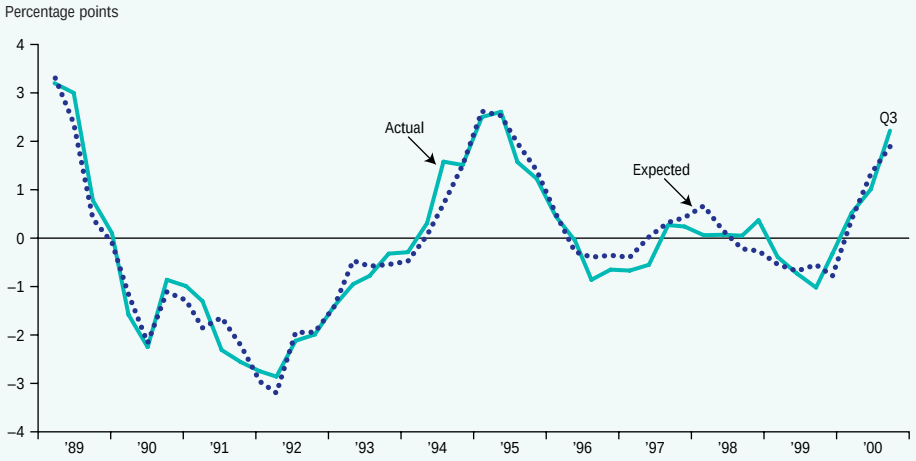
SOURCE: Federal Reserve Board of Governors.

The bottom line is that policy actions taken to date appear likely to slow employment growth substantially but not drive the economy into a recession.

Chart 4

Fed Policy on Track

(Actual and expected 12-month change in federal funds rate)



SOURCES: Federal Reserve Board of Governors; author's calculations.

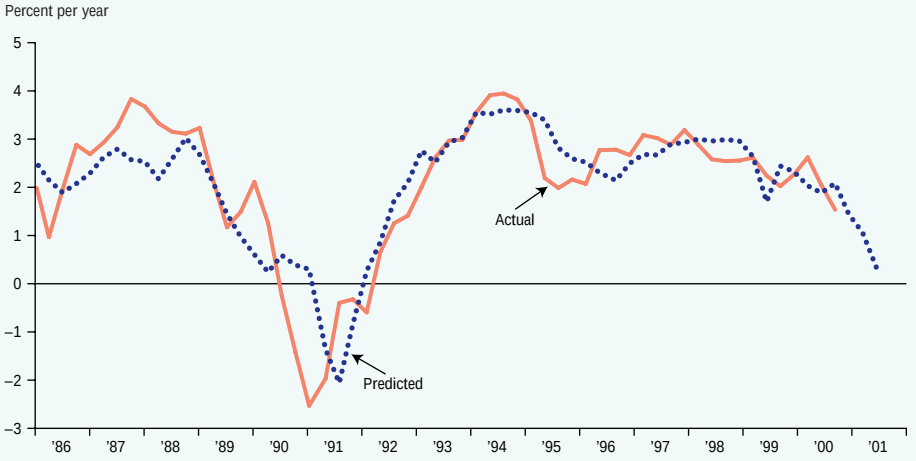
the junk-bond spread, the real funds rate and real M2 growth.

Chart 5 combines and summarizes the information in real M2 growth, the real federal funds rate and the junk-bond spread. It shows the annualized six-month growth rate of private nonfarm employment along with the employment growth rate one would have predicted nine months earlier by observing the three financial indicators. (Details are provided in the box titled "Predicting Employment Growth.") The latest forecast is based on M2, funds-rate, bond-yield, inflation and inflation-expectations data that were available in mid-October. Annualized employment growth during the first half of 2001 is predicted to be 0.3 percent—down from 2 percent actual growth during the first six months of 2000 and from 1.5 percent growth over the six months ending in September. Since most analysts project 1 percent annual labor-force growth, the forecast implies a small

Chart 5

Long-Leading Indicators Predict a Further Slowing of Employment Growth

(Actual and predicted annualized six-month growth rates of private nonfarm employment)



SOURCES: Bureau of Labor Statistics; author's calculations.

