



2007 Housing Bubble Update: 10 Economic Indicators to Watch

BY DEAN BAKER

Introduction

After peaking in 2005, the housing market began to weaken in 2006. At this point the key question is whether we will see a period of stable house prices followed by renewed upward momentum, or a further decline as prices move back toward their long-term trend. This paper discusses key sources of data, both government and private, that provide useful information on the state of the housing market. It gives a brief description of each of the main publicly available data sources and their uses and limitations.

As a basic rule, over the long-term the housing market moves roughly in step with the rest of the economy. This means that we should expect employment in the housing sector to increase at approximately the same rate as employment in the rest of the economy. It is also reasonable to expect that the number of homes built will increase at approximately the same rate as the population grows. The nation's population is roughly 15 percent higher now than it was in the mid-1990s, it is reasonable to expect the construction of housing units to be approximately 15 percent higher. (It is reasonable to expect that homes built today will be somewhat bigger and better than homes built a decade ago, but increased incomes have typically had more impact on the quality of homes than the number.)

The mid-1990s provide a useful base of comparison because the economy had largely recovered at that point from the effects of the 1990-91 recession. The unemployment rate had fallen below 6.0 percent, a level that was considered at the time to be full employment. While it is possible that the housing sector was still depressed at the time, virtually no economists expressed this view at the time. So, unless the bulk of the economic profession was completely mistaken in their assessment of the housing market in the mid-1990s, it should provide a good benchmark against which to measure the current housing market.

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➤ New Homes Sales

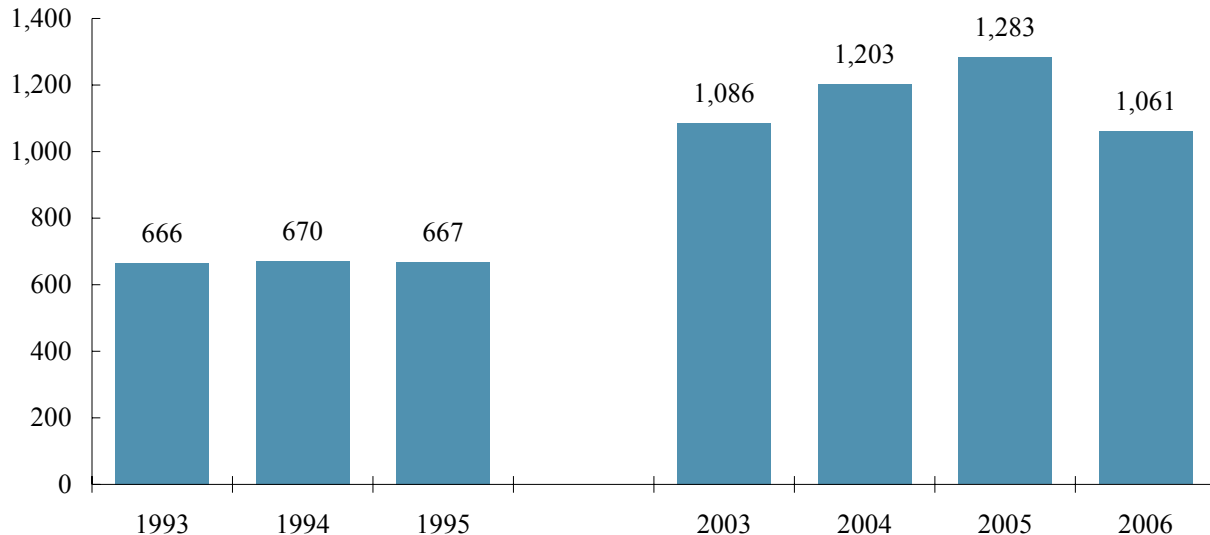
Data produced by the Census Bureau

This monthly release is derived from a survey of homebuilders. Builders are asked to report the construction and sales status of homes for which they have taken out a building permit. The data is useful because it is timely – we get the prior month’s data on sales – but the data is highly erratic, especially in winter months when weather can be a huge factor affecting sales in any given month.

This means that single-month data must always be viewed cautiously. Caution is even more important for the price data than the volume data. Prices can change as a result of a change in the mix of homes rather than actual price changes. In other words, the median or average sales price can rise because the homes sold this month are bigger, better, or better located than the homes sold last month, not because the same homes cost more.

The new homes sales series also excludes sales of condominiums. This can be important since this was the section of the housing market that saw the largest amount of speculation during the recent run-up in housing prices. It is therefore reasonable to expect that any weaknesses in sales volume and price will show up most clearly in the condo market. The new home sales series provides no data on this segment of the market.

