

# FYI: An Update on Emerging Issues in Banking

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## **FYI Revisited**

### **U.S. Home Prices: Does Bust Always Follow Boom?**

May 2, 2005

#### **Summary**

In February 2005, the FDIC released an *FYI* report entitled "[U.S. Home Prices: Does Bust Always Follow Boom?](#)" The article examined the historical pattern of home price booms and busts for U.S. metropolitan areas. This issue of *FYI* updates the home price analysis from the previous article, using recently released 2004 data for the house price index (HPI) published by the Office of Federal Housing Enterprise Oversight (OFHEO). Based on this index, U.S. average home prices rose by almost 11 percent in 2004, up from 7 percent in 2002 and 2003. Moreover, the number of boom markets according to our definitions increased by 72 percent last year, and now includes some 55 metropolitan areas.

The broadening of the U.S. housing boom during 2004 may imply a growing role for national factors—including the availability, price, and terms of mortgage credit—in explaining home price trends. To the extent that credit conditions are in fact driving home price trends, the implication would be that a reversal in mortgage market conditions could contribute to an end of the housing boom. While history clearly shows that housing booms don't last forever, the manner in which they end matters for mortgage lenders and borrowers alike.

#### **Background**

Our February 2005 *FYI* report examined the historical pattern of home price booms and busts for U.S. metropolitan areas from 1978 through 2003. It defined a "boom" market as one in which *inflation-adjusted* prices rose by at least 30 percent in a three-year period. Based on this definition, some 63 cities had experienced a boom at some point in the last 30 years, and 33 cities were experiencing a boom as of the end of 2003. The report also defined metro-area housing "busts" as markets in which home prices had declined by at least 15 percent (in nominal terms) over a five-year span. While 21 housing busts have occurred since 1978 under this definition, only nine of them have occurred on the heels of a housing boom.

One conclusion of this study was that a housing boom does not necessarily lead to a housing bust. In fact, boom was found to lead to bust in only 17 percent of all cases prior to 1998. Moreover, when busts occurred they were typically preceded by significant distress in the local economy. The most common way for a housing boom to resolve itself was through a period of price stagnation that allowed local economic fundamentals to catch up with high home prices. In the end, however, the paper suggested the applicability of this historical experience to the current housing boom remains uncertain. The expansion of subprime and high loan-to-value mortgages, along with growing use of home equity lines of credit, could change the dynamics of home prices in future cycles.

This issue of *FYI* updates the home price analysis from the previous article, using recently released 2004 data for the HPI published by OFHEO.

#### **Home Price Developments in 2004**

Based on the OFHEO house price index, U.S. average home prices rose by almost 11 percent in 2004. This was the most pronounced gain in nominal home prices since 1979 and was a substantially higher rate of appreciation than the 7 percent gains in both 2002 and 2003. Adjusted for inflation, the price of the average home in the OFHEO sample increased by 8 percent—the fastest pace recorded in 30 years.

The acceleration in home prices last year appears to have been greater than the improvement in underlying economic fundamentals would have suggested. Fundamental economic factors, such as rental rates and personal income, typically help to determine home price trends. Last year, home prices rose 11 percent, but rents only increased by 2.7 percent nationwide. In 2003, the 7 percent gain in home prices also outstripped a 2.4 percent gain in rents.<sup>1</sup>

As for personal income, it grew 5.8 percent in 2004 and 4.2 percent in 2003. While stronger than the pace of rent growth, this was still far less than the pace of home price gains during the past two years. This gap between growth in home prices and incomes has been widening since the decade began. Moreover, the price-income gap has become especially pronounced in high-cost metro areas.

The housing affordability index for first-time homebuyers of the National Association of Realtors, which takes into account home prices, incomes and interest rates, slipped 3.8 points in 2004 to 77.7.<sup>2</sup> This marks the second-lowest annual level for the affordability index since the recession year of 1991. The lowest reading during this interval was 75.9 in 2000, when 30-year mortgage rates were over 8 percent. If this decline in affordability continues, it might eventually weigh on home sales and price appreciation as first-time buyers are priced out of the market.

