

Recent Developments in Housing Markets: A National and Local Perspective

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Housing is an important sector of the economy, in terms of share of GDP, size of the capital stock and as a key area of national policy. My purpose this morning is to review some important housing facts and to provide a longer-run perspective to aid in interpreting the facts.

Before proceeding, I want to emphasize that the views I express here are mine and do not necessarily reflect official positions of the Federal Reserve System. I thank my colleagues at the Federal Reserve Bank of St. Louis for their comments. Anthony Pennington-Cross, senior economist, and Kevin Kliesen, associate economist, provided special assistance. I retain full responsibility for errors.

HOUSING FUNDAMENTALS: A NATIONAL PERSPECTIVE

Mention the word “housing” and several notions probably come to mind. The issue most often raised in recent years is whether there is a housing price bubble. Other issues include affordability, development and financing—particularly with respect to low-income households or those individuals just entering the labor force and starting a career and/or a family.

While national housing policy involves a set of critical issues, today I’ll approach the topic of housing from a different perspective—housing’s recent contribution to the national and local economies and likely prospects for this year. I’ll concentrate on single-family housing, by which I’ll mean detached housing. Such housing is by

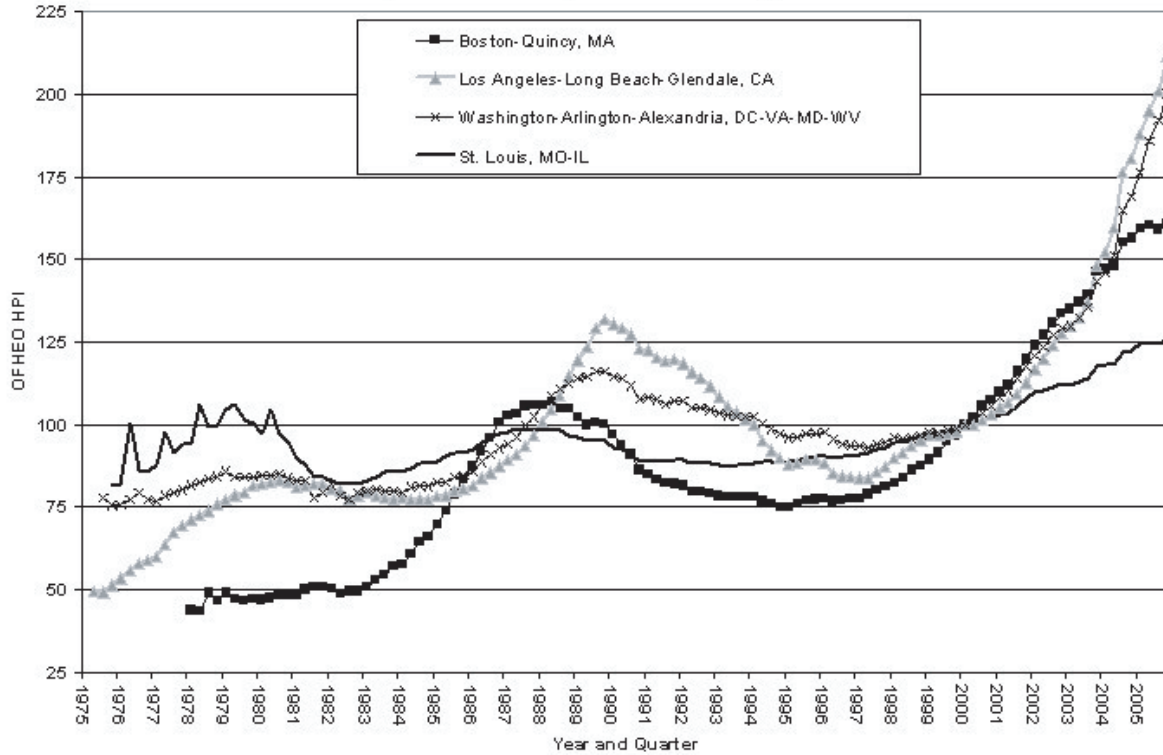
far the largest component of the nation’s housing stock. In 2005, privately-owned, single-family housing units completed totaled nearly 85 percent of all privately-owned housing completions. Most of the remaining 15 percent was comprised of multi-unit structures containing five or more units. However, I’ll make a few comments about housing as a whole, in part because some important data are reported for all housing and in part because of the substitutability between single-family houses and condominiums, apartments and town houses.

