

## Economic Letter—Insights from the Federal Reserve Bank of Dallas



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### Making Sense of the U.S. Housing Slowdown

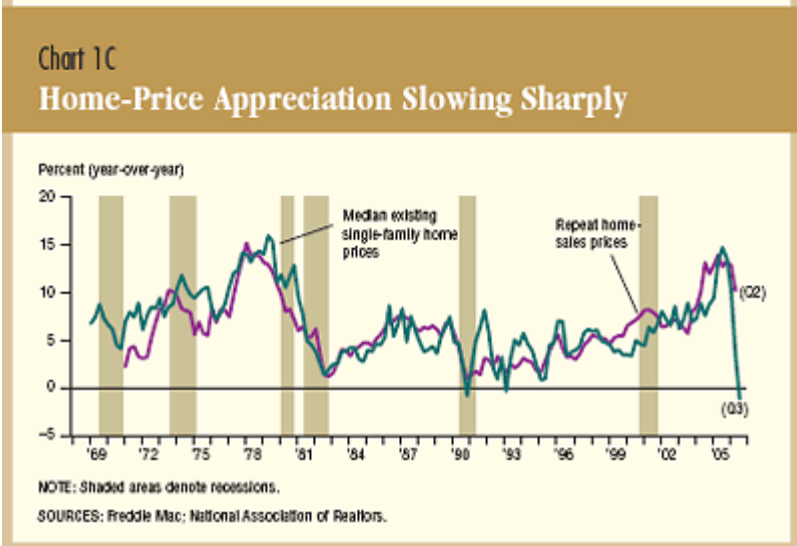
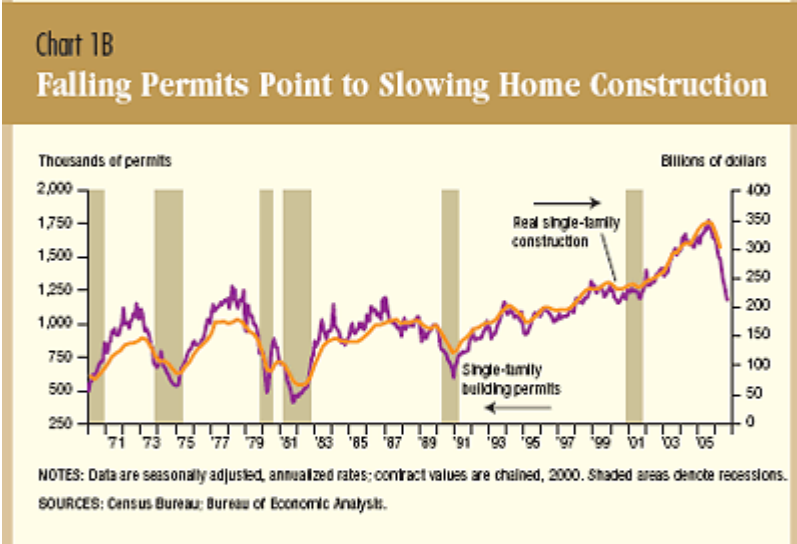
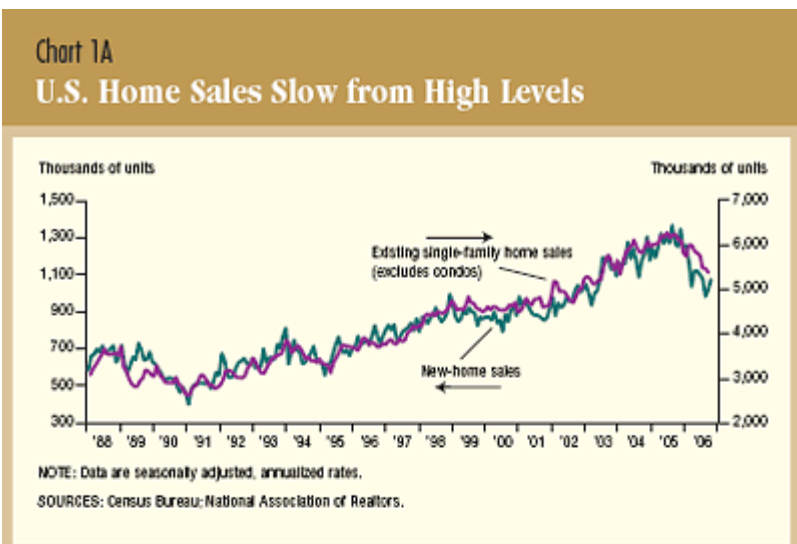
by John V. Duca

A robust housing market buoyed the U.S. economy during the 2001 recession and fueled growth once recovery began. The record-setting building of single-family homes created construction jobs and spurred demand for building materials, appliances and home furnishings. Business was brisk for mortgage lenders and real estate brokers alike.