FIGURE 1
Sales of New Single Family Homes, in Thousands



Source: Census Bureau

New home sales for all of 2006 were down 17.3 percent from 2005. The last two months of the year showed sales volume that was considerably higher than lows hit in the summer and early fall. While many analysts have taken November and December sales as evidence that the market has bottomed and may even be rebounding, this is premature. Reported sales for October were very low, it is likely that some of the uptick in November was just due to erratic reporting (sales that took place in October were recorded in November). The surprisingly strong sales for December was driven entirely by upturns in the Northeast and Midwest, which were in turn almost certainly due to

unusually good weather. Sales were almost flat between November and December in the South, and sales actually fell in the West, where December was the 2nd worst month of the year.

Even with the sharp falloff from 2005, the 1,060,000 new homes sold in 2006 was still almost 60 percent above the 670,000 average for the years from 1993-1995, before the bubble took off. The median sales price rose 1.8 percent in 2006, but the December median was 4.2 percent lower than the year-round average. December prices were likely also inflated slightly by the larger than normal share of Northeast homes in the mix, since the Northeast has the most expensive housing in the country.

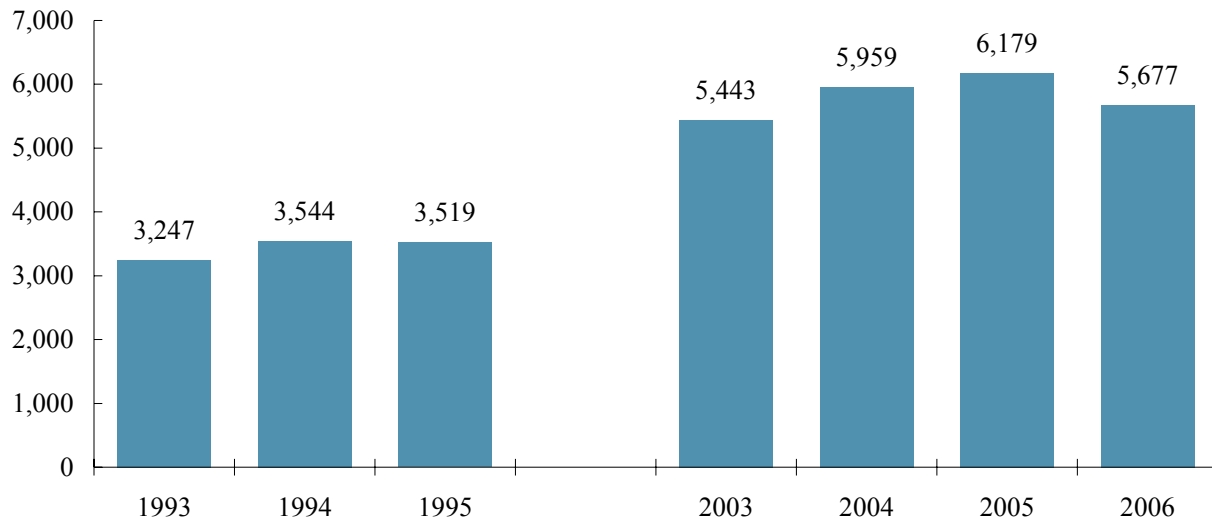
It is worth noting that price comparisons with the peaks of the upturn may be somewhat distorted by price concessions that are not included in the data. In order to sell homes, builders are now often offering subsidized financing, bonuses to buyer-side realtors, free add-ons or guarantees against price declines. While the add-ons effectively mean that buyers are getting a better home, the other concessions are effectively price reductions. However, the indexes for median and average home prices collected by Census Bureau rely on contracted sales prices, therefore they do not deduct the value of such concessions.

➤ Existing Homes Sales

Data produced by the National Association of Realtors

These data are obtained from surveys of realtors. The National Association of Realtors (NAR) reports data each month on the number and prices for closings on sales of existing homes. This point is important, since closings typically take place 6 to 8 weeks after a contract is signed. This means that the data on sales of existing homes for December will refer largely to contracts that were signed in November or October. For this reason, the existing homes data gives less current information about the housing market than the data on new home sales. (The NAR has also recently begun compiling a pending sales series, which gives data on homes currently under contract.)

