Markets & Money

Real Estate and Monetary Policy

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Interest rate changes, which are influenced by U.S. monetary policy, have important implications for real estate markets, affecting sales, prices, and supplies of real properties. The two main channels of transmission of the impacts of interest rates on real estate properties are the borrowing-saving channel and the rate of return and cap rate channel. Interest rate changes affect residential real estate markets through the borrowing-saving channel, whereas the impacts of monetary policy on commercial and industrial real estate markets are mainly through the rate of return and cap rate channel.

For households, interest rate changes affect income and prices. Income effects depend on whether households are net savers or net borrowers. For savers, higher (lower) interest rates mean more (less) interest income from their savings. For borrowers, higher (lower) interest rates mean higher (lower) payments on their loans which, when deducted from their gross incomes, lead to lower (higher) income levels. Changes in household

The Takeaway

Interest rates affect real estate market conditions in a number of ways. Residential buyers see the impact in their amount of personal savings and in mortgage rates. Commercial investors are affected by rates of return and cap rates, which are determined by interest rates.

incomes impact residential real estate markets. Higher (lower) incomes make purchasing or renting of real estate properties more (less) affordable, leading to higher (lower) sales and prices of real estate properties.

Interest rate changes impact prices of residential units as well as the number of sales. The size of loans households can borrow depends on their incomes and interest rates. Real estate, whether a home or an office building, is an expensive, big-ticket item. Purchases normally require extensive use of credit. When households use

mortgage loans to purchase residential units, their ability to buy larger and higher-priced homes depends on the amount of their mortgage loans. Consequently, the number of homes sold and their prices depend on the availability and costs of a mortgage loan. Higher (lower) interest rates lead to lower (higher) levels of borrowing and expenditures.

Interest rates determine the amounts of investments in commercial and industrial real estate properties, as well as their prices, through the channels of rate of return and cap rates. Businesses use funds from investors and lenders to invest in real estate and select investment projects if the rates of return are higher or at least equal to the costs of funds to be invested. Higher (lower) interest rates and costs of funds result in lower (higher) investment levels.

Although households buy and keep their homes as shelter, they may also consider rates of return on their homes as an investment. Interest expenses paid on mortgage loans to buy homes are an important component of the owners' cost, along with taxes, insurance, and maintenance costs. Higher owners' costs reduce the streams of net rents equal to rent (or imputed rent) minus owners' costs. Given that real estate property values are equal to the discounted streams of future net rents, lower net rents lead to lower property prices. Because mortgage interest expenses are deductible from homeowners' incomes and interest expenses are deductible from firms' profits, changes in interest rates have tax effects. For homeowners, the tax benefits depend on principal and interest payments on a mortgage, filing status, income bracket of the owner(s), and state and local tax rates.

Mortgage rates, the most important interest rates in real estate markets affecting sales and prices of real estate, are closely associated with the ten-year Treasury rates (Figure 1). The Federal Reserve open market operations and financial markets determine ten-year treasury rates used to determine mortgage rates.

Businesses and income use capitalization rates, or cap rates, for valuation of individual properties and to compare the profitability of alternative real estate projects. The cap rate is the ratio of net operating income from a property in one year to the property value when operating income and property value are known. Investors compare the cap rate for a property with interest rates on funds to be used to purchase or invest in the property. An investment is warranted if the cap rate is higher than the interest rate. When expected operating income from a real estate property is known but its price is not, cap rates of similar properties are used for valuation and compared with interest rates.

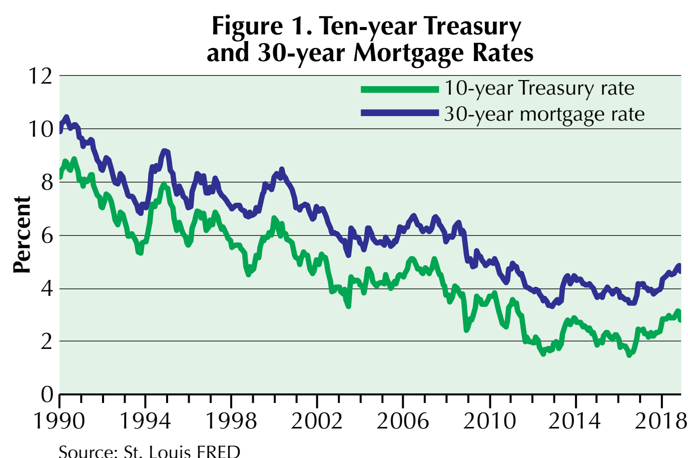
Implications for Texas Real Estate Markets

U.S. monetary policy impacts real estate markets primarily through changes in mortgage rates, regional income, and employment levels. The Real Estate Center's econometric models of Texas real estate markets include these variables to link the demand and supply sides of the state's real estate markets to variables influenced or driven by U.S. monetary policy.

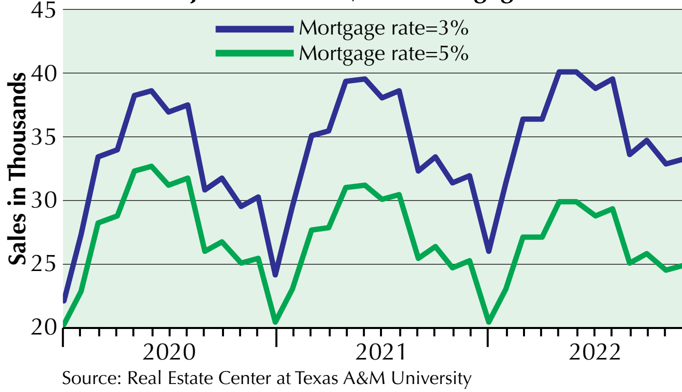
For instance, in the estimated model of the state's housing market, the mortgage rate and unemployment rate impact home sales and home prices. When the Fed implements an expansionary (contractionary) policy by reducing (raising) interest rates to increase (decrease) investment and consumption, lower (higher) mortgage and unemployment rates lead to higher (lower) numbers of homes sold and higher (lower) home prices.