Perhaps even more significant, rapidly rising housing prices had allowed consumers to tap into their mounting home equity, providing them the financial wherewithal for a buying spree. By mid-2004, however, home prices had risen to the point where many analysts worried that markets were overheated, making homes less affordable, particularly for first-time buyers already facing the drag of rising energy prices.

Today, signs of a housing market slowdown are unmistakable. New and existing home sales have been declining since mid-2005, although they remain high by historical standards (*Chart 1A*). Building activity has begun to cool a bit, while single-family housing permits have fallen 34 percent from their peak, settling back to pre-2002 levels (*Chart 1B*). The building permits data suggest further declines in single-family construction are likely, given the usual six to eight months it takes to complete a home.

Housing prices are rising more slowly—perhaps even beginning to decline outright. In the second quarter, the Office of Federal Housing Enterprise Oversight's measure of home price appreciation registered its biggest year-over-year slowdown since recordkeeping began in 1975. Even so, home-price gains remain solidly positive at 10.1 percent by this measure, which partly controls for changes in home quality by tracking only prices from repeat sales (*Chart 1C*).



More recent data, however, suggest further deceleration in prices. Median existing home prices dipped 1.2 percent in the third quarter from year-earlier levels—the first year-over-year decline since 1993 and the largest drop since the series began in 1969 (see Chart 1C). The decline contrasts with the 14.7 percent increase posted a year earlier. New-home price-appreciation rates have also turned down, posting a year-over-year decline of 2.4 percent in the third quarter, the largest drop since the early 1990s.

For the U.S. economy, slower building activity and softer prices raise the specter of reversing—at least in part—the gains in housing starts posted between 2001 and 2005. A retrenchment in housing demand could affect growth directly by depressing construction and

indirectly as flattening home prices restrain consumer spending.[1]

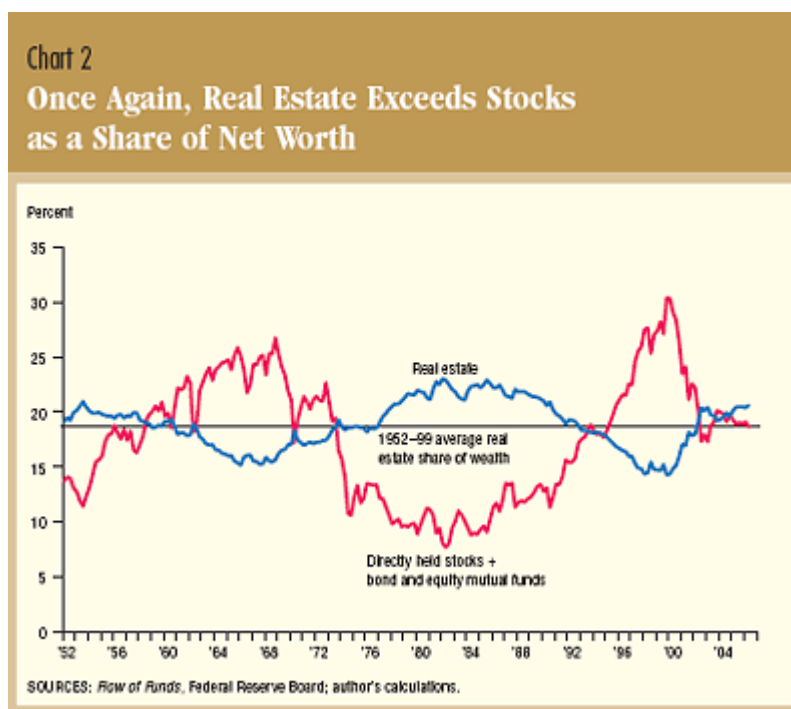
Although homebuilding declines are steep, the direct effect on the economy is likely to be less dramatic because residential construction, including multifamily units, accounts for just 6 percent of GDP. Even so, homebuilding can significantly affect economic growth. Residential construction added about 0.5 percentage point to GDP growth in 2004 and 2005 but subtracted 1.1 percentage points in third quarter 2006. Many forecasters project further, but smaller, negative impacts on GDP growth through most of 2007.