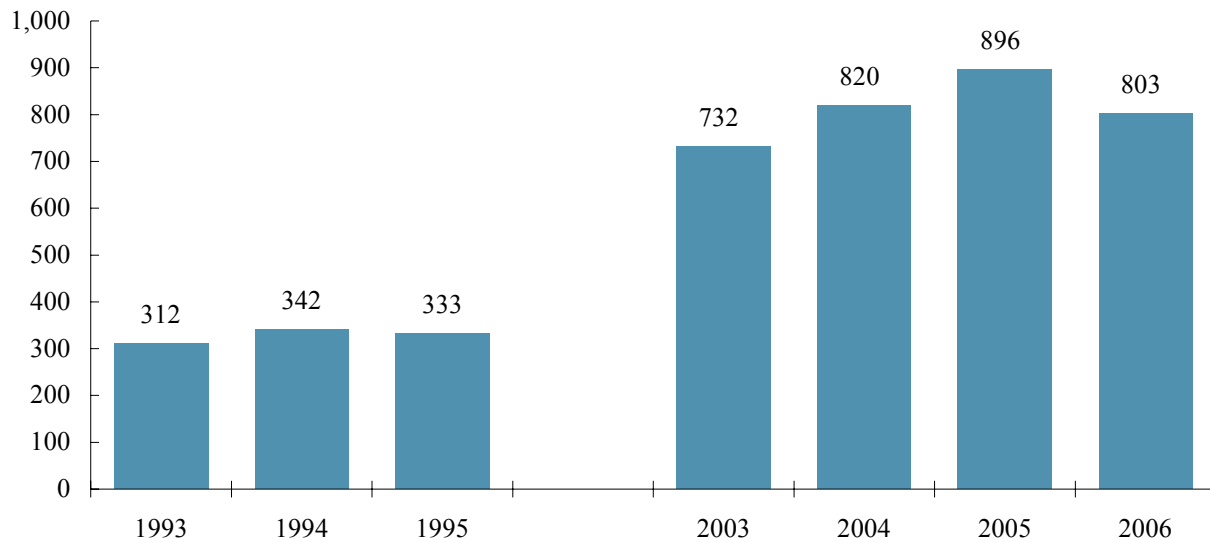
FIGURE 2
Sales of Existing Single Family Homes, in Thousands



Source: National Association of Realtors

The same caveats apply to the data on existing homes sales as to data on new homes sales. The monthly data are highly erratic and can be heavily influenced by the weather. But it is important to remember which months' weather matters. Good weather in December might have a big effect on new home sales in December, but the weather in October and November will be far more important for existing home sales in December. (Also, be sure to follow the regional sales data. Extraordinarily good winter weather might boost sales in the Northeast and Midwest, but it is unlikely to have much impact on sales in the South or West.)

FIGURE 3
Sales of Existing Condos, in Thousands



Source: National Association of Realtors

One important distinction between the series is that the existing home series includes condominiums. The National Association of Realtors has both a unified series that compiles data on different housing types and also separate series for single family homes, townhouses, condominiums, and coops, but information from these series is not always included in publicly available releases.

As with new homes sales, existing homes sales fell sharply in 2006. There were 6.5 million homes sold, a drop of 8.4 percent from the 2005 level. However, the 2006 level was still nearly 70 percent higher than sales rate over the years 1993-1995, which averaged 3,850,000 annually. This suggests that there is much further room for this market to fall. In this respect, it is also worth noting that sales in the fourth quarter were by far the worst of the year, coming in at 3.7 percent below the year-round average.

The median sales price was up 1.1 percent for the year, somewhat less than the 3.2 percent rate of inflation, which means that real house prices are declining. As noted with new home sales, the reported prices likely conceal some price declines. Sellers often make concessions to buyers, including making repairs or throwing in cash at closing, which would not have taken place during the peak of the market.

➤ **Mortgage Applications**

Data produced by the Mortgage Bankers Association

The Mortgage Bankers Association (MBA) provides weekly data on applications for mortgages for both home purchases and refinancing. This is a very useful and hugely underutilized survey. It is based on a survey of mortgage bankers, commercial banks, and thrift institutions. Unfortunately, the MBA has become stingier with the information that it provides to the general public in the last year. They no longer have historical data available for free on their website. This is a loss to those who don't have infinite funds to buy proprietary data.

The survey is so useful because it gives extremely up-to-date information on the state of the housing market. Weekly data should always be viewed with caution, but a four week moving average gives a reasonably reliable measure of the state of the market. In addition, the survey also indicates the mix between fixed rate and adjustable rate mortgages. (The large share of adjustable rate mortgages, even when the fixed rate was at a 50-year low, was important evidence of the irrational exuberance of a bubble market.) The data on refinancing is also very useful, since spending from home equity has been such an important force in this recovery.