Understanding Federal Funds Rate Changes

Chart 4 captures the relationship between the 12-month change in the federal funds rate (Δff) and four direct measures of demand–supply imbalance in product markets: the 12-month change in unfilled orders (Δuo), the National Association of Purchasing Management's measure of lengthening supplier delivery lags ($napm$), the level of manufacturing capacity utilization ($capu$) and the four-quarter change in professional forecasters' inflation expectations (Δpie). The larger any of these four variables is, the greater the increase in the federal funds rate tends to be. The exact relationship is as follows:

$$\Delta ff = -32.2746 + .1219\,\Delta uo + .0654\,\Delta uo(-4) + .0093\,napm + .0368\,napm(-4)$$
$$(6.2140)\ (.0190)\qquad (.0247)\qquad (.0289)\qquad (.0223)$$

$$+ .1911\,capu + .1709\,capu(-4) + 1.3312\,\Delta pie + .8883\,\Delta pie(-4) - .6136\,\Delta ff(-4)$$
$$(.0661)\qquad (.0604)\qquad (.1680)\qquad (.1480)\qquad (.1035)$$

Adjusted $R^2 = .930$ S.E. = .399 Sample: 1989:Q1–2000:Q3.

Standard errors of the coefficients are given in parentheses. The estimation methodology makes due allowance for a moving-average error term.

Because many of the right-hand-side variables are contemporaneous with the left-hand-side variable, the equation above is not directly useful for giving advance warning of Fed policy decisions. However, the fact that the equation does a good job of explaining funds-rate changes after the fact suggests that the variables to which policymakers respond in real time are highly correlated with emerging imbalances in product markets, as subsequently evidenced by high rates of capacity utilization and increases in unfilled orders, delivery lags and inflation expectations. The equation provides a means for assessing whether recent policy decisions are in line or out of line with past Fed responses to emerging imbalances.

increase in the unemployment rate during the first half of next year.[4]

The bottom line is that policy actions taken to date appear likely to slow employment growth substantially but not drive the economy into a recession.

Summary

The federal funds rate increases that occurred during 1999 and 2000 can be understood without reference to tight labor markets and high stock prices—traditional indicators of economic overheating that are of dubious relevance when labor-productivity growth is high and rising. In fact, the latest round of monetary policy tightening was entirely consistent with past Fed responses to direct signs of demand–supply imbalance and inflationary pressure in product markets. This consistency is encouraging, for it suggests that the Fed stands a good chance—barring an unexpected oil-supply disruption—of stabilizing inflation while maintaining growth in output and employment.

—Evan F. Koenig

Koenig is vice president and senior economist in the Research Department of the Federal Reserve Bank of Dallas.

Predicting Employment Growth

Chart 5 shows annualized six-month growth in private, nonfarm employment together with job-growth predictions made nine months before the fact. The predictions come from a regression of employment growth ($\Delta pemp$) on lagged employment growth ($\Delta remp$), the lagged level of the real federal funds rate (rff), lagged real growth in the M2 money supply measure ($\Delta rm2$) and the lagged difference between the yields on so-called junk bonds and high-quality, AAA-rated corporate bonds ($spred$). The data are quarterly. The results of this regression are as follows:

$$\Delta pemp = 4.1069 + .3708\,\Delta remp(-3) - .4965\,rff(-3) + .0580\,\Delta rm2(-3) - .4629\,spred(-3)$$
$$(.5760)\ (.1093)\qquad (.1025)\qquad (.0425)\qquad (.1362)$$

Adjusted $R^2 = .687$ S.E. = .789 Sample: 1985:Q4–2000:Q3.