The indirect effects of a housing slowdown could be larger than the direct effects if the deceleration in home prices leads to slower growth in consumption, the largest component of GDP. The risk of a consumption slowdown is one reason policymakers are monitoring housing prices and home-equity withdrawals.

### The Consumption Connection

Housing's link to consumption occurs largely through changes in wealth driven by home prices. In general, higher asset prices encourage spending by increasing the lifetime resources of income and wealth households can consume. Of the types of household wealth subject to large price movements, the most important are stock investments and housing.

The Federal Reserve's flow of funds data provide a useful prism through which to view recent years' trends in wealth. At the turn of this century, the value of stocks eclipsed housing. From 2000 to 2005, U.S. households' real estate assets grew by \$9.1 trillion, while a decline in equity prices reduced their stock wealth by \$2.5 trillion. Today the two categories make up roughly the same percentage of households' net wealth (*Chart 2*). Studies show that historically a \$100 rise in housing wealth leads to about a \$6 rise in long-run consumption, one and one-half times the \$4 gain that would result from the same increase in stock wealth.[2]



Why is housing's wealth effect stronger than the stock market's? The answer depends on how long-lasting asset-price changes are viewed, the distribution of particular forms of wealth and the liquidity of an asset—the ease and cost at which households can sell or borrow against its value.

First, home prices are less volatile than stock values, so consumers are more likely to consider gains in housing wealth as more permanent.

Second, there are large differences in the distribution of these asset holdings. Stock ownership is very concentrated among high-income households, whose consumption is less sensitive than moderate-income families' to changes in wealth.[3] Homeownership, meanwhile, is spread more evenly. Although stock ownership has doubled since the early 1970s to roughly 50 percent of households today, homeownership rates are still higher, at 68 percent. While many households own stock, the amounts are small relative to housing wealth for most homeowners. Even before the collapse of technology stocks in 2000 and the recent runup of housing prices, only 5 percent of households had a higher share of net wealth in stocks than in housing.[4]

Third, whereas the volatility and distributional differences between stock and housing wealth imply a larger effect of housing wealth on consumption, the differences in liquidity enhance the relative effect of stock wealth. Foremost is the smaller transaction cost of selling stocks compared with selling a home. This helps account for the nearly 100 percent turnover of New York Stock Exchange listings in a typical year, while the annual turnover of homes in stable neighborhoods is usually 3 to 5 percent. In addition, the low transactions

costs of stocks have made them readily available to borrow against, whether from a brokerage account or, more commonly, a retirement plan.

Nevertheless, some facets of housing enhance its relative accessibility. When tapping financial wealth, consumers face capital gains taxes and early withdrawal penalties from retirement accounts. Housing wealth, by contrast, receives more favorable tax treatment. Furthermore, several developments have enhanced housing's liquidity and thereby boosted the impact on consumption of housing wealth relative to that of stock wealth.

These developments are likely related to the low U.S. personal saving rate of recent years. It turned negative in early 2006, when households' spending exceeded disposable income. Conventional estimates of the wealth effect cannot fully account for why Americans are consuming more and saving less. Increased liquidity of home equity may provide an answer.