A house is a tangible economic asset that provides a flow of services. Think of this service as a shelter from the elements. In my own case, the shelter is for me, my wife, our dog and lots of stuff connected with our lifestyle. The stuff is in the basement and garage, which constitute a significant share of the total enclosed space.

Because houses are assets traded in a market, the quantity of houses built and sold, and the prices at which they are valued, are determined by the fundamentals of supply and demand. There are two distinct, but closely related, markets each with their own supply and demand functions. One market is for the housing stock—existing houses. The second is for housing production—new houses.

Various asset markets in the economy are similar in many respects, but also have unique features depending on characteristics of the assets. Houses have long lives—usually thought of as about 50 years on average—whereas automobiles have much shorter useful lives. Houses, unlike aircraft, are immobile. Houses, unlike blocks of common stock, are indivisible, except for some

Figure 1
Metropolitan Area Comparisons—Real Appreciation



NOTE: Data for charts are from OFHEO. The real house price index is the nominal HPI deflated by the CPI less shelter. 2001-Q1 is normalized to 100.

limited possibility of division into apartments. Location is extremely important to the value of houses, whereas location matters little for agricultural land of given productivity.

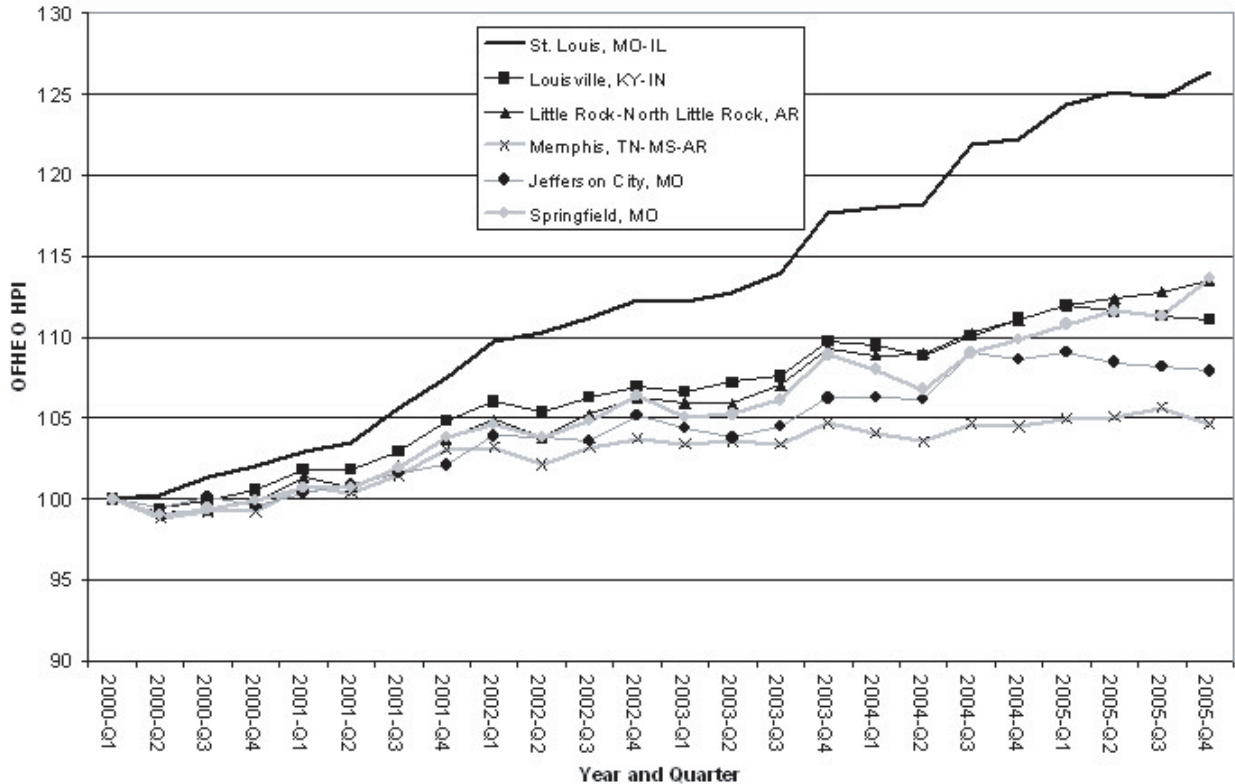
The enormous importance of local conditions is nicely illustrated by recent experience. Data from the Office of Federal Enterprise Housing Oversight—OFHEO—indicate that house prices rose by 12.95 percent in the United States as a whole over the four quarters ending the fourth quarter of last year. Arizona, however, had a price gain over the same period of 34.90 percent while Michigan had a gain of only 3.76 percent. Over the past five years, the District of Columbia led the list with a gain of 127 percent, whereas Indiana’s gain was 20 percent. Disparities are