The new mortgage index is down sharply from its 2005 peaks. The current four-week averages are down by almost 20 percent from the 2005 levels. (The peaks numbers for the purchase index in 2005 were over 500, for the last six months, this index has hovered near 400.) The number of refinanced mortgages is down by more than 80 percent from the extraordinary peaks hit in the spring of 2003.

➤ **House Price Index**

Data produced by the Office of Federal Housing Enterprise Oversight

The House Price Index (HPI) is the gold standard for measuring price changes because it tracks re-sales of the same houses. This means that it controls for the mix of houses sold; price changes in the HPI are driven by the same houses being sold for more or less money, not a shift to more or less expensive homes coming on the market. It also is available at the levels of state and metropolitan areas, so it can provide a detailed view of the national housing market.

The HPI gives the clearest evidence of the bubble. Throughout the post-war period, house prices increased on average at the same rate as the price of other goods and services until the mid-1990s.¹ Of course, there were large variations in the rate of housing inflation across regions and by year. Since the mid-1990s, the HPI nationwide has increased by more than 50 percent after adjusting for inflation. In the regions with the most rapid run-up in housing prices (mostly along the coasts), the increase has been more than 100 percent. While some of the more rapid increase in house prices in the coastal areas probably does reflect the increasing desirability of these areas, they will probably still see the sharpest price decline when the housing market adjusts to more normal levels.

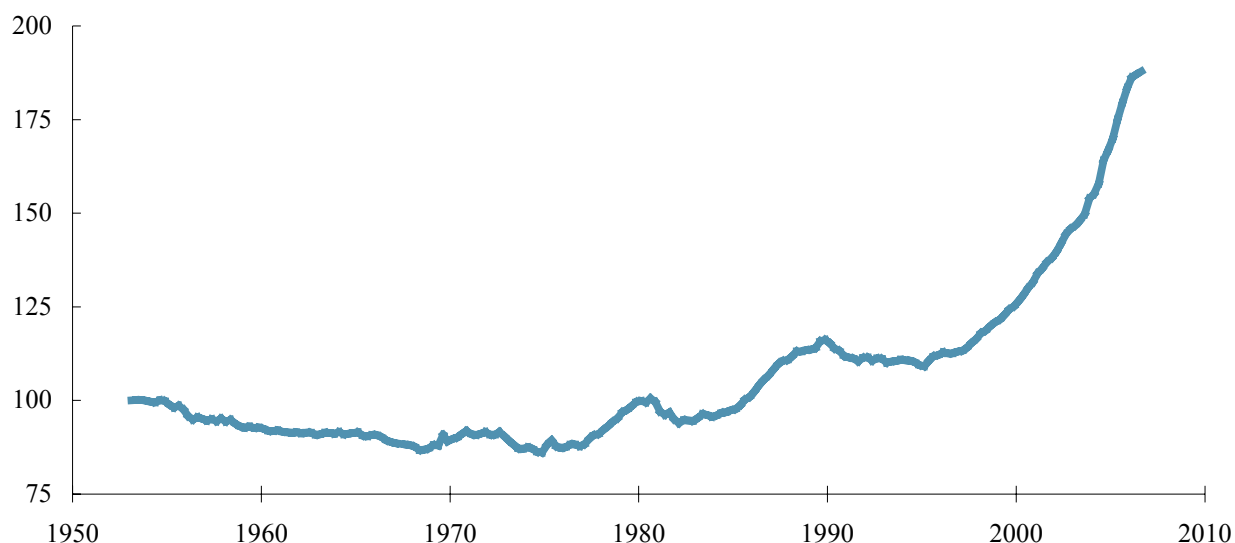
¹ This statement relies on the home purchase component of the CPI for years prior to 1975, when the HPI was first published. The CPI included a home ownership component prior to 1982 when it switched to using owners' equivalent rent for owner occupied housing.

There are some downsides to the HPI. First, it is only available with a considerable lag. It comes out quarterly, with the release not being issued until the 3rd month of the following quarter. For example, the HPI for the third quarter of 2006 was not available until early December. (Fourth quarter data are not yet available.)

As quarterly data, the HPI will also be slow to pick up changes. Suppose that house prices rose by 1.0 percent a month for both August and September, then flattened in October and then declined 0.5 percent in both November and December. In this scenario, the HPI would still show a higher reading for the fourth quarter than it did for the third quarter, even though prices were falling in the fourth quarter.