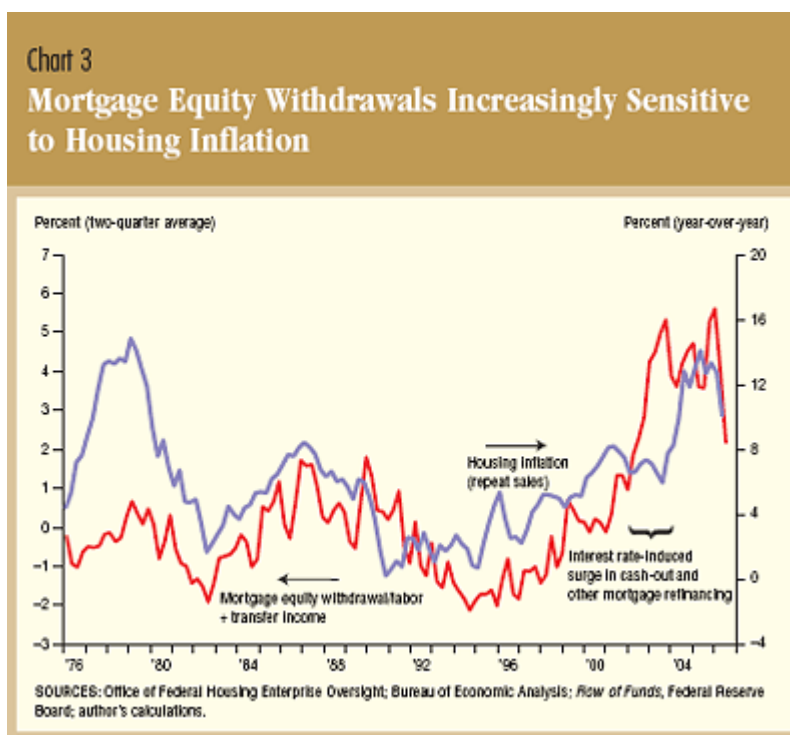
### Fueling Consumption

We can think of the overall impact of home prices on consumption as the combination of two parts—the traditional wealth effect and the relatively new and growing phenomenon of mortgage equity withdrawal (MEW). In recent years, U.S. households have been extracting housing wealth through home-equity loans, cash-out mortgage refinancings or by not fully rolling over capital gains from sales into down payments on subsequent home purchases. Because home-equity loans and mortgages are collateralized, they usually carry lower interest rates than unsecured loans; thus, homeowners can borrow more cheaply. Also, by making housing wealth more accessible, financial innovations have opened new avenues for families to act more quickly on their consumption preferences.<sup>[5]</sup>

Consistent with a growing liquidity, or MEW effect, some new studies have found wealth effects are now greater than earlier research suggested. One estimates that a \$100 rise in housing wealth leads to a \$9 increase in spending. Another finds that increases in housing wealth generate three times the spending from stock-price gains.<sup>[6]</sup> Neither study, however, directly examines whether housing wealth has a greater impact on consumption today because of the greater ease of accessing home equity.

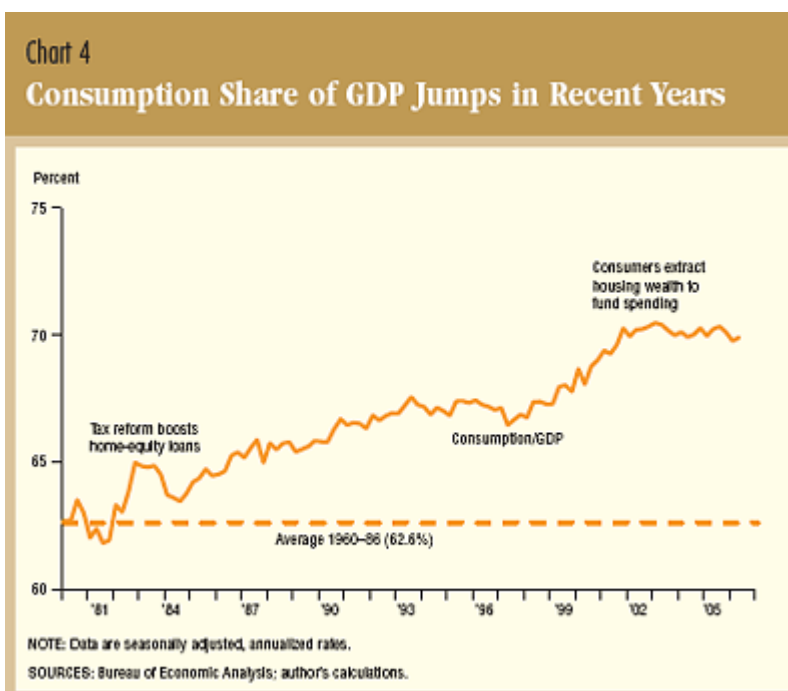
Together, higher home values and financial innovations have enabled homeowners to more easily tap housing wealth. Mortgage equity withdrawals have risen sharply recently relative to income, whether measured using the comprehensive approach of Greenspan and Kennedy,<sup>[7]</sup> whose data extend back to 1990, or a cruder definition based on the flow of funds accounts. The two series tend to move together, but the latter approach, which tracks the difference between increases in mortgage debt and households' home investments, covers a longer period.

By this measure, MEW as a share of labor and transfer income has become more sensitive to swings in home-price appreciation, aided by the lower cost and greater ease of cashout mortgage refinancings. In 2005, MEW jumped to a record 5 percent of income, but it slowed sharply in the second quarter, when home-price appreciation decelerated (*Chart 3*).