### **The Number of Boom Markets Increased Markedly in 2004**

The strong nationwide home price performance last year was driven by accelerating appreciation in a number of metropolitan areas. The number of individual markets that met the boom criteria increased by 72 percent in 2004, to 55 metro areas. Table 1 summarizes the boom/bust findings using the 2004 data, updating Table 1 of our earlier *FYI* report which used 2003 data.

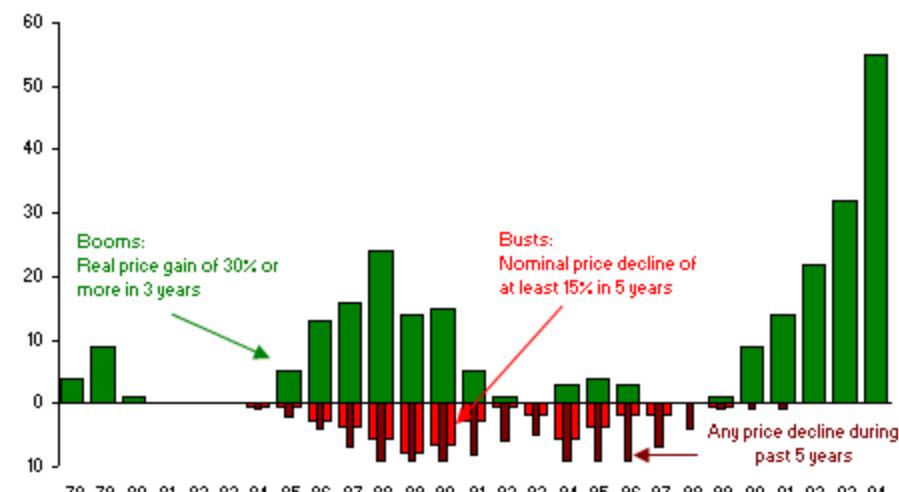
Table 1: Historical Evidence of U.S. Home Price Booms and Busts, 1978-2004 - PDF  
Table 1: Historical Evidence of U.S. Home Price Booms and Busts, 1978-2003 - PDF

Some 15 percent of the 362 metropolitan areas for which OFHEO publishes the HPI met the boom criteria at year-end 2004. This represents the highest proportion of "boom" markets nationwide in the 30 years of historical price data published by OFHEO.<sup>3</sup> The 55 boom markets last year compare to 22 just two years earlier and to only 9 boom markets identified as recently as 2000 (see Chart 1).

Chart 1

**The Number of Home Price Booms Has More Than Doubled in the Past Two Years to a Record 55 Markets**

Number of Home Price Booms and Busts



Source: FDIC (OFHEO House Price Index, nominal, and real, using Bureau of Labor Statistics CPI less shelter inflation index)

Prior to the recent surge in home prices, the last time the United States saw a large number of metro areas experiencing housing booms was in 1988. At that time, 24 markets were experiencing a boom. That number was 11 percent of the 215 cities for which home price information is available between 1985 and 1988. Only one city fell off the boom list between 2003 and 2004.<sup>4</sup> The new additions are summarized by state in Table 2.

Table 2

**Most new boom markets in 2004 were located in the West and East.**

**2004 net change in boom markets**

West	+8	East	+15
California	+3	Florida	+6
Nevada	+3	Northeast	+9
Oregon	+1		
Hawaii	+1		

\*10 new markets were added to the boom list, but Manchester, NH fell off for a net change of +9.

For comparison of individual markets, refer to Table 1 in FDIC's FYI "U.S. Home Prices: Does Bust Always Follow Boom?" February 10, 2005 and Table 1 in this FYI.

Source: FDIC FYI Revisited "U.S. Home Prices: Does Bust Always Follow Boom?" May 2, 2005.