much greater when we examine data by metropolitan statistical area. Over the past four quarters, Phoenix leads the list with a price gain of 39.67 percent; the bottom of the list is occupied by Burlington, North Carolina, at –1.16 percent.

By way of comparison, Missouri over the past four quarters and past five years came in at 7.06 percent and 34.77 percent, respectively, whereas the United States as a whole came in at 12.95 and 57.68 percent, respectively. The St. Louis metropolitan area came in at 7.98 percent and 39.58 percent, respectively, for the past four quarters and past five years.

Economists point to several factors that affect the demand for and the supply of housing services. From the demand side, these include

Figure 2
Eighth District—Real Appreciation



the interest rate used to amortize the debt, employment of the owner and the family’s after-tax income, property taxes, and net wealth. Viewed from the supply side—the builder’s point of view—things like location, construction costs, availability of developable land, its topography and land-use regulations all come into play. As is true in all asset markets to a greater or lesser extent, expectations of future prices can affect both supply and demand. Of these demand and supply factors, only the interest rate is truly common across the country as a whole.

An important feature of housing markets is that the stock of houses is very large relative to the annual flow of new building net of houses demolished or destroyed. In the United States, there are roughly 75 million single-family houses

and a total of about 124 million housing units of all types, including mobile homes. Data are somewhat sketchy, but we know that a significant number of housing units are demolished or destroyed each year. In recent years, total housing production has been running about 2 million units per year but the net addition to the stock is about 1¼ million units per year. This net annual flow of about 1¼ million units per year is very small relative to the total stock of about 124 million units. Factors that determine the price of existing houses are, therefore, central to understanding the price of new houses and the pace of new construction.

A morass of national statistics is available; I’ve put together a table (at end of text) summarizing the recent behavior of several key indicators

ECONOMIC FLUCTUATIONS

of the U.S. single-family housing sector. On a national scale, fundamentals of housing demand are more easily measured than those affecting supply, so let's look at some of these. They are listed under the table's third section, "Financial & Other."

The conventional mortgage interest rate rose modestly last year, but it still remains quite low compared with the 1990s, when it averaged 8 percent. Since housing is a real asset, what matters is the real interest rate. The real rate is often measured as the market rate less the rate of inflation. Although I did not list the real rate in the table, you can readily see that in 2005 it averaged about 3.25 percent—derived by subtracting the last year's 3 percent inflation rate from last year's average mortgage interest rate of 6.2 percent. Similar to the nominal rate, real interest rates over the last two years have been quite low compared with the 1990s—and even stretching into 2001. Low rates have been a key factor behind the recent strength in housing construction at the national level.