As homeowners took money out of their homes, consumption rose as a share of GDP (*Chart 4*). Conventional theories of wealth and consumption, which tend to ignore credit and liquidity constraints, treat home-equity withdrawals merely as manifestations of a modest wealth effect. They cannot account for the unusually high consumption levels of the first half of this decade. This high consumption may not be sustainable if homeowners' wealth declines or increases less rapidly. Even if home-price appreciation slows to the low

single digits, MEW is likely to fall sharply, perhaps by as much as 5 percentage points of income.



The limited U.S. econometric evidence indicates that the strong pace of MEW may have boosted annual consumption growth by 1 to 3 percentage points in the first half of the present decade.<sup>[8]</sup> This implies that a slowing of home-price appreciation into the low single digits might shave 1 to 2 percentage points off consumption growth and 0.75 to 1.5 percentage points from GDP growth for a few years.

While these estimates provide an idea of housing's potential economic impact, considerable uncertainty exists about how much a slowdown in MEW might restrain consumption growth. Key issues include how much home-price appreciation might slow, how much the deceleration would affect MEW and how much a slowdown in MEW would restrain consumer spending.

**Housing Price Uncertainties.** Although the recent slowdown in home prices has been dramatic, it's still unclear how much housing-price appreciation will decelerate from the fast pace of 2004–05. Analysts disagree about the extent to which U.S. home prices have been overvalued. A recent study by Moody's Economy.com maintains that more than 100 of the nation's 379 metropolitan areas, representing nearly half the value of U.S. housing stock, have a significant probability of seeing price declines by the fall of 2007. On the other hand, a Brookings Institution paper argues that there wasn't a bubble in U.S. home prices in 2005.<sup>[9]</sup>

In part, the disparate conclusions may reflect changes in supply and demand.<sup>[10]</sup> Traditional yardsticks may overstate any degree of overvaluation if land supply conditions have become more restrictive over time, especially in coastal areas, and if financial innovations have permanently boosted housing demand.<sup>[11]</sup> And differences persist over which price measures to use, as well as whether home prices should be judged, along with the user cost of housing, relative to households' incomes or costs of renting.<sup>[12]</sup>

Several other factors may influence home prices. The apparent greater role of speculation over the past few years, for example, may increase the likelihood of price declines. Owner-occupiers directly benefit from living in a home; they also incur moving costs that speculators don't. As a result, owner-occupiers are probably more resistant to selling at a lower price than outside investors, who have a greater incentive to sell quickly when prospects for gains diminish.

Finally, mortgage rates remain low. The impact of monetary policy on housing demand appears to have loosened in recent years, with increases in the federal funds rate not acting as quickly or forcefully on mortgage costs ([see box](#), "Interest Rates, Mortgages and the Housing Market").

**Mortgage Equity Withdrawal Uncertainties.** The link between MEW and home prices is uncertain because it has changed much. The connection strengthened after home-equity loans received favorable tax treatment in 1986. More recently, tapping home equity has been made easier by newer mortgage products, such as cash-out financing, and declining transaction costs.

The motive for cash-out refinancing can arise from a desire to shift wealth out of housing, but it also may reflect the desire to lower interest payments. As a result, mortgage equity withdrawals have become more sensitive to interest rate declines. The 2003 MEW surge, for example, was linked less to a run-up in home prices and more to 30-year fixed rates falling to the lowest levels in decades (*see Chart 3*).

**Consumption Uncertainties.** The connection between MEW and consumption is more a medium-term than a short-run phenomenon, and it probably has evolved.<sup>[13]</sup> One reason is that the factors affecting MEW also indirectly impact consumption. They may cause households to alter how much of MEW they devote to consumer spending, debt reduction, home improvements or other investments.

Given these uncertainties, predicting how much a slowing housing market will affect consumption is difficult. This warrants monitoring of home prices, MEW and underlying consumption trends. We also might learn from the experience of other countries, especially the United Kingdom.