The HPI also cuts off a substantial portion of the housing market because it only tracks homes with mortgages that conform to the standards for the Fannie and Freddie Mac mortgage pools. These loans are currently capped at \$417,000 for a single-family home. For a mortgage at 90 percent of value, this would place a cap of approximately \$463,000 on the price of homes covered by the index. In the markets with the most rapid appreciation, this cap is near the median home price, which means that the upper half of the housing market is excluded from the sample. Even with markets with lower median prices, the upper 20-30 percent of the may be excluded by this cap. If prices for high end houses rose more rapidly (and may subsequently fall more rapidly) than prices for homes at the middle and bottom, the HPI will understate both the rise and decline in housing prices.

FIGURE 4
Real House Sale Prices (1953=100)



Source: OFHEO, BLS and BEA.

It is also worth noting that the HPI merges information from sales with assessments for refinanced homes. They publish data for both separately at the national level. (The assessments rose somewhat less rapidly than sales prices in the years from 2001-03, but they increased considerably more rapidly in 2004-05.) These data are not published at the state or metropolitan level.

Finally, it is worth noting that the HPI will miss any changes to the quality of a house between sales. If the price of a house has increased due to a renovation or an addition, the HPI will simply record

this as a price increase. Similarly, if the price declines because a house has not been properly maintained, it will simply record the lower price as a fall in prices. This means that in a period of high spending on renovation, the HPI will overstate the increase in prices and in a period of low spending it will understate the increase.

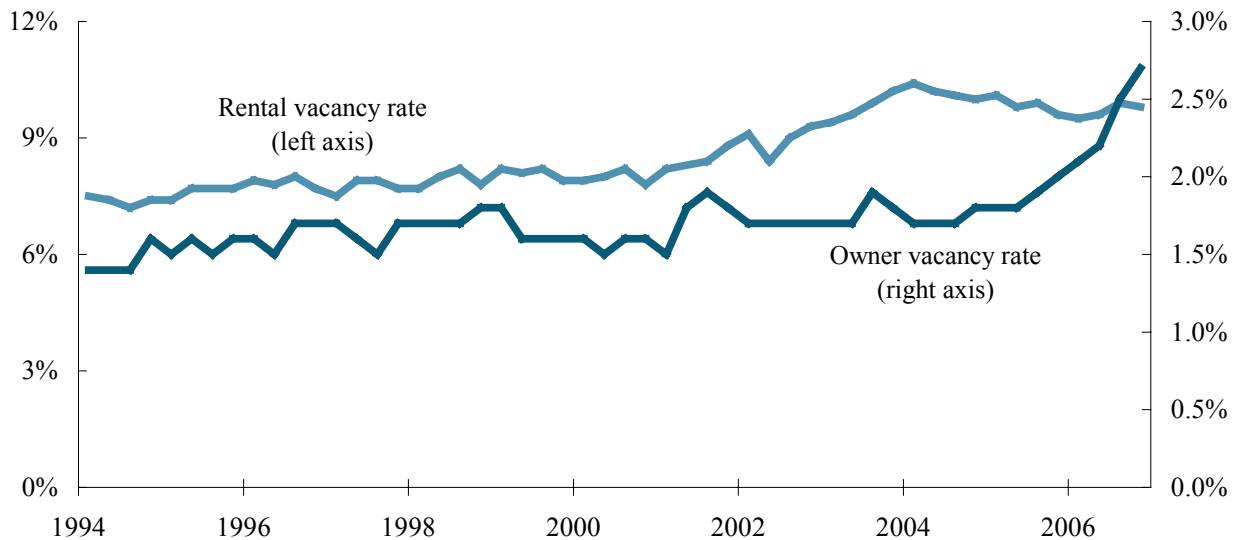
Like the other price indices the HPI also misses concessions like below market mortgages and seller paid repairs that don't appear in the contracted price. This means that it is likely that the HPI is currently overstating house prices to some extent. The data through the third quarter show that the HPI has flattened (in real terms), but it is not yet declining.

➤ Vacancy Rates

Data produced by the Census Bureau

The Census Bureau produces quarterly data on vacancy rates that are derived from the monthly Current Population Survey. The public release reports vacancy rates separately for ownership and rental units and also provides breakdowns by regions and city/suburban/rural areas. The data for each quarter are released toward the end of the first month of the next quarter.