Another, essentially equivalent, way of looking at the effects of low interest rates is to focus on capital values. The price of an asset rises when the interest rate, or capitalization rate, falls. Most are familiar with this fact for a bond—a fixed stream of interest payments commands a higher price when interest rates fall. Low interest rates have had much to do with rising house values; the higher values have made new construction profitable, and builders have responded by increasing the rate of building.

But other influences besides interest rates affect housing demand. One useful composite measure is the housing affordability index constructed by the National Association of Realtors. The index is based on key factors including house prices, interest rates and income. Last year, the modest rise in interest rates and slower growth of real household after-tax income were key contributors to a significant decline in the index. Nevertheless, the housing sector continued to steam ahead. In 2005, nominal residential fixed investment as a share of nominal GDP rose to a little more than 6 percent, its highest share in 50

years. The growth of residential fixed investment contributed 0.4 percentage points of the economy's 3.5 percent growth in real GDP. Remarkably, 2005 was the 10th consecutive year that residential housing expenditures have contributed positively to overall growth.

U.S. HOUSING FACTS AND FIGURES

Last year was another banner year for the U.S. housing sector, with single-family starts and completions reaching a record-high number for the fifth straight year. The table shows that in 2005, single-family housing starts rose 7 percent. This gain was modestly more than the previous year's gain of about 6.5 percent. Housing completions, which measure the gross addition to the nation's housing stock, rose about 6.75 percent. The pace of construction of new, single-family homes has been pretty rapid since 2002: Starts increased by an average of nearly 8 percent per year, while completions increased by about 7 percent. As seen in the table, the percentage increases in both starts and completions are significantly larger than their average annual rates of increases seen during the 1990s.

The surge in starts and completions reflects, to a large extent, a marked increase in the demand for new and previously sold single-family homes. Although the growth of new and existing home sales slowed in 2005, both growth rates remained positive and the level of sales—as with housing starts and completions—rose to record high levels last year.

Eventually, growth of housing as a percentage of GDP will end—otherwise, GDP will be comprised solely of housing. Increases in the inventory of new, unsold homes over the last couple of years, as shown in the table, suggest that the slowing may already be underway. In 2005, new single-family homes for sale rose 21 percent to 521,000 units, besting the previous year's 14 percent jump. The simple economics of supply and demand suggests that to reduce inventory—or at a minimum to reduce growth in inventory—the

housing industry may need to either curtail building activity or to cut prices.

Historically, average market prices of houses rarely decline on a year-to-year basis. Since 1964, the Census Bureau's median sales price of new, single-family home prices has declined only twice—in 1970 and 1991. Even in real terms, declines in new, single-family homes are relatively rare: Since 1964, the real median price of new, single-family homes has declined in only five years, and not once since 1992.¹ The same pattern generally holds for previously sold house prices.

Last year, average U.S. home prices rose again but, as the table indicates, by widely varying rates depending on what measure is used. Earlier, I emphasized that house price increases vary enormously across different metropolitan areas, and now I'll emphasize the variability depending on what measure is examined. Prices of new homes, as seen by two Census Bureau measures—the median sales price, and a quality-adjusted price, which calculates the price of a home of similar quality across time—rose by less than 5 percent. Prices of previously sold homes rose much faster. Two of the most popular measures of previously sold home prices are those reported by the OFHEO, the regulator of Fannie Mae and Freddie Mac, and the National Association of Realtors. Last year's relatively small increase in the prices of new homes may reflect last year's surge in unsold homes. The various indexes have their advantages and disadvantages, depending on coverage and method of construction.

Rapid increases in house prices over the past few years have elicited much commentary, pro and con, about a price bubble. In a market economy, prices adjust to supply and demand conditions. Given that houses are assets with a long life, demand and supply depend importantly on expectations about the future—expectations

about price appreciation, building costs and regulations, household income, interest rates and so forth. At various times throughout history, as the 1990s telecom boom recently demonstrated, expectations of future prices can become detached from their fundamentals. In practice, there is no perfect definition of a price bubble; so, identifying a bubble in real-time is inherently a judgmental exercise. Indeed, given that bubbles always burst—if there is no burst, then there was no bubble—clear advance evidence of a bubble can never exist. If the evidence were clear, then everyone would know about the bubble and forthcoming burst, but then the buying that created the bubble would not occur in the first place. So, if you have an academic interest in house prices, I recommend that you wait a few years. If you have a direct financial interest, I can't help much—you're on your own!