### Lessons from Great Britain

Mortgage equity withdrawals have been large in several other countries, primarily those with well-developed mortgage markets, high homeownership rates and solid property rights. These include the U.K., which saw a large swing in MEW activity in the early 1990s, as well as Australia and New Zealand, where MEW activity has been linked to consumer spending.<sup>[14]</sup>

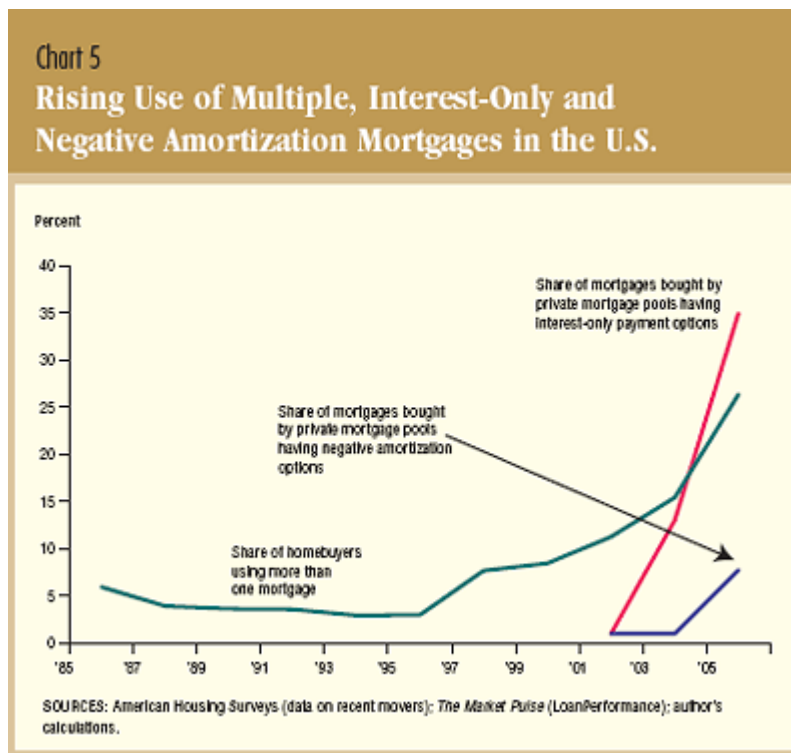
Long-run studies of the U.K. show that MEW boosted consumption growth during the home-price upswing of the late 1980s, but spending fell back when MEW declined along with home prices in the early 1990s.<sup>[15]</sup> The U.K.'s estimated housing wealth coefficient is notably larger than that in the U.S. prior to 2000. Nevertheless, recent Bank of England research stresses that the links between home prices and consumer spending aren't automatic. Rather, they arise from financial innovation and the optimizing behavior of households that extract home equity for several possible uses, not just consumption.<sup>[16]</sup>

The U.K. research also notes that the connection between consumption and housing wealth, which reflects the combination of traditional wealth and MEW effects, became weaker as home prices soared this decade. The recent upswing in U.K. interest rates was much smaller than the one in the 1980s, leading to less marked slowing of home-price appreciation. Nevertheless, a wealth effect helped slow consumption growth in 2005.

One plausible explanation for the less powerful home-price effects today is that U.K. households were chastened by earlier experience and earmarked less MEW for consumption than in the 1980s. Although home prices and home-equity extraction jumped sharply in the late 1980s, both fell after short-term interest rates rose. Because most U.K. mortgages carry adjustable rates, the 7.5 percentage point upswing in short-term rates between May 1988 and October 1989 made housing unaffordable not only for new buyers but also for many existing homeowners, a half million of whom lost their dwellings.<sup>[17]</sup>

Several factors may limit the relevance of recent British experience to the U.S. First, the two nations' housing-price histories differ. Unlike the U.K. in the early 1990s, the U.S. hasn't experienced a notable nationwide drop in home prices since perhaps the late 1960s.<sup>[18]</sup> This difference suggests that Americans might adjust their spending in reaction to home price movements more than British households.

Second, the Bank of England didn't tighten as much as the Federal Reserve did in the early years of this decade. The Fed pushed up its policy rate 4.25 percentage points, considerably more than the Bank of England's 1.25 percentage points. As a result, interest rates on adjustable-rate mortgages rose more in the U.S. than in the U.K. Third, use of adjustable-rate mortgages is roughly twice as high in the U.K., making British housing demand more sensitive to short-term interest rates. U.S. homebuyers, however, have increasingly used mortgages with negative amortization, multiple mortgages on the same property and interest- only mortgages (*Chart 5*).



Higher home prices have been correlated with mortgage innovations that boost housing demand by increasing loan availability.<sup>[19]</sup> Similar mortgage liberalization hasn't occurred as much recently in the U.K. as in the U.S. If a sustained easing of U.S. mortgage practices has taken place, long-run U.S. housing demand probably has risen. On the other hand, if new mortgage practices lead to greater-than-expected loan-quality problems, there could be a pullback in mortgage availability and, thereby, in U.S. housing demand.

