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WHAT GOES DOWN MUST COME UP

How Fed Funds Rate Affects Housing Market

By M.A. Anari

Almost all sectors of the U.S. economy were influenced by the fed funds rate cuts over the past three years, but the impact on U.S. real estate markets has been enormous.

The Federal Reserve cut the influential fed funds rate 14 times between January 2001 and June 2003, lowering it from 6.5 percent to 1 percent, a 45-year low. Mortgage rates and interest rates charged for financing real estate sales and construction followed the fed funds rate and fell to historically low levels. The contract mortgage interest rate for 30-year fixed-rate, conventional mortgages fell from 8.52 percent in May 2000 to 5.23 percent in June 2003 (Figure 1).

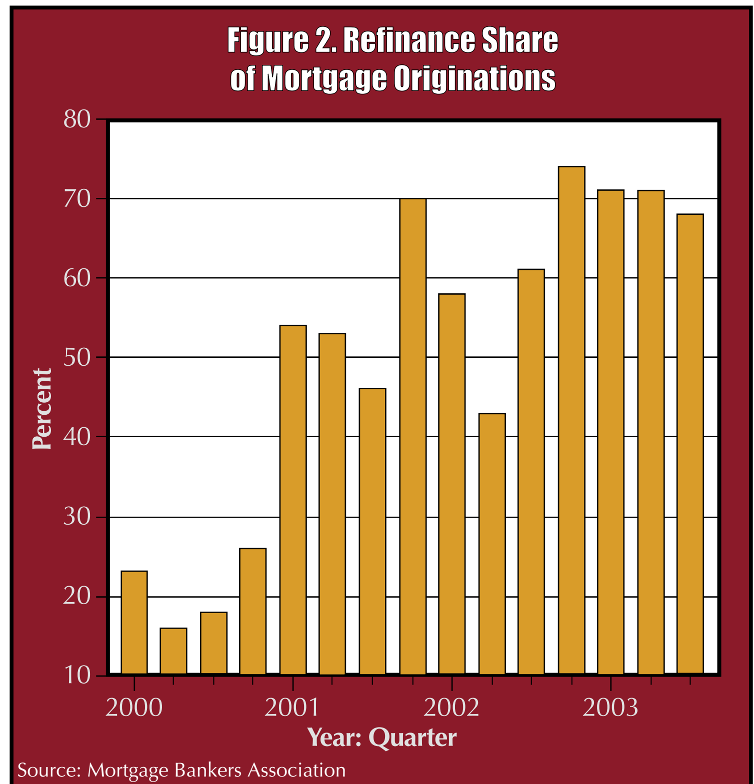
Lower mortgage and interest rates boosted home sales and home prices. The number of existing homes sold in the United States rose 5.1 percent in 2002 and 9.6 percent in 2003. The number of new homes sold rose 7.1 percent in 2002 and 11.6 percent in 2003.

Record low mortgage rates also pushed up the average prices of new and existing homes. The average price of existing homes sold in the United States rose 7 percent in 2002 and 7.5 percent in 2003 while the average price of new homes sold rose 7 percent and 3.9 percent in 2002 and 2003, respectively.

Home Sales, Refinancing Rise

Like the rest of the nation, Texas real estate markets benefited from the record low mortgage rates. The number of single-family building permits in Texas rose 10 percent in 2002 and 12 percent in 2003. The number of homes (total new and existing) sold rose 6.8 percent in 2003 while the average price of homes sold increased 6.2 percent.