Overall, the 55 boom markets in 2004 comprised 21 cities in California (38 percent of all boom markets), 18 in the Northeast and New England (33 percent), and 11 in Florida (20 percent). Thus, 91 percent of the 2004 boom cities were located on, or near, the coasts. Such a concentration is by no means unusual. At the peak of the last widespread U.S. housing boom in 1988, all of the boom cities were either in California or the Northeast. This fact highlights the historical dichotomy between U.S. inland housing markets and those located in coastal areas, where land constraints and more dynamic economies have led to greater swings in coastal home prices over the past 30 years.<sup>5</sup>

Of the 31 cities identified as boom markets in both 2003 and 2004, all but three continued to see rising cumulative home price increases in 2004. The exceptions were Boston, Stockton, CA and Worcester, MA. During 2003, boom markets boasted an average three-year real price gain of 37 percent, just over twice the equivalent national average of 17 percent. Last year, the comparable figures were 42 percent for the 55 boom markets, versus 20 percent nationwide. These data show that inflation-adjusted cumulative home price gains continued to accelerate during 2004, both in the boom markets and for the nation as a whole.

### **Factors Behind the Expanding Number of Boom Markets**

Through 2003, even as the housing boom extended to 32 metro areas, the most plausible explanation for the observed price trends was the combination of historical price volatility and strong local market fundamentals in boom cities. Almost half, or 47 percent, of the 2003 boom markets had seen other booms prior to 2000. However, of the 24 boom markets added to the list in 2004, only 6 have ever previously experienced a boom in their history. Eighteen markets are booming for the first time according to the OFHEO data and based on our criteria.

This broadening of the current U.S. housing boom may imply a growing role for national factors, as opposed to local factors alone, in explaining the recent acceleration in home price growth. As explained in the February 2005 issue of *FYI*, historical booms and busts in local markets typically relate mainly to local market factors. However, the notable expansion in the number of boom markets in 2004 suggests that national factors could be helping to drive home prices higher. If national factors are coming more into play, then clearly the most important factors to look to would be the availability, price, and terms of mortgage credit.

The cost of mortgage credit has remained at generational lows during the past two years. The annual average contract rate for 30-year mortgages published by Freddie Mac fell below 6 percent in both 2003 and 2004—the first time this index has ever been below 6 percent in its 33-year history. Meanwhile, rates charged on adjustable-rate credit have been based on short-term Treasury rates that fell to their lowest levels since at least the late 1950s. The low cost of mortgage credit at this stage of the housing cycle could be one factor pushing prices higher by enabling buyers to qualify for larger mortgages given the same monthly payment.

In addition, as our previous *FYI* report discussed, there have been a number of changes in mortgage markets that could have an influence on home prices, including the emergence of high loan-to-value lending and subprime lending.<sup>6</sup> Subprime mortgage originations showed a marked increase during 2004, surging to nearly 20 percent of all mortgage originations from just under 9 percent in 2003.<sup>7</sup> This reversed a three-year decline in the relative size of the subprime market. The majority of subprime loans have been characterized by short-term adjustable-rate structures, many with prepayment penalties.

In addition to increased leverage and subprime lending activity, use of adjustable-rate mortgages, or ARMs, remains high. According to the Mortgage Bankers Association, ARMs accounted for almost 46 percent of the value of new mortgages in 2004 and 32 percent of all applications. Both figures were up sharply from their 2003 levels of 29 percent and 19 percent, respectively. It is noteworthy that this development occurred despite the fact that the average annual fixed rate for a 30-year mortgage remained virtually unchanged from 2003. Furthermore, data from the Federal Housing Finance Board indicate that the ARM share is high and rising in several of our boom markets.<sup>8</sup> Taken together, these trends suggest that highly-leveraged borrowers are increasingly taking on interest-rate risk as they stretch to afford high-cost housing. Although home owners taking out ARMs may be more exposed to "payment shock" when their monthly payments adjust upward with rising interest rates, for many, this event is some years off. A large share of ARMs originated in recent years featured initial fixed-rate periods that could last up to ten years. The FDIC and other analysts have previously explored the growing role of ARMs in financing home purchases.<sup>9</sup>

Another evolving trend that has not been tested in a housing market downturn is the increasing market penetration of innovative mortgage products, such as interest-only (I/O) and option ARMs. These mortgages are specifically designed to minimize initial mortgage payments by eliminating principal repayment; but these also can increase leverage and expose owners to large jumps in monthly payments as interest rates rise. According to *Inside MBS and ABS*, interest-only mortgages accounted for 23 percent of the value of non-agency mortgage securitizations in 2004. Some market participants estimate that these higher risk ARMs are increasingly being offered to borrowers seeking low- or no-documentation loans and to those with blemished credit histories. While financially savvy borrowers using these products are more likely to be prepared for the possibility that their monthly payments may jump sharply, marginal borrowers may face greater difficulties adjusting as their monthly payments inevitably rise.