Fourth, home-supply conditions are more flexible in the U.S., where cost-of-living differences could induce migration from high-cost coastal metros to less expensive areas. This suggests high home prices may not be as sustainable in the U.S. as in the U.K., where tighter supplies of building lots and fewer opportunities to migrate within the country limit downward pressures on home prices.

Finally, a financial market boom in London has helped support British home prices in recent years.<sup>[20]</sup>

Because these factors have opposing relative effects, it's hard to tell whether housing demand has downshifted more strongly in the U.S. than in the U.K. The housing market uncertainties also make it more difficult to gauge the effects on consumption.

#### A Need for Close Monitoring

The homebuilding retrenchment probably will continue to restrain U.S. economic growth in the near term, while slower home-price appreciation or outright price declines will likely mean less stimulus to consumer spending. It remains to be seen, however, how much housing prices will affect consumer spending beyond the impact of the traditional housing wealth effects.

Two factors make the relationship between housing prices and consumption difficult to predict. First, traditional yardsticks may overstate the extent to which home prices are overvalued because of tighter land supplies than in the past. At the same time, demand for housing may have shifted upward due to easier mortgage availability, increased desire to live in coastal areas and "star" cities, and increased liquidity of housing wealth. In addition, house-price dynamics may have changed because of abnormally high investor activity in recent years.

Second, forecasting the impact of slower mortgage equity withdrawal on consumer spending is difficult, especially because the U.S. experience is so short. The U.K. offers a longer perspective, but its relevance may be limited because of British households' prior experience with a major housing bust. In addition, the recent rise of U.K. home prices appears to have been accompanied by a smaller shift to risky mortgage practices than in the U.S.

As these uncertainties play out, analysts and policymakers will need to monitor the impact of slower home-price appreciation on U.S. consumption. It's important to remember that recent declines in housing activity have been from high and unsustainable levels to more normal ones, marking the unwinding of some earlier speculation. A beneficial side effect may be that income could catch up with prices, making homes more affordable.

From a longer-term view, the slowing of homebuilding and consumption frees up resources for business investment crucial to the productivity growth that fuels long-term gains in living standards. Finally, the impact of housing should be viewed alongside developments in other economic sectors to accurately assess inflationary pressures and aggregate demand over the short and

medium runs.

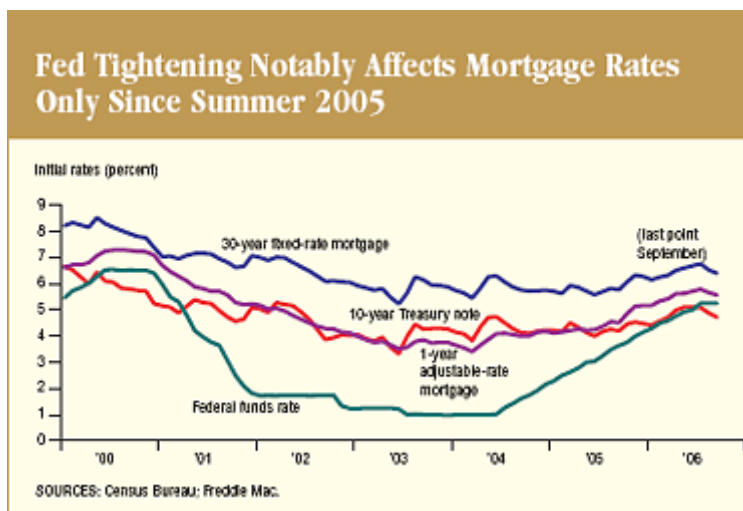
### Interest Rates, Mortgages and the Housing Market

Favorable trends in long-term interest rates were a key factor in the housing market's strength up until the summer of 2005. In the most recent interest rate cycle, federal funds rate increases didn't push up market rates for mortgages and other long-term debt as much as in past cycles—a phenomenon former Federal Reserve Board Chairman Alan Greenspan described as a “bond market conundrum” in 2005.

Although it's difficult to pinpoint the reasons for this new behavior, economists have offered two plausible, but not mutually exclusive, explanations—one largely domestic, one largely global. [1] On the domestic side, a long period of relative price stability has led investors to see the Federal Reserve as more committed than in the past to keeping inflation low over the long run. As a result, markets no longer view federal funds rate increases as signs that inflation will be rising, and such increases don't push up longer-term bond rates as much.