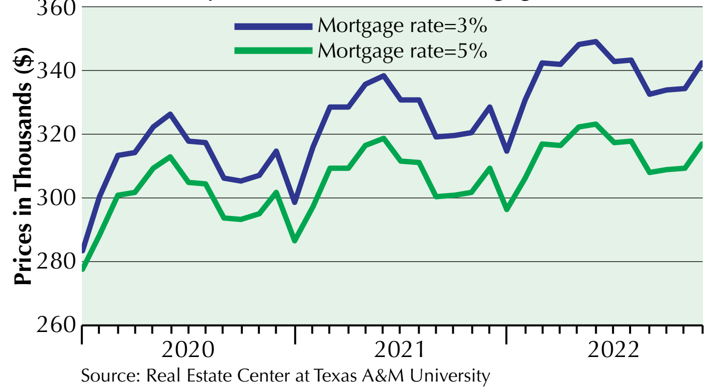
As an example of the Center's housing model projections, Texas home sales, home prices, and listings are

Figure 1. Ten-year Treasury and 30-year Mortgage Rates

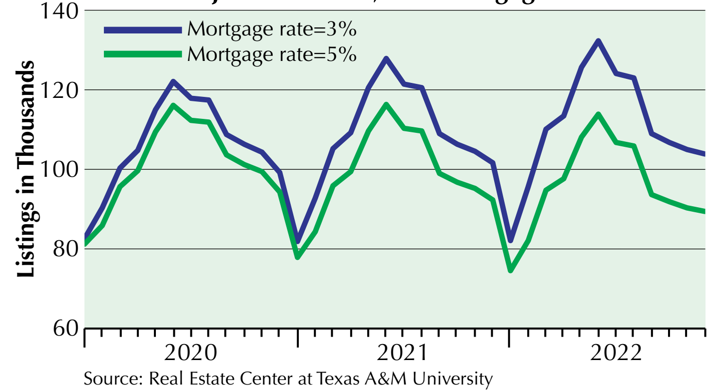


Source: St. Louis FRED





projected to decrease when the fixed 30-year mortgage rate increases from 3 to 5 percent, and the gaps between trajectories for all three widen over longer forecast horizons (Figures 2–4). In the peak month of June 2020, home sales decrease from 38,584 to 32,611, home price falls from $326,000 to $313,000, and listings drop from 122,000 to 116,100 when the mortgage rate increases from 3 to 5 percent.



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Who Sets U.S. Monetary Policy?

Congress created the U.S. central bank, known today as the Federal Reserve System (the Fed), in 1913 to stabilize the country's economic and financial system and to conduct monetary policy to "promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates." Since its establishment, the Fed's role has expanded to include minimizing and containing systemic risk, promoting the safety and soundness of financial institutions, fostering a safe and efficient payment and settlement system, promoting consumer protection, and conducting research in all these areas.

Currently, the Fed has a network of 12 regional Federal Reserve Banks serving 12 regions of the U.S., approximately 3,000 U.S. commercial banks that are members of the Fed, and about 17,000 nonmembers. U.S. national banks must be members. Nonmember banks are state banking institutions that include savings banks, commercial banks, savings and loan associations, and credit unions. These state-chartered banks may join the system by meeting certain requirements. Nonmember banks are subject to Fed regulation and have access to the system's payments network for check clearing and other services.

The Fed controls interest and inflation rates by controlling money supply (i.e., the availability and cost of credit in the economy) using three monetary policy instruments: setting reserve requirements, setting the discount rate, and using open-market operations to attain targets for the federal funds rate, the U.S. monetary policy rate.

Reserve requirements are the amounts of funds that the Fed requires banks and depository institutions to hold in reserve, in their vaults, or at the Fed to ensure their ability to meet their liabilities even in a case of sudden withdrawals. For example, if a customer deposits $1,000 in a bank, and the Fed's reserve requirement for that bank is 10 percent, then the bank must hold 10 percent of $1,000, or $100, in reserve.

Because of the reserve requirement, the U.S. banking system is called a fractional reserve banking system in which only a fraction of deposits are held in actual cash on hand, allowing banks to lend the rest of deposits. By increasing (decreasing) the reserve requirement, the Fed decreases (increases) money supply, leading to increasing (decreasing) credit costs and interest rates. Both member and nonmembers are subject to Fed reserve requirements.

Depository institutions lend fractions of their customers' deposits to borrowers and may not be able to provide cash to their depositors if all or a substantial number of their depositors want to withdraw their deposits. Before the Fed was established, the U.S. banking system was fragile due to frequent bank runs and bank panics when depositors rushed to withdraw funds. In the Great Depression, years after the Fed was founded, many U.S. banks were forced to shut down because too many customers attempted to withdraw their deposits at the same time.

Banks can borrow from each other and from the Fed's discount window to maintain their reserve requirements and manage short-term demand for cash and credit. Banks that borrow from the Fed must provide collateral and are charged an interest rate, called the discount rate. If a bank anticipates a shortfall in its funds, it can borrow from a bank that has excess funds. The interest rate banks charge each other is the federal funds rate.

Open-market operations refer to the buying and selling of government securities (Treasury notes, bonds, bills) from member banks in the open market by the central bank. When the Fed buys government securities from a bank, it increases the bank's funds to lend to other banks, increasing the money supply.

By using reserve requirements, changing the discount rate and the federal funds rate, and engaging in open-market operations, the Fed controls the amount of money supply and interest rates.

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