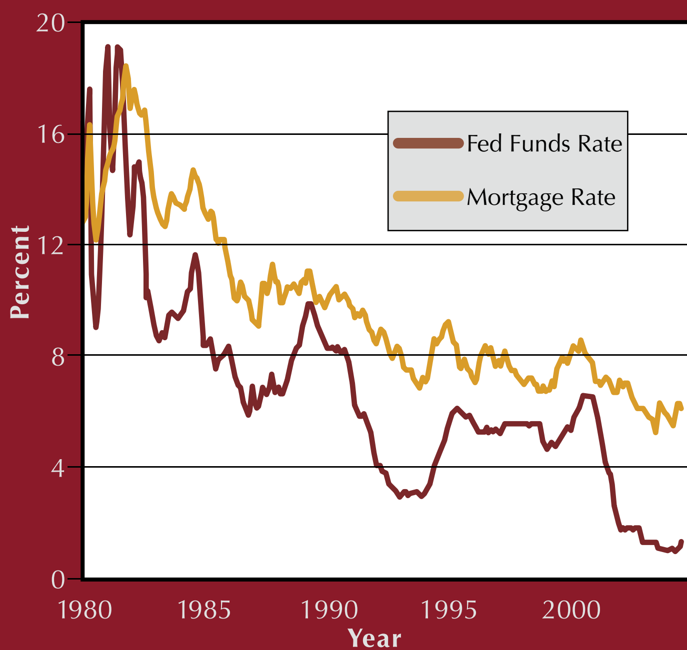
Lower mortgage rates led to an unprecedented refinancing boom and home equity withdrawal in 2000–2003. According to the Mortgage Bankers Association , mortgage refinancings rose from 23 percent of total mortgage originations in the first quarter of 2000 to an all-time high of 74 percent in the fourth quarter of 2002 (Figure 2). The estimated dollar volume of refinancing originations rose from $234 billion in 2000 to $1.3 trillion in 2001 and to $1.8 trillion in 2002. The refinancing boom continued in 2003 with $2.2 trillion in refinancing originations for the period from January to October.



Source: Mortgage Bankers Association

Refinancing allowed homeowners to spend money withdrawn from their home equity on goods and services. Funds were also used to restructure balance sheets and investment portfolios. According to a household survey sponsored by the Federal Reserve, homeowners who refinanced in 2001 and early 2002 used 26 percent of their funds to pay other debts; 35 percent for home improvements; 16 percent for vehicle purchases, vacations, medical expenses, educational expenses and other consumer expenditures; 11 percent for investment in stock and other financial assets; 10 percent for real estate or business investment and 2 percent for taxes. These expenditures played an important role in mitigating the economic contraction of March 2001 to November 2001.

By helping homeowners reduce mortgage interest expenses, lower mortgage rates significantly offset the impact of higher home prices on housing affordability. According to the National Association of Realtors®, home prices appreciated from a median price of $147,000 in 2001 to $170,000 in 2003, but the increase's impact on the housing affordability index was mostly offset by a drop in the average mortgage rate from 7.03 percent in 2001 to 5.74 percent in 2003. As a result, average monthly principal and interest payments experienced a small increase from $789 in 2001 to $804 in 2002 and then fell to $793 in 2003.



Source: Federal Reserve Bank of St. Louis

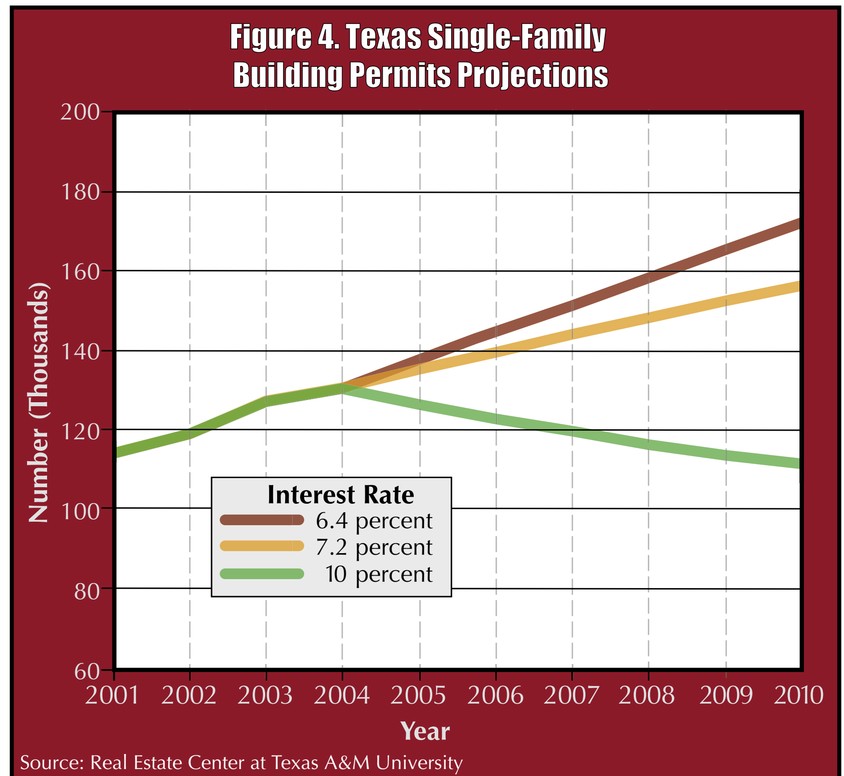
Is Inflation Ahead?