Finally, although this factor is not directly related to credit conditions, heightened investor purchases of homes could also be signaling a higher degree of speculative activity in housing markets during 2004. Data from *Loan Performance* indicate that 9 percent of U.S. mortgages in 2004 were taken out by investors, up from just under 6 percent in 2000. Furthermore, this share is significantly higher in local markets that are experiencing the strongest home price appreciation. In some of these markets, it is estimated that the investor share of new mortgage originations is as high as 19 percent. Academic studies show that residential property investors are less loss-averse than owner-occupants and thus more likely to sell precipitously in a declining market, thereby aggravating any existing downturn in home prices.<sup>10</sup>

## **Conclusions**

Our analysis of the OFHEO historical home price data shows that metro-area housing booms don't last forever. But what matters to lenders and borrowers alike is the manner in which housing booms end. In over 80 percent of the metro-area price booms we examined between 1978 and 1998, the boom ended in a period of stagnation that allowed household incomes to catch up with local home prices. While neither lenders nor current homeowners particularly like stagnation in home prices, such an outcome represents a necessary adjustment in market conditions that helps bring home prices within the reach of new homebuyers.

Mortgage lenders and borrowers encountered a great deal more distress in the 21 episodes of U.S. metro-area housing busts identified between 1978 and 1998. Fortunately, based on the criteria we use to define a housing bust, such an outcome can be characterized as relatively rare. In fact, only 17 percent of the housing booms identified during this period led to a subsequent bust, and where busts occurred they

were typically preceded by significant distress in the local economy. To the extent that local factors continue to determine home price trends, the expectation would be that metro-area home price busts will continue to be relatively rare.

However, the broadening of the U.S. housing boom during 2004 may imply a growing role for national factors—including mortgage credit conditions—in explaining recent home price trends. More research is needed to establish exactly what role, if any, changes in the cost and availability of mortgage credit played in the expansion of the U.S. housing boom in 2004. But to the extent that credit conditions are driving home price trends, the implication would be that a reversal in mortgage market conditions—where interest rates rise and lenders tighten their standards—could contribute to an end of the housing boom. While our analysis shows that boom does not necessarily lead to bust, it remains to be seen to what degree the current situation might differ from our previous experience in U.S. housing markets.

### **Revisions to 2003 Boom Cities**

As a result of data from the 2000 Census, the federal government's Office of Management and Budget changed the geographic definitions of the nation's largest cities, or "metropolitan statistical areas," in recent years. These changes were widespread and affected most regional economic data series through the regrouping of counties into a greater number of metropolitan areas. OFHEO incorporated these changes over the course of 2004, with the final revisions appearing with its fourth quarter 2004 HPI release in March 2005.

The principal change between the original 2003 data we used in our first *FYI* and the current data set is the inclusion of price indexes for newly defined Metropolitan Divisions.<sup>1</sup> These are subdivisions of larger metropolitan areas for which OFHEO previously reported only one price index. For the most part, this change did not affect our earlier results. There were three major changes, however, as indicated below:

1. The Dallas-Fort Worth-Arlington, TX MSA was identified in our first *FYI* as a boom market in 2003. However, the new geographic definitions recast this MSA into two areas: the Fort Worth-Arlington Metro Division and the Dallas-Plano-Irving Metro Division. Home price data for these now-separate geographic areas no longer meet our criteria of a boom market, or at least a 30 percent gain in home prices, after inflation, between 2000 and 2003.
2. The New York-Northern NJ-Long Island, NY-NJ MSA also appeared on our first list as a boom market in 2003. However, OFHEO now reports three price indexes for this area: the New York-Wayne-White Plains Metro Division, the Newark-Union Metro Division, and the Nassau-Suffolk Metro Division. None of these met our boom criteria in 2003, although the New York Metro Division was close, with a 29 percent real price gain between 2000 and 2003.
3. The Boston-Cambridge-Quincy MA-NH MSA was not classified as a 2003 boom market in our February 2005 *FYI*. The revised HPI data are now reported for the Boston-Quincy Metro Division. This area, although smaller, has recently demonstrated more rapid real price appreciation than the original area that included Cambridge. As a result, Boston now meets our hurdle, with a 34 percent real price gain between 2000 and 2003.

Because of these definitional changes, our list of boom markets in 2003 has declined by one, to 32 cities (see Table 1 "Historical Evidence of U.S. Home Price Booms and Busts, 1978-2004"). Our prior list of 2003 boom markets remains mostly the same, with the addition of a more-narrowly defined Boston and the removal of Fort Worth and New York.

<sup>1</sup> The Office of Management and Budget (OMB) defines metropolitan statistical areas for purposes of collecting, tabulating, and publishing Federal data. A metropolitan statistical area (MSA) is defined as a county or group of counties that has at least one urbanized area of 50,000 or more population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties. This definition is not significantly different from the 1990 definition. Further, if these criteria are met, an MSA containing a single core with a population of 2.5 million or more may be subdivided to form smaller groupings of counties referred to as metropolitan divisions. In the OFHEO HPI, for large MSAs that are comprised of smaller metropolitan divisions, data for each division are now provided. As a result, 11 MSAs have been replaced by 29 metro divisions.

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## Endnotes

<sup>1</sup> Based on the "rent of shelter" component of the Consumer Price Index.

<sup>2</sup> The affordability index equals 100 when median family income qualifies for an 80 percent mortgage on a median-priced existing single-family home. A falling index value indicates fewer buyers can afford to enter the market.

<sup>3</sup> See "Revisions to 2003 Boom Cities" in this *FYI*.

<sup>4</sup> The three-year real price gain for Manchester, New Hampshire now falls just short of our 30 percent cutoff.

<sup>5</sup> This contrast is noted often in academic literature, including Jesse M. Abraham and Patric H. Hendershott, "Bubbles in Metropolitan Housing Markets" (working paper 4774, National Bureau of Economic Research, June 1994, <http://www.nber.org/papers/W4774>); and Stephen Malpezzi, Gregory Chun, and Richard Green, "New Place-to-Place Housing Price Indexes for U.S. Metropolitan Areas, and Their Determinants," *Real Estate Economics* 26, no. 2, 1998.

<sup>6</sup> "Subprime" refers to mortgages made to borrowers with limited or impaired credit histories.

<sup>7</sup> "Mortgage Originations by Product," chart, *Inside Mortgage Finance*, February 25, 2005.

<sup>8</sup> Federal Housing Finance Board, Monthly Interest Rate Survey, <http://www.fhfb.gov/Default.aspx?Page=8&Top=4>. For example, Las Vegas saw an increase in ARM share from 26 percent to 57 percent between fourth quarter 2003 and the same period in 2004, while ARM shares also were up significantly during the past year in Virginia Beach, Washington, D.C., and Miami.

<sup>9</sup> Cynthia Angell, "Housing Bubble Concerns and the Outlook for Mortgage Credit Quality," *FDIC Outlook*, Spring 2004, Cynthia Angell, "Home Equity Lending: Growth and Innovation Alter the Risk Profile," *FDIC Outlook*, Winter 2004; Sally Runyan, "Credit Implications of Innovative Mortgage Products Examined," *Asset Securitization Report*, January 31, 2005; and Daniel McGinn, "Magical New Mortgages," *Newsweek*, June 14, 2004.

<sup>10</sup> See Dennis R. Capozza and Paul J. Seguin, "Expectations, Efficiency, and Euphoria in the Housing Market" (working paper 5179, National Bureau of Economic Research, July 1995, and David Genesove and Christopher Mayer, "Loss Aversion and Seller Behavior: Evidence from the Housing Market" (working paper 8143, National Bureau of Economic Research, March 2001, <http://www.nber.org/papers/W8143>).