The six-month growth rates of employment and money that appear on the right-hand side of the regression are calculated using real-time levels data from the third month of each quarter. (The dependent variable is calculated similarly, except using revised data.) These data do not become available until the first month of the subsequent quarter. All interest rates are measured as of the middle of this same month. The real federal funds rate is obtained from the market funds rate by subtracting the one-year inflation expectations of professional economists, as reported by the Federal Reserve Bank of Philadelphia. To obtain real M2, nominal M2 data are deflated using the Consumer Price Index. The standard errors of the estimated coefficients (appropriately adjusted for a moving-average error term) are given in parentheses.

Notes

Thanks to Charis Ward and Ricardo Llaudes for first-rate research assistance.

1 For discussion of the roles of the stock market and unemployment rate in policymaking, see Koenig (2000). Bernanke and Gertler (1999) and Cecchetti et al. (2000) present sharply different views on the amount of attention policymakers ought to give to stock prices.

2 Plots of core and median consumer price inflation display similar trends, although the exact timing of the recent upward movement differs from one inflation measure to another.

3 The economy is said to experience a soft landing when demand growth slows sufficiently to prevent a threatened increase in inflation and yet an outright recession is avoided. Many analysts feel that the U.S. economy was on track to a soft landing in 1990 had Iraq not invaded Kuwait.

4 Consistent results are obtained when six-month changes in the unemployment rate are regressed directly on the three financial indicators.

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The Mexican Economy Since the Tequila Crisis

On December 1, Mexico's first nonruling party president in more than seven decades will take office. Vicente Fox Quesada, a member of the center-right National Action Party, will face a host of challenges in the areas of banking and finance, worker and capital productivity, and taxation.

Much has been made of Mexico's rapid growth since the so-called Tequila Crisis of 1995. In the last five years, Mexican industrial production growth has outstripped that of any other major Western Hemisphere country, including Argentina, Brazil, Chile and the United States.

But the principal engine of this growth has been exports. Mexican consumption growth has significantly trailed production growth. In addition, small and medium-sized nonexporting firms have seen far less expansion than the big exporters. The lags in domestic consumption and in expansion by the smaller nonexporting firms have similar roots. The large export firms have access to foreign credit, while Mexican consumers and small to medium-sized producers must rely on credit from Mexican banks—and these banks have cut back on their lending. While bank loan activity has had its ups and downs since the Tequila Crisis, the real value of bank loans has generally been down, especially since 1998 (*Chart 1*).

Vicente Fox has proposed financial programs to address credit availability for small to medium-sized firms. For one, he suggests a Grameen-style bank to provide credit to small borrowers. The first Grameen bank, located in Bangladesh, represented a highly successful approach to lending for very small business operations. Fox developed his own brand of Grameen banking in his home state of Guanajuato and hopes to take his operation national.

Although many Americans have heard of Mexico's high growth over the last five years, fewer realize that Mexico has experienced very little economic expansion per person over the last two decades. Between 1981 and 1999, total Mexican GDP per capita grew only 6.8 percent—not per year, but over the entire period. During the same time frame, U.S. income per capita rose 48 percent.

To further complicate matters, Mexican income distribution has become increasingly uneven over the last 15 years. Income disparity in Mexico exceeds that of the United States as well as Ecuador, El Salvador and Bolivia. Thus, Mexico's challenge is not only to raise real income per capita but also to create opportunities so that its poorest share in the increase. If that is not possible, political pressures may militate against the very measures Fox believes are most likely to increase income per capita.

An important aspect of creating a basis for growth in income per capita is raising education levels. Compared with industrial countries, some Asian tigers and even Brazil and Chile, Mexico's average education level is low. Similar comparisons can be made with other social indicators. Mexico's infant mortality, for example, is markedly higher than that in Argentina and Chile, not to mention Korea, France and the United States.

Fox believes he can make labor and capital more productive by investing in education and infrastructure and increasing social spending. He wants to broaden tax coverage by bringing Mexico's large informal sector into the taxpaying fold. This would allow the government to increase spending without further taxing the formal sector, which currently bears the fiscal burden.