FIGURE 5
Vacancy Rates



Source: Census Bureau

This series is very useful in giving an underlying picture of supply and demand in the housing market. If there is overbuilding, then there should be some evidence in the form of a rising vacancy rate in *either* the market for rental or ownership units. Part of the story of a speculative bubble is that demand can temporarily shift from rental market to the ownership market, as people seek to buy to take advantage of rising prices, but in time the two markets will eventually move together. For example, if there are a large number of vacancies in the rental market, it will eventually place downward pressure on rents. If rents fall relative to sale prices, then some people will decide to rent rather than buy. Also, if house-sale prices are high relative to rents, then landlords will look to sell off units that they are having trouble renting.

The quarterly vacancy rates are somewhat erratic, the more important information is provided by the trends through time. There is a clear upward pattern in these trends, with rental vacancy rates hitting record levels in 2004, before leveling off. More recently, there has been a substantial rise in the vacancy rate in homes offered for sale, with the vacancy rate hitting 2.7 percent in the fourth quarter of 2006, 50 percent above its level of two years ago. Since more than twice as many homes are offered for sale as for rent, the rise in vacancies in the ownership market has more than offset the recent decline in vacancies in the rental market, pushing overall vacancy rates in the housing market to new records. The extraordinary number of vacancies in the ownership market may also put downward pressure on prices, since owners are likely to be more desperate to sell a vacant home than a home in which they are living or have a tenant.

➤ **Consumer Price Index –Rental Components**

Data produced by the Bureau of Labor Statistics

The Bureau of Labor Statistics (BLS) publishes monthly data on rents. These data are extremely useful because they make it possible to track the rental market. If the run-up in home sale prices is being driven by fundamentals in the housing market, then there should be comparable increases in rental and ownership prices. In fact, rents nationally have increased by only a bit more than the overall rate of inflation over the last nine years, and they have actually been falling in real terms for the last two years. Rental prices have been weak even in many of the areas with the largest run-ups in home sale prices, such as San Francisco and Seattle.

The Consumer Price Index (CPI) actually has two rental indexes, one of which is based on actual rents of apartments or houses, the other is based on the imputed rent to owner occupied housing. The latter actually gives the better match for home sale prices because it strips out the costs of utilities, which are often included in the rent paid for a rental unit.

The rental indexes are available for major regions of the country. They are also available for about two dozen major cities. An important caution in comparing the CPI rent indexes to market rents is that the CPI index will tend to move much more slowly (up or down) than rents for vacant apartments. The reason is that most tenants are not moving at any point in time. Landlords tend to raise rents more on vacant units than on occupied units. They also will be unlikely to give large rent concessions to an existing tenant, unless the tenant threatens to move. Since occupied units comprise a large share of the CPI rental index, the index will move up or down at a somewhat slower pace than rents for units that appear on the market.

If interest rates continue to rise, it could have a perverse effect of putting upward pressure on the CPI rental components, thereby pushing up the core rate of inflation in the CPI. The reason is that higher mortgage rates will make ownership less affordable for many people, therefore pushing them into the rental market. This will mean downward pressure on home sale prices, but upward pressure on rents. If long-term interest rates respond to evidence of higher inflation, then there could be vicious cycle in which higher mortgage interest rates force more people to rent, leading to higher rents and higher inflation, and then a further increase in mortgage interest rates.