Housing experts employ several approaches to attempt to determine the reasonableness of house prices. One links the house price to a measure of household income or the price that consumers would have to pay to rent the house.² One measure of the latter is the owners' equivalent rent component of the consumer price index. Since 2001, the OFHEO and National Association of Realtors measures of house prices have risen 55 and 49 percent, respectively, while rents have only risen 16 percent. These observations indicate that the price-to-rent ratio has risen noticeably and might be read as suggesting that house prices are excessive.

However, a recent study by the Organisation for Economic Co-operation and Development suggests that U.S. house prices are not particularly unreasonable based on housing fundamentals.³ Economists at the New York Fed, using a similar analysis, have come to the same conclusion. Researchers at the St. Louis Fed also reached a similar conclusion based on an analysis that used a price-to-income measure.⁴ The conven-

¹ The real price is the nominal (current-dollar) price deflated by the chain-price index for personal consumption expenditures.

² Kreiner and Wei (2004).

³ Girouard et al. (2006).

⁴ See McCarthy and Peach (2004) and Guidolin and La Jeunesse (2005).

ECONOMIC FLUCTUATIONS

tional view, which I subscribe to, is that a housing price bubble does not exist on a national average basis, but there may be pockets of the country where prices have risen beyond levels that can be justified by economic fundamentals.

Let me also emphasize that outside price increases are not themselves a clear guide to overpricing. An economically stagnant area, where prices have changed little, may still have prices that are too high given declining income and economic activity in the region.

From a longer-term perspective, there is some concern that recent declines in the share of households in the prime home-buying age cohorts could eventually weaken house prices. As seen in the bottom section of the table, relative to the total population of households the shares of households in the 25-to-29 and 30-to-34 age cohorts have been declining in recent years and are significantly below their 1990-to-1999 average. The implications of the decline for the near-term outlook are probably not too significant. At some point, declining shares of households in the age groups that commonly fit the first-time house buyer profile might become more important.

HOUSING FUNDAMENTALS FROM A LOCAL PERSPECTIVE

Because houses are not transportable, and because commuting distances are necessarily limited, housing markets are segmented. Particular markets routinely experience quite different rates of price change and new construction because local economic conditions can vary tremendously and because features of the local economy, such as building regulations, can differ substantially. Sometimes particular areas experience consistently strong or weak performance over many years; sometimes area performance is subject to sharp reversals. Looking over the map, experience varies all over the map!

In terms of the demand for housing, it is natural to conclude that households with higher incomes will want bigger and better housing, all other things being equal. Empirical results sup-

port this view. However, in economists' technical lingo, housing is an "inferior good," which simply means that as a household's income increases it will consume more housing but the increase will be smaller than the increase in income. Food, for example, is a much more extreme example of an inferior good. The share of income devoted to food falls rapidly as income rises.

From a local perspective, then, we can expect that locations where incomes are rising will experience an increasing demand for housing, but not at a dollar for dollar rate. As with so many aspects of the economics of housing, however, the situation can be complicated and uncertain. Of the metropolitan-area price increases last year, 10 of the top 20 were in Florida. The increases may far outrun increases in local income because they are driven importantly by buyers from other areas investing in vacation properties or future retirement homes, for example. In some resort communities, people note that full-time residents working in resort facilities cannot afford to live in their own towns. Thus, analysis relating house prices to local income can go far astray, because in some cases the relevant income concept covers the class of high-income families for the entire country, or even the hemisphere. Thus, it is difficult to find accurate measures of economically justified house prices.