#### **About *FYI***

*FYI* is an electronic bulletin summarizing current information about the trends that are driving change in the banking industry, plus links to the wide array of other FDIC publications and data tools.

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Last Updated 05/02/2005

**Chart 1. The number of home price booms has more than doubled in the past two years to a record 55 markets.**

This chart displays the number of all home price booms and busts by year from 1978 to 2004.

	<b>Booms</b>	<b>Busts</b>	<b>Count of &lt; 0% markets</b>
1978	4	0	0
1979	9	0	0
1980	1	0	0
1981	0	0	0
1982	0	0	0
1983	0	0	0
1984	0	-1	-1
1985	5	-1	-2
1986	13	-3	-4
1987	16	-4	-7
1988	24	-6	-9
1989	14	-8	-9
1990	15	-7	-9
1991	5	-3	-8
1992	1	-1	-6
1993	0	-2	-5
1994	3	-6	-9
1995	4	-4	-9
1996	3	-2	-9
1997	0	-2	-7
1998	0	0	-4
1999	1	-1	-1
2000	9	0	-1
2001	14	0	-1
2002	22	0	0
2003	32	0	0
2004	55	0	0

Booms: Real price gains of 30% or more in 3 years

Busts: Nominal price decline of at least 15% in 5 years

Source: FDIC (Office of Federal Housing Enterprise Oversight House Price Index, nominal and real, using Bureau of Labor Statistics Consumer Price Index less shelter inflation index).

**Table 1. Historical Evidence of U.S. Home Price Booms and Busts, 1978 - 2004**

This table displays years of home price booms and busts in metropolitan areas during the period 1978 to 2004.  
 Cities are grouped by geographic region.

Region and City	Boom		Bust		Years Data Not Available
	Years Where Real Home Prices Increased At Least 30 Percent From 3 Years Earlier	Maximum Real Price Increase	Years Where Nominal Home Prices Declined From 5 Years Earlier*	Maximum Nominal Price Decline	
<b>California</b>					
Bakersfield, CA	2004	+47%			
Chico, CA	2003, 2004	+49%			1978
Fresno, CA	2003, 2004	+58%			
Hanford-Corcoran, CA	2004	+38%			1978-1987
Los Angeles-Long Beach-Glendale Metro Div, CA	1978, 1979	+46%	1994, 1995, 1996, 1997, 1998	-20%	
	1988, 1989, 1990	+49%			
	2003, 2004	+53%			
Madera, CA	2003, 2004	+57%			1978-1983
Merced, CA	2002, 2003, 2004	+43%			1978
Modesto, CA	1990	+32%			
	2002, 2003, 2004	+44%			
Napa, CA	1990	+34%			1978
	2000, 2001, 2002, 2003, 2004	+46%			
Oxnard-Thousand Oaks-Ventura, CA	1979	+39%	1994, 1995, 1996, 1997	-17%	
	1988, 1989, 1990	+50%			
	2003, 2004	+53%			
Redding, CA	2003, 2004	+52%			1978-1980
Riverside-San Bernardino-Ontario, CA	1979	+40%	1994, 1995, 1996, 1997, 1998	-18%	
	2003, 2004	+58%			
Sacramento-Arden-Arcade-Roseville, CA	1979	+30%			
	1990	+32%			
	2002, 2003, 2004	+47%			
Salinas, CA	2000, 2001, 2002, 2003, 2004	+49%			
San Diego-Carlsbad-San	1979	+45%			