So far, Mexico's new administration looks as if it will emphasize government's relationship to the public more as a channel for investment in human skills, capacities and infrastructure than as a medium for income redistribution or other populist measures.

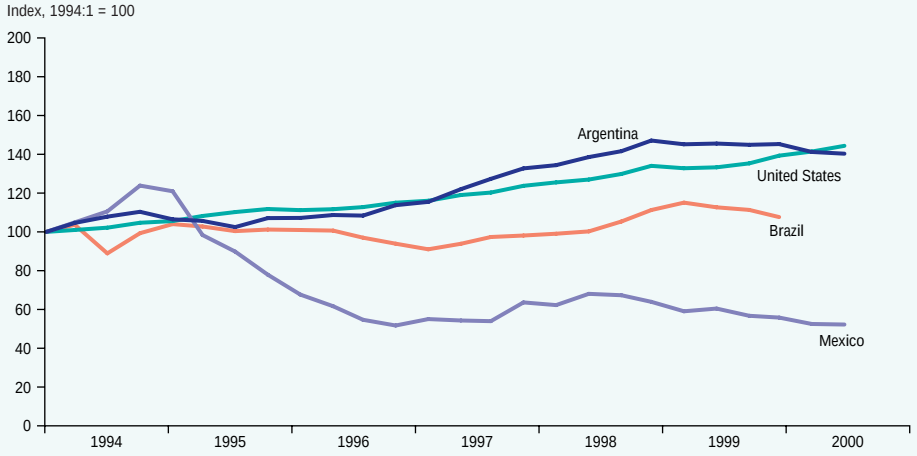
—William C. Gruben

Gruben is vice president and director of the Center for Latin American Economics at the Federal Reserve Bank of Dallas.

Chart 1

Mexican Bank Lending Falls

(Real commercial bank loans to the private sector, deflated with CPI)



SOURCE: International Monetary Fund, *International Financial Statistics*.

Regional Update

Current economic data suggest that the Texas economy is growing at a moderate pace. A pickup in energy-related employment and solid demand for services continue to add new jobs to the economy. Alternatively, weakness in manufacturing employment and a very tight labor market have attenuated overall job growth. The September unemployment rate was 4.3 percent, up only slightly from July's 20-year low of 4.1 percent.

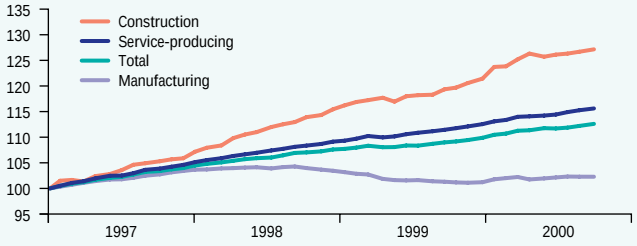
High oil and gas prices continue to stimulate growth in the energy sector. The number of rigs drilling for oil and gas in Texas increased to 364 in October, up 33 percent from the beginning of the year. Employment in oil and gas extraction has finally begun to pick up. Although it had been sluggish due to difficulty in hiring workers who had other opportunities in more stable industries, employment in this sector has grown 2.7 percent (annual rate) since January.

Employment in the private service-producing sector, which makes up 60 percent of total employment, grew vigorously, increasing at an annual rate of 3.6 percent year to date. Employment growth in durable goods manufacturing, which includes high-tech, has not fared as well. After increasing moderately throughout the year, employment in this sector dropped in September at an annualized rate of 0.2 percent.