Another economic aspect crucial to examining local housing conditions is the central tenet that people and capital will, all else equal, move to locations where the standards of living are higher. If a household sees that it can expect to earn a higher after-tax real income in San Jose than it can in St. Louis, the family will pack up and head west. But of course, all else is not equal, so the household will also consider other factors, such as commuting time or population density. Nevertheless, we tend to observe that places with increasing income also experience increases in employment and population. Naturally, higher income and economic growth in San Jose than in St. Louis increases the demand for housing in San Jose relative to the demand in St. Louis.

But does higher income and greater population always imply higher house prices? Not

automatically. The outcome depends on how price-sensitive builders and developers are and how much land is available. For example, consider a metropolitan area that is growing rapidly. Developers and builders anticipate future growth, which leads to many new profitable developments and redevelopments. But developers need to be paid for the cost of construction plus the cost of buying the land. In locations where undeveloped land is scarce, perhaps because of natural or man-made impediments, the acquisition cost of the land will be higher and will rise more as demand for new houses increases. Clearly, cities surrounded by mountains or large bodies of water restrict development to certain areas. Some cities are encumbered by regulations or political concerns that hamstring developers, which increase the cost of building or renovating. The greater the impediments to development, the larger will be the effect of rising demand on prices of existing houses.

The basic economics of housing at the local level thus tells us that in locations where development is relatively unrestricted, we should generally see lower average prices than in locations with many restrictions. An increase in demand in the former, then, would not be expected to raise prices as much as in the latter. In general, we can characterize the Midwest as having plenty of developable land and the coastal regions as having a scarcity of developable land. Therefore, we should expect to see higher and potentially increasing house prices on the coasts relative to the Midwest. And that is generally what we do see.

REGIONAL HOUSE PRICE DEVELOPMENTS

As an example, let's compare real house price appreciation for the Boston, Los Angeles, Washington, D.C., and St. Louis metropolitan areas between the first quarter of 2000 and the

fourth quarter of 2005.⁵ Using the repeat sales price index reported by OFHEO, we can see that St. Louis has the lowest appreciation. Over the five-year period, real prices increased by 61 percent in Boston, 112 percent in Los Angeles, 100 percent in Washington, D.C., and 26 percent in St. Louis. These numbers imply a quarterly real appreciation rate of approximately 1 percent in St. Louis, less than a third as much as in Los Angeles and Washington, D.C.

We can examine the same issue at a somewhat more aggregated level, using Census regions. The Pacific region, which includes California and Arizona, experienced the largest appreciation, while those regions that comprise significant portions of the Eighth Federal Reserve District lagged well behind. From the first quarter of 2000 through the fourth quarter of 2005, the Pacific region's real appreciation was 82 percent, while the East and West South Central regions experienced a real appreciation of less than 17 percent.⁶

Rapid house-price appreciation on the coasts does not come without a cost, or at least a risk. For example, from the late 1980s to the mid 1990s, real house prices declined by 30 percent in Boston, by 36 percent in Los Angeles, by 20 percent in Washington, DC, but by only 11 percent in St. Louis. In fact, since 1982, St. Louis has not had a nominal decline in house prices. By contrast, it took Boston and Los Angeles approximately 10 years for their nominal prices to recover enough to restore prices to a breakeven level.

A LOCAL PERSPECTIVE

There is also substantial variation in the appreciation of real house prices for metropolitan areas in the Eighth Federal Reserve District. For example, from the first quarter of 2000 through the fourth quarter of 2005, Springfield, Missouri, Little Rock, Arkansas, and Louisville, Kentucky,

⁵ The real price is calculated as the nominal price deflated by the CPI less shelter.

⁶ These are the East South Central (Alabama, Kentucky, Mississippi and Tennessee) and West South Central (Arkansas, Louisiana, Oklahoma and Texas) regions.