Since the first quarter of 2002, the U.S. economy has shown increasing signs of a recovery and even some inflationary signals. The growth rate for U.S. gross domestic product (GDP) rose from 0.8 percent in 2001 to 1.9 percent in 2002 and 3.0 percent in 2003. The economy grew at an annualized rate of 4.5 percent in first quarter 2004 and 3.3 percent in the second quarter; a preliminary estimate of the GDP growth rate for the third quarter is 3.9 percent.

The seasonally adjusted U.S. unemployment rate has dropped from 6.2 percent in July 2003 to 5.4 percent in November 2004. The index of real compensation per hour in the nonfarm business sector increased from 114.7 in second quarter 2002 to 117.6 in second quarter 2004. The consumer price index for all items by all urban consumers rose 3.3 percent from June 2003 to June 2004, the fastest annual growth rate in more than three years.

To maintain price stability and preempt inflation without risking a recession, the Fed raised the fed funds rate in five steps from 1 percent on June 30 to 2.25 percent on December 14. In his appearance before the Senate Banking Committee on April 20, 2004, Federal Reserve Chairman Alan Greenspan said, "The federal funds rate must rise at some point to prevent pressures on price inflation from eventually emerging."

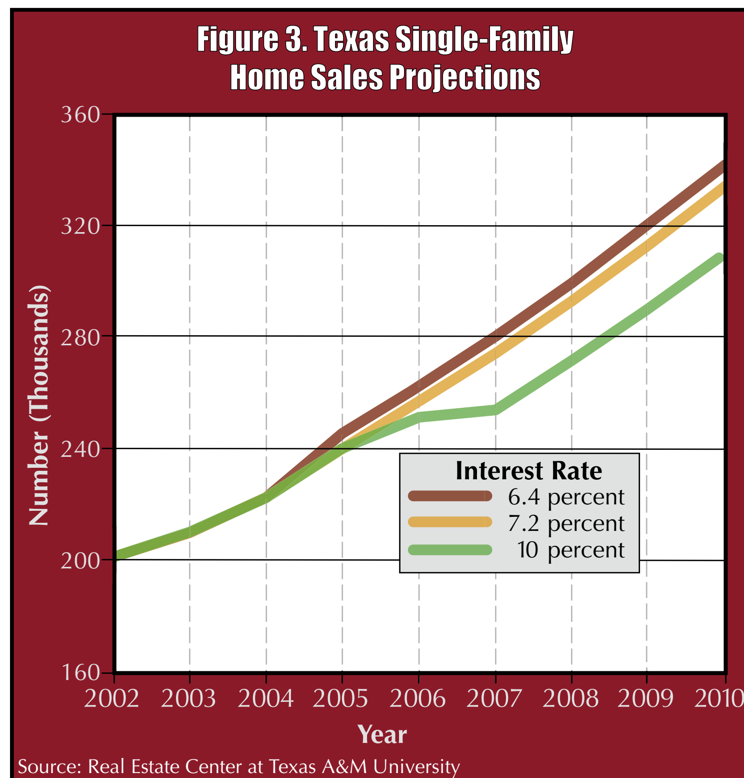
The 30-year conventional mortgage rate increased from 5.38 percent in March 2004 to 6.34 percent in May 2004, then dropped to 5.72 percent in October 2004. If the economy continues to grow at faster rates, the Fed will resort to higher fed funds rates to cool things off. The fed funds rate hikes are expected to raise mortgage rates, taking into consideration that since April 1971 the average spread between the fed funds rate and 30-year conventional mortgage rates has been 2.68 percentage points. Given the sensitivity of real estate markets to interest and mortgage rates, higher mortgage rates are expected to cool real estate markets, especially the residential housing market.