Globalization has meant that long-term U.S. interest rates are increasingly affected by the supply and demand for debt in major economies, as well as by the success of foreign central banks in keeping longer-term inflation expectations in check. In a world of more open financial markets, foreign demand for U.S. bonds helps keep long-term interest rates from rising as much as they did in the past.

The changing interest rate patterns have important implications for housing. Although the Fed began raising the federal funds rate in June 2004, mortgage rates didn't begin to increase noticeably until the summer of 2005 (*see chart*). As a result, the housing market didn't cool in 2004. Instead, building activity and price gains continued for more than a year before they began slowing in the fall of 2005. Freddie Mac data show price appreciation running at a 10 percent rate in the second quarter of 2004. The additional year of persistently low mortgage rates helped propel appreciation to its cyclical peak of 13.9 percent in the second quarter of 2005.



1. “Globalization’s Effect on Interest Rates and the Yield Curve,” by Tao Wu, Federal Reserve Bank of Dallas *Economic Letter*, vol. 1, September 2006.

### About the Author

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### Notes

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3. “On the Concavity of the Consumption Function,” by Christopher D. Carroll and Miles S. Kimball, *Econometrica*, vol. 64, July 1996, pp. 981–92.



4. "Stocks in the Household Portfolio: A Look Back at the 1990s," by Joseph S. Tracy and Henry Schneider, Federal Reserve Bank of New York *Current Issues in Economics and Finance*, vol. 7, April 2001.
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6. "How Large Is the Housing Wealth Effect? A New Approach," by Christopher D. Carroll, Misuzu Otsuka and Jirka Slacalek, October 2006, <http://econ.jhu.edu/people/ccarroll/papers/COSWealthEffects.pdf>; and "Housing Wealth, Financial Wealth, and Consumption: New Evidence from Microdata," by Raphael Bostic, Stuart Gabriel and Gary Painter, manuscript, Lusk Center for Real Estate, December 2005.
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9. "Bubble, Bubble, Where's the Housing Bubble?" by Margaret Hwang Smith and Gary Smith, in *Brookings Papers on Economic Activity* 1:2006, William C. Brainard and George L. Perry, eds., Brookings Institution Press, pp. 1–50.
10. Some argue that prices are greatly overvalued, including Ed Leamer, "Bubble Trouble: Your Home Has a P/E Ratio Too," *UCLA Anderson Forecast*, June 2002. Others argue that the user cost of housing is lower because households can rationally expect strong home-price appreciation over the long run; see "Assessing High House Prices: Bubbles, Fundamentals, and Misperceptions," by Charles Himmelberg, Christopher Mayer and Todd Sinai, *Journal of Economic Perspectives*, vol. 19, Winter 2005, pp. 67–92.
11. "[Making Sense of Elevated Housing Prices.](#)" by John V. Duca, Federal Reserve Bank of Dallas *Southwest Economy*, September/October 2005. See also "Why Have Housing Prices Gone Up?" by Edward L. Glaeser, Joseph Gyourko and Raven E. Saks, Harvard Institute of Economic Research, Discussion Paper no. 2061, February 2005. Other factors, such as density and immigration, may also affect regional pricing patterns.
12. Because of some upward biases in the repeat sales index, Jonathan McCarthy and Richard W. Peach use an index of constant-quality, newhome prices ("Are Home Prices the Next 'Bubble'?" Federal Reserve Bank of New York *Economic Policy Review*, vol. 10, December 2004, pp. 1–17). Others prefer using prices from repeat home sales, such as Joshua Gallin ("The Long-Run Relationship Between House Prices and Rents," Finance and Economics Discussion Series Working Paper no. 2004-50, Federal Reserve Board, September 2004). Himmelberg et al. (2005) use income over rents, while others prefer the opposite, such as Leamer (2002) and Morris A. Davis and Jonathan Heathcote ("The Price and Quantity of Residential Land in the United States," Finance and Economics Discussion Series Working Paper no. 2004-37, Federal Reserve Board, June 2004).
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14. "Survey on Housing Equity Withdrawal and Injection," *Reserve Bank Bulletin*, Reserve Bank of Australia, October 2005, pp. 1–12, and "Household Savings and Wealth in New Zealand," by Alan Bollard, Bernard Hodgetts, Phil Briggs and Mark Smith, background paper, Reserve Bank of New Zealand, Sept. 27, 2006, [www.rbnz.govt.nz/speeches/2823190.pdf](http://www.rbnz.govt.nz/speeches/2823190.pdf).
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