Marcos, CA	1989 2000, 2001, 2002, 2003, 2004	+32% +55%		
San Francisco-S Mateo-Redwood City Metro Div, CA	1978, 1979	+39%		
	1988, 1989, 1990	+54%		
	2000, 2001, 2002	+46%		
San Jose-Sunnyvale-Santa Clara, CA	1978, 1979	+40%		
	1989, 1990	+49%		
	1999, 2000, 2001, 2002	+51%		
San Luis Obispo-Paso Robles, CA	1989, 1990	+44%	1994, 1995, 1996, 1997	-16%
	2001, 2002, 2003, 2004	+46%		
Santa Barbara-Santa Maria-Goleta, CA	1989	+34%		
	2001, 2002, 2003, 2004	+53%		
Santa Cruz-Watsonville, CA	1988, 1989, 1990	+45%		
	2000, 2001, 2002	+48%		
Santa Rosa-Petaluma, CA	1989, 1990	+41%		
	2000, 2001, 2002	+48%		
Stockton, CA	2001, 2002, 2003, 2004	+38%		
Vallejo-Fairfield, CA	2001, 2002, 2003, 2004	+45%		
Visalia-Porterville, CA	2004	+36%		
Yuba City, CA	2003, 2004	+56%		1978-1986

#### Other Western Locations

Bellingham, WA	1990, 1991, 1992	+43%		1978
Bend, OR	1990, 1991	+32%		1978-1985
Boulder, CO	1994	+31%		
	2001	+31%		
Carson City, NV	2004	+44%		1978-1987
Corvallis, OR	1994, 1995	+36%		1978-1985
Denver-Aurora, CO	1979	+35%		
Las Vegas-Paradise, NV	2004	+43%		
Medford, OR	2004	+31%		1978-1980
Mount Vernon-Anacortes, WA	1990, 1991	+37%		1978-

						1985
Ogden-Clearfield, UT	1995, 1996	+30%				
Provo-Orem, UT	1995, 1996	+34%				1978-1982
Reno-Sparks, NV	2004	+41%				
Salt Lake City, UT	1994, 1995, 1996	+36%				
Seattle-Tacoma-Bellevue, WA	1978, 1979	+51%				
	1990, 1991	+38%				
<b>Oil Patch</b>						
Anchorage, AK			1987, 1988, 1989, 1990, 1991	-29%		1978-1981
Austin-Round Rock, TX			1989, 1990, 1991, 1992	-25%		
Casper, WY			1988, 1989, 1990	-34%		1978-1982
Grand Junction, CO			1985, 1986, 1987, 1988	-29%		1978-1979
Houston-Baytown-Sugar Land, TX			1986, 1987, 1988, 1989, 1990	-22%		
Lafayette, LA			1986, 1987, 1988, 1989, 1990, 1991	-39%		1978-1980
Midland, TX			1987, 1988, 1989, 1990, 1991, 1992	-31%		1978-1981
Odessa, TX			1989, 1990, 1991	-24%		1978-1983
Oklahoma City, OK			1987, 1988, 1989, 1990, 1991	-26%		
San Antonio, TX			1988, 1989, 1990, 1991, 1992	-17%		1978
<b>New England</b>						
Barnstable Town, MA	1987, 1988	+62%	1992, 1993, 1994, 1995	-15%		1978-1983
	2000, 2001, 2002, 2003, 2004	+48%				
Boston-Quincy Metro Div, MA	1985, 1986, 1987, 1988	+74%				
	2000, 2001, 2002, 2003, 2004	+38%				
Bridgeport-Stamford-Norwalk, CT	1985, 1986, 1987, 1988	+71%				
Burlington-South Burlington, VT	1988	+32%				1978-1984
Hartford-West Hartford-East Hartford, CT	1986, 1987, 1988, 1989	+61%	1993, 1994, 1995, 1996, 1997, 1998	-17%		