Forecasting Texas Home Sales

To investigate the impact of higher mortgage rates on Texas' residential home construction and sales, an econometric model of home sales and an econometric model of building permits were estimated by the Real Estate Center. The home sales modeling research shows that per capita personal income, average home prices and the mortgage rate, all in real terms (adjusted for inflation), are the most important determinants of Texas home sales. Using the number of single-family building permits as a proxy for new home construction, the permit model shows that population and the mortgage rate are the most important determinants of building permits.

The sales model uses forecasts of the mortgage rate, per capita disposable personal income and average home prices for forecasting home sales. Forecasts of ten-year Treasury note rates projected by the Congressional Budget Office from 2005 to 2014 were used to forecast interest rates. The ten-year Treasury note rate is expected to increase from 4 percent in 2003 to 4.6 percent in 2004 to 5.4 percent in 2005, then stay at 5.5 percent from 2005 to 2014.



Since 1980, the monthly average 30-year mortgage rate has been 180 basis points above the average ten-year Treasury note rate. Given many uncertainties in predicting mortgage rates, three scenarios are considered for the average 30-year mortgage rate: (1) it will be a low rate of 6.4 percent, (2) it will exceed the average ten-year Treasury note rate by 180 basis points, (that is, it will increase to 7.2 percent from 2005 to 2010) or (3) it will increase from 7.2 percent in 2005 to 8 percent in 2006 and to 10 percent from 2007 to 2010. In forecasting disposable personal income and average home prices, the average growth rate of these variables over the past ten years was used.

Simulation of the home sales model shows that if the 30-year mortgage rate were 6.4 percent, the annual average number of home sales is expected to exceed 290,000 units from 2005 to 2010. (The total number of homes sold in Texas from August 2003 to September 2004 was nearly 230,000.) At an average mortgage rate of 7.2 percent, the projected number of home sales is expected to be 284,000 units and a further decline to 268,000 is expected if the average 30-yearmortgage rate rises to 10 percent (Figure 3).

In general, if mortgage interest rates increase by 1 percent, home sales will decrease by 3 percent. These projections are estimated based on a specific projection of disposable income and average home prices. Changes in these variables will result in different home sales projections.

Forecasting New Home Sales Construction

The permit model uses forecasts of the Texas population and mortgage rates to forecast new home construction and sales. For population forecasts Texas population projections prepared by the Texas State Data Center were used for a scenario in which it was assumed that the age, sex, race,

ethnicity and net migration rates from 2005 to 2015 would be similar to those from 1990 to 2000.

The number of single-family building permits is expected to increase to an annual average of 154,000 from 2005 to 2010 if the average 30-year mortgage rate were at 6.4 percent. If the mortgage rate increases to 7.2 percent, that number is expected to be 145,000; at 10 percent the number of permits is expected to be only 117,900 (Figure 4). In general, an increase in the mortgage rate by 100 basis points is expected to produce a 5.8 percent decrease in the number of building permits.

The reason mortgage rates have more impact on the number of single-family permits than on home sales is that changes in interest rates impact both the demand and supply side of home building. Lower mortgage rates make homes more affordable to homebuyers on the demand side while reducing the cost of home building on the supply side of the equation.

These types of forecasts carry an important caveat. While weather forecasts have no effect on the weather, economic forecasts can influence the behavior of market participants and consequently change the course of the economy as well as future economic forecasts. If real estate professionals know that tough times are ahead because of rising mortgage rates, they may be able to reduce the adverse impact by offering more innovative marketing methods.

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