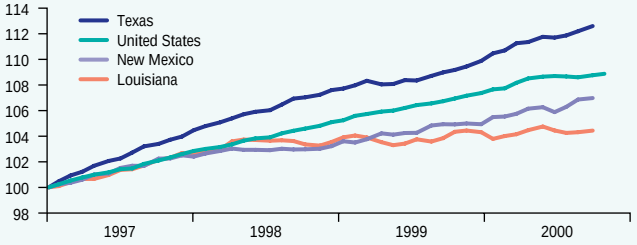
Recent changes in the Texas Leading Index suggest moderated growth over the next six months. Both the U.S. and Texas leading indexes have trended down recently. In Texas, declines in new unemployment claims, the Texas Stock Index, average weekly hours and the U.S. leading index outweighed increases in the real oil price, well permits and the Texas value of the dollar.

—John Thompson

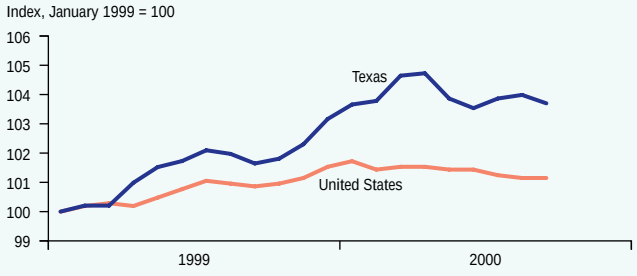
Texas Employment



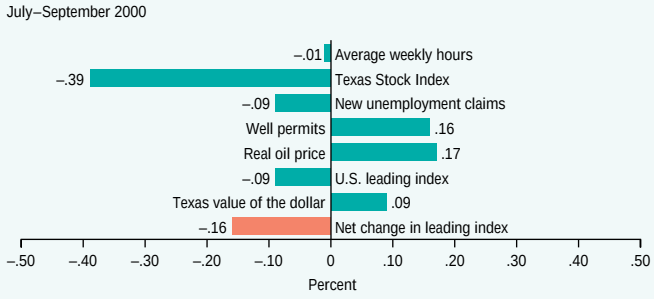
Total Nonfarm Employment



U.S. and Texas Leading Indexes



Net Contributions of Components to Change in Leading Index



Regional Economic Indicators

			TEXAS EMPLOYMENT*					TOTAL NONFARM EMPLOYMENT*		
	Texas Leading Index	TIPI† total	Mining	Construction	Manufacturing	Government	Private service-producing	Texas	Louisiana	New Mexico
9/00	125.9	130.8	148.8	566.7	1,089.6	1,570.8	6,111.5	9,487.4	1,905.9	748.4
8/00	126.4	131.2	148.4	564.6	1,089.7	1,557.5	6,093.1	9,453.3	1,903.6	747.6
7/00	126.6	131.0	148.5	563.0	1,090.0	1,550.1	6,074.0	9,425.6	1,902.6	743.6
6/00	126.1	130.1	149.3	562.1	1,088.1	1,563.3	6,048.6	9,411.4	1,906.1	740.7
5/00	125.8	129.0	148.8	560.3	1,086.1	1,583.4	6,038.0	9,416.6	1,911.7	743.4
4/00	126.9	128.4	148.6	563.0	1,083.9	1,556.3	6,030.3	9,382.1	1,906.5	742.6
3/00	127.9	128.4	149.0	558.0	1,089.0	1,553.0	6,025.3	9,374.3	1,900.7	739.8
2/00	126.7	128.0	148.2	551.9	1,086.7	1,546.9	5,993.3	9,327.0	1,898.1	738.3
1/00	125.8	128.2	148.1	551.4	1,084.3	1,545.1	5,978.7	9,307.6	1,894.1	738.0
12/99	126.4	128.2	145.7	541.2	1,078.2	1,543.3	5,949.7	9,258.1	1,903.6	734.1
11/99	124.6	128.2	145.4	537.4	1,077.1	1,535.2	5,926.3	9,221.4	1,906.0	734.5
10/99	124.3	127.5	145.2	533.4	1,077.8	1,534.3	5,908.0	9,198.7	1,904.2	734.0

* In thousands. † Texas Industrial Production Index.

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). Online economic data and articles are available on the Dallas Fed's Internet web site, www.dallasfed.org.

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