Manchester-Nashua, NH	1986, 1987, 1988	+55%	1991, 1992, 1993, 1994, 1995, 1996	-20%	1978-1982
	2002, 2003	+35%			
New Haven-Milford, CT	1986, 1987, 1988	+76%	1992, 1993, 1994, 1995, 1996, 1997	-16%	
Norwich-New London, CT	1988	+50%	1993, 1994, 1995, 1996	-16%	1978-1984
	2004	+31%			
Portland-South Portland-Biddeford, ME	1986, 1987, 1988	+47%			1978-1982
	2004	+30%			
Providence-New Bedford-Fall River-Warwick, RI	1985, 1986, 1987, 1988, 1989	+69%			
	2002, 2003, 2004	+46%			
Springfield, MA	1986, 1987, 1988	+63%			1978-1979
Worcester, MA-CT	1985, 1986, 1987, 1988	+71%			1978-1979
	2002, 2003, 2004	+34%			
<b>Other Northeast</b>					
Albany-Schenectady-Troy, NY	1986, 1987, 1988	+49%			1978-1979
Allentown-Bethlehem-Easton, PA-NJ	1987, 1988, 1989	+48%			
Atlantic City, NJ	2004	+40%			1978-1983
Baltimore-Towson, MD	2004	+36%			
Hagerstown-Martinsburg, MD-WV	2004	+30%			1978-1987
Kingston, NY	2003, 2004	+41%			1978-1985
New York-Wayne-White Plains Metro Div, NY	1985, 1986, 1987, 1988	+67%			
	2002	+30%			
	2004	+33%			
Ocean City, NJ	2002, 2003, 2004	+44%			1978-1985
Philadelphia Metro Div, PA	1987, 1988, 1989	+42%			
	2004	+30%			
Poughkeepsie-Newburgh-Middletown, NY	1986, 1987, 1988	+63%			1978-1980

	2003, 2004	+41%			
Scranton-Wilkes-Barre-Hazelton, PA	1988	+31%			1978-1983
Trenton-Ewing, NJ	1986, 1987, 1988	+61%			
	2004	+32%			
Virginia Beach-Norfolk-Newport News, VA-NC	2004	+31%			
Washington-Arlington-Alexandria Metro Div, DC	1988	+31%			
	2003, 2004	+40%			
Winchester, VA-WV	2004	+35%			1978-1988
<b>Florida</b>					
Cape Coral-Fort Myers, FL	2003, 2004	+38%			1978-1982
Deltona-Daytona Beach-Ormond Beach, FL	2004	+35%			
Fort Walton Beach-Crestview-Destin, FL	2004	+32%			1978-1986
Miami-Fort Lauderdale-Miami Beach, FL	2003, 2004	+45%			
Naples-Marco Island, FL	2002, 2003, 2004	+35%			1978-1983
Palm Bay-Melbourne-Titusville, FL	2004	+43%			1978-1979
Panama City-Lynn Haven, FL	2004	+30%			1978-1985
Port St. Lucie-Fort Pierce, FL	2003, 2004	+54%			1978-1979
Punta Gorda, FL	2003, 2004	+42%			1978-1986
Sarasota-Bradenton-Venice, FL	2004	+37%			
Vero Beach, FL	2004	+38%			1978-1984
<b>Other</b>					
Honolulu, HI	1980	+30%	1996, 1997, 1998, 1999, 2000, 2001	-16%	
	1989, 1990, 1991	+60%			
	2004	+35%			
Peoria, IL			1984, 1985, 1986, 1987, 1988	-16%	

\* A city must include at least one 5-year period where nominal prices declined by more than 15 percent.

Source: FDIC (Office of Federal Housing Enterprise Oversight House Price Index, nominal and real, using Bureau of Labor Statistics Consumer Price Index less shelter inflation index).

**Table 1. Historical Evidence of U.S. Home Price Booms and Busts, 1978 - 2004**

LEGEND: BOOM = Years where real home prices increased at least 30 percent from 3 years earlier.  
BUST = Years where real home prices decreased at least 30 percent from 3 years earlier.

**BUST =** Years where nominal home prices declined from 5 years earlier.  
(City must include at least one 5 year period where nominal

(City must include at least one 5-year period where nominal price declined by more than 15 percent.)

Numbers in bold indicate maximum 3-year real price increase in a boom, or maximum nominal 5-year price decline in a bust; duplicate numbers in bold indicate the same maximum was reached in two separate years.

Is Bust Always Follow Boom?" M

Source: Fannie Mae's Home Price Index. Does Bush Always Follow Boen? May 2, 2005. (Office of Federal Housing Enterprise Oversight House Price Index, Nominal and real, using Bureau of Labor Statistics Consumer Price Index less shelter inflation index).