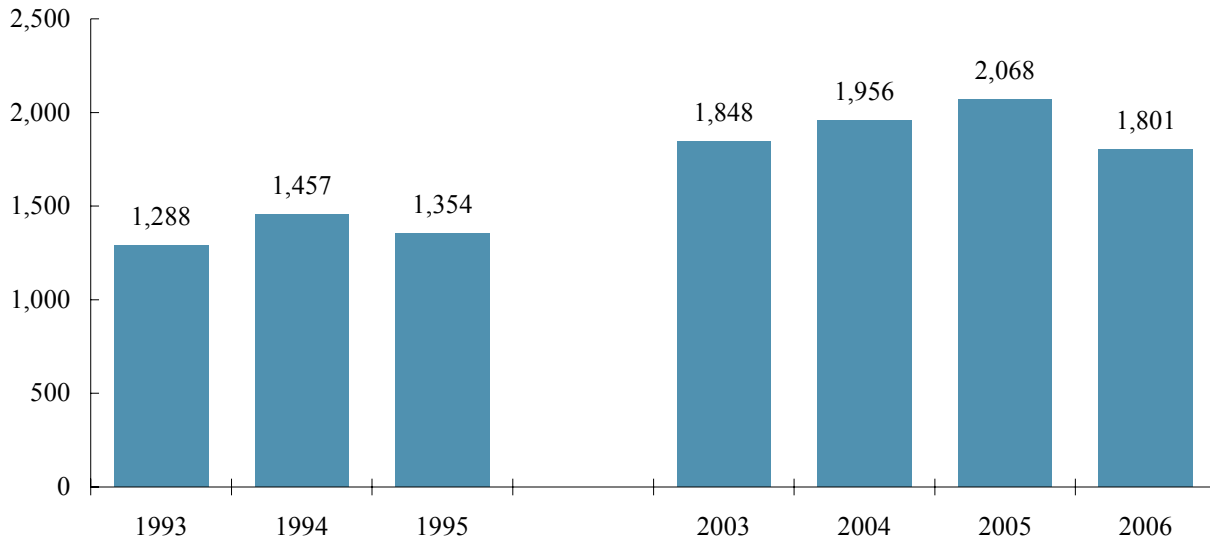
➤ Housing Starts

Data produced by the Census Bureau

The Census Bureau produces monthly data on the number of housing units under construction and for which building permits have been granted. This series is based on a nationwide survey of offices that grant building permits. The Bureau then follows through on a sample of the permit holders to get estimates of the number of units started in a month, the number under construction, and the number completed. The data are available by region and are also broken down by the number of units in a project (1 unit, 2-4 units, or 5 and more).

This series is a useful and timely measure of the supply end of the housing market. The regional data and also the breakdown of units by type (single-family or multi-family) are also valuable in providing information on which parts of the housing market is seeing the greatest supply response. One area not counted in this data set is refurbishing of vacant buildings or conversion of office or commercial real estate to residential uses. This could lead to an undercount of new residential units in some areas. Like all monthly data, the housing starts numbers can be very erratic, especially in the winter months when severe weather often slows housing starts in large sections of the country.

FIGURE 6
New Housing Starts, in Thousands



Source: Census Bureau

New housing starts averaged 1,370,000 a decade ago in the years from 1993-1995. By contrast, they averaged 1,960,000 in the three years from 2003-2005, peaking at 2,070,000 in 2005. It is worth noting that few economists predicted the 40 percent jump in housing construction in the mid-nineties. This means that if the recent strength of the housing market is attributable to fundamentals of the market, rather than a speculative bubble, most economic forecasters were badly mistaken in their assessment of the housing market ten years ago.

The 1,800,000 units sold in 2006 was a drop of 12.9 percent from the 2005 level. However, starts continued to fall throughout the year, with the fourth quarter rate of 1,554,000 units coming in 13.7 percent below the year-round average. This rate of housing starts is close to what would be

predicted, given the population growth of the last decade. However, the overbuilding of the last few years starts to fall below their long-term trend rate for a few years.

➤ **Residential Construction**

Data produced by the Census Bureau

The residential construction series produces monthly data on construction spending for both new homes and renovations of existing homes. The data for construction on new homes are derived from the Survey of Construction, which is used to estimate housing starts. The Census Bureau imputes a standard rate of construction, so construction spending on new units does not provide additional information from the housing starts data.

Spending on repairs and renovations is derived from separate surveys of owners of owner-occupied housing and owners of rental housing.² These improvements typically account for just over 25 percent of total spending on residential construction.

➤ **Residential Investment**

Data produced by the Bureau of Economic Analysis

The residential investment component of the GDP accounts is based largely on the residential construction series compiled by the Census Bureau. The most important addition is the cost of brokers' services in the sale of new or existing homes. These figures are imputed based on data on home sales for the quarter, so this component provides little new information when it is released in the quarterly GDP data.