Table 1

Indicators of the U.S. Single-Family Housing Sector							
<i>Unless Otherwise Noted, Percent Change from One-Year or Four-Quarters Earlier</i>							
	Average						
Quantities	1990-99	2000	2001	2002	2003	2004	2005
Housing Starts	3.1	-5.7	3.2	7.2	10.4	6.6	7.0
Housing Completions	2.5	-2.3	1.2	5.5	4.6	10.5	6.8
New Home Sales	3.6	-0.5	3.6	6.9	11.9	10.6	6.8
Existing Home Sales	4.6	-1.0	2.8	5.1	9.4	9.5	3.6
New Houses for Sale	-0.9	-4.4	3.0	11.0	9.6	14.3	20.9
Prices							
OFHEO**	2.9	7.6	7.5	7.5	7.9	12.1	13.0
Census, Constant Quality**	2.9	5.9	2.5	6.0	5.5	8.4	4.8
New Homes, Median**	3.0	3.0	1.3	9.3	5.1	14.4	3.2
Previously Sold, Median**	4.0	4.6	6.7	8.5	6.9	8.8	13.6
Financial & Other							
Conv. Mortgage Rate (%)*	8.0	7.6	6.8	6.1	5.9	5.7	6.2
Affordability Index**	2.4	-3.4	5.6	-1.6	-0.7	-3.6	-12.2
Real After-Tax Income**	2.8	4.4	1.2	2.9	3.8	4.1	0.5
Payroll Employment**	1.8	1.6	-1.0	-0.5	-0.1	1.6	1.4
PCE Inflation**	2.4	2.3	1.7	1.8	1.7	3.1	3.0
Demographic							
<i>Percent of Total Households</i>							
Households, ages 25-29	8.9	8.0	7.9	7.7	7.7	7.8	NA
Households, ages 30-34	11.1	9.5	9.7	9.7	9.5	9.3	NA

NOTE: Quantities and demographic data are annual. The real after-tax income is disposable personal income in chained 2000 dollars.
 * Average for the fourth quarter of year indicated.
 ** Percent change, fourth quarter-to-fourth quarter.

appreciated by 14, 14, and 11 percent, respectively. These increases compare with a 26 percent increase for St. Louis, but gains of less than 8 percent for Jefferson City, Missouri, and Memphis, Tennessee. As a result, if St. Louis has experienced a modest appreciation compared to the coastal regions, then other metropolitan areas in the Eighth District have experienced even less real appreciation.

HOUSING PROSPECTS FOR 2006

I'll close with a few comments about the national prospects for housing this year. Fore-

casting the near-term prospects for the U.S. housing sector has always been difficult because the housing industry fluctuates a lot, and the fluctuations depend on changes in income, interest rates and other conditions that are themselves difficult to forecast. Since 2002, forecasters have significantly underestimated the growth of real residential fixed investment in the GDP accounts—the main indicator of the strength of the U.S. housing sector. For instance, in December 2004, the consensus of the Blue Chip forecasters was that real residential fixed investment would decline by about 3.25 percent in 2005. Instead, this investment rose by about 7.5 percent.⁷ Currently, forecasters are once again expecting hous-

ing activity to modestly detract from real GDP growth in 2006. As noted in the minutes of the FOMC meeting held on January 31, 2006, policy-makers are expecting some weakening in housing construction. To some extent, growth nationally will be influenced by the pace of the ongoing rebuilding activity in the Gulf Coast areas ravaged by Hurricanes Katrina, Rita and Wilma last year.

Nationally, recent surveys of consumers—such as the well-known University of Michigan consumer sentiment survey—suggest a marked increase in reticence by consumers to purchase a home. My hunch, though, is that housing activity will stabilize and remain at a high level this year. I base this forecast on the belief that the FOMC will keep underlying inflation low and stable, and that the growth of real household income will recover nicely due to the waning influence of last year's spike in energy prices. Continued healthy job growth will also help keep housing conditions at a high level.

That said, some slowing in the *growth* of average home prices nationally seems a reasonable expectation at this juncture. Accordingly, the marginal contribution to the pace of consumer spending stemming from the wealth effect—that is, from households extracting a portion of their home equity to spend on goods and services—is not likely to be a significant concern. The reason is that other economywide developments—especially income and employment growth—typically exert a much greater influence on the consumer's pocketbook and spending habits than does the state of the housing industry.

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⁷ These are fourth quarter-to-fourth quarter percent changes.