➤ **Industry Employment**

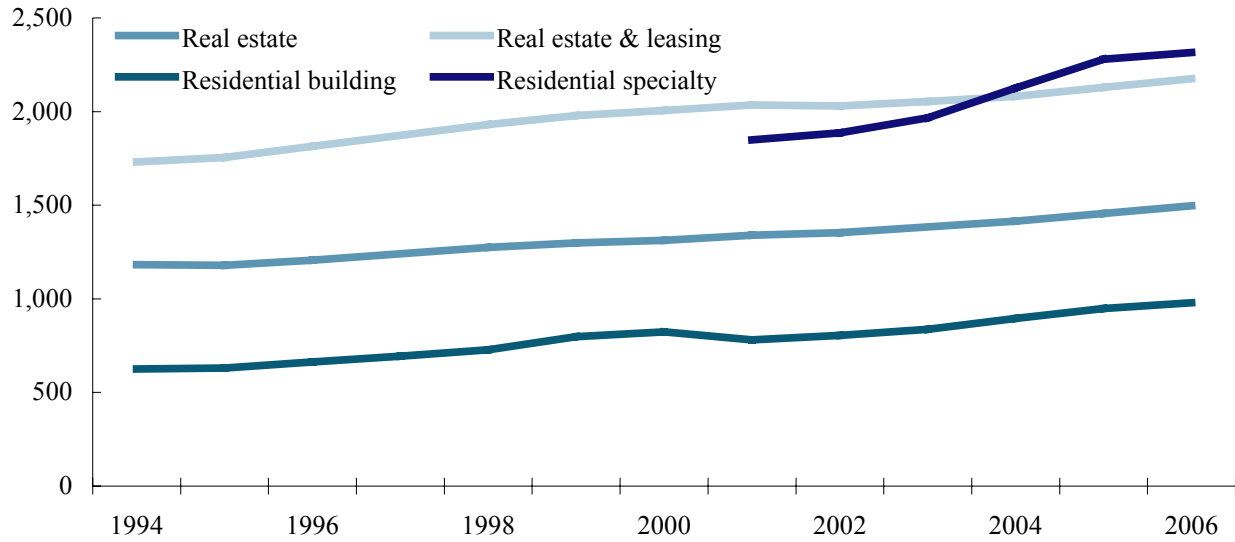
Data produced by the Bureau of Labor Statistics

The BLS produces monthly data on employment, hours, and wages in industries that are heavily tied to housing, such as residential construction and real estate. (BLS also used to publish a series on employment in the mortgage broker sector, but ended this series in June 2003.)

These series provide timely data on levels of output in the industry, since output is closely connected with employment. The monthly data can be somewhat erratic, especially when unusual weather patterns affect construction employment in the winter months, but over a 2-3 month period, the series provides a reliable measure of employment and output. Data on construction employment is also available at the state level and for most major metropolitan areas, although it is not seasonally adjusted below the national level.

² Census Bureau, "Construction Methodology" [<http://www.census.gov/const/C30/methodology.pdf>].

FIGURE 7
Employment Levels, in Thousands of Employees



Source: Bureau of Labor Statistics

The jump in employment in the housing-related series over the last 13 years is a good measure of the impact of the housing bubble. While overall employment increased by less than 22 percent from the 1993 to 2006, employment in the construction of residential buildings increased by almost 70 percent. Employment in real estate agencies increased by almost 30 percent over this period. Employment in residential specialty trade contractors increased by almost 28 percent in just the years from 2001 to 2006. When the bubble deflates, employment levels in these sectors will fall back in line with their historic patterns, as construction and sales levels move to more normal levels.

If employment in housing-related sectors were to fall back to levels consistent with their share of their labor force in the mid-1990s, it would lead a loss of close to 1 million jobs. If the construction sector temporarily falls below its normal level of activity as inventories of unsold homes adjust to normal levels, the job loss would be even greater.

Thus far, there has been very little reduction in employment in housing related sectors. Employment in residential construction is down by less than 3 percent, while employment in real estate is actually up from its year ago levels.

Appendix

Figure 1 is taken from the Census Bureau's data for new homes sales.

Figure 2 is taken from the National Association of Realtors' data on existing homes sales.
[[http://www.realtor.org/Research.nsf/files/EHSreport.pdf/\\$FILE/EHSreport.pdf](http://www.realtor.org/Research.nsf/files/EHSreport.pdf/$FILE/EHSreport.pdf)]

Figure 3 uses the National Association of Realtors' data on sales of existing condominiums.
[[http://www.realtor.org/Research.nsf/files/condoreport.pdf/\\$FILE/condoreport.pdf](http://www.realtor.org/Research.nsf/files/condoreport.pdf/$FILE/condoreport.pdf)]

Figure 4 shows real house prices. For the nominal increase in house prices, it uses the house price series from the Bureau of Labor Statistics Consumer Price Index in the years prior to 1975. It uses the Office of Federal Housing Enterprise Oversight's House Price Index from 1982 to the present. In the years from 1975 to 1982 it averages the rate of house price inflation shown by the two series. The series is deflated using the GDP deflator.

Figure 5 uses the vacancy rates from the Census Bureau's housing vacancy data.

Figure 6 uses the Census Bureau's data on housing starts.
[http://www.census.gov/const/www/quarterly_starts_completions.pdf] (Table Q1)

Figure 7 uses the Bureau of Labor Statistics' employment series from the Current Employment Situation survey.