

**STATEMENT OF**

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CHIEF ECONOMIST  
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**on**

**THE HOUSING BUBBLE AND ITS IMPLICATIONS FOR THE ECONOMY**

**before the**

**SUBCOMMITTEE ON ECONOMIC POLICY**

**and**

**SUBCOMMITTEE ON HOUSING AND TRANSPORTATION**

**COMMITTEE ON BANKING, HOUSING AND URBAN AFFAIRS  
U.S. SENATE**

**September 13, 2006  
Room 538, Dirksen Senate Office Building**

Chairman Allard, Chairman Bunning, Senator Reed and Senator Schumer, I appreciate the opportunity to testify on behalf of the Federal Deposit Insurance Corporation concerning housing markets and their implications for the economy. Like the other panelists testifying today, the FDIC closely monitors the current conditions in U.S. housing markets.

Rather than restating the housing data available for economic analysis, my testimony will summarize some recent analysis performed by FDIC staff economists on historical boom and bust cycles in the U.S. housing markets. This analysis of almost 30 years of boom and bust cycles should complement the presentations of my fellow panelists and provide the Subcommittees with perspective on the credit risks of these cycles to banks and thrift institutions.

My testimony will address four main topics: 1) the condition of the banking industry and its role in housing finance; 2) the historical performance of real estate loan portfolios at banks and thrifts; 3) the FDIC's recent analysis of housing boom and bust cycles; and 4) the implications for the future path of U.S. home prices.

#### Banking Industry Condition and Role in Housing Finance

At the outset of my testimony, I would like to emphasize that FDIC-insured banks and thrift institutions continue to exhibit strong earnings, low credit losses and historically high levels of capital. The industry as a whole has posted five consecutive

annual earnings records and two consecutive quarterly earnings records. As of June 30, noncurrent loans measured just 0.70 percent of total loans, the lowest such ratio in the 22 years these data have been collected.<sup>1</sup> At that same date, the industry's Tier 1 Risk Based Capital Ratio was 10.72%, near a historic high for this ratio. In addition, no FDIC-insured institution has failed in over two years -- the longest such period in the FDIC's history.

FDIC-insured institutions are extremely active in virtually every aspect of housing finance. These institutions act as lenders for home construction and the permanent financing of both single family and multifamily homes, as loan servicers and as issuers and investors in mortgage-backed securities. These lines of business have been very important in recent years to the ability of depository institutions to generate both loan growth and fee income, and have helped support the recent high levels of earnings.

Table 1 (attached) shows that housing-related assets held by FDIC-insured institutions generally grew faster than commercial and industrial loans in the early stages of this economic expansion. In the most recent reporting period, year-over-year growth in holdings of single-family mortgages slowed slightly to 10.5 percent, but holdings of construction and development loans (which include both residential and nonresidential properties) are currently growing at an annual rate of over 30 percent.

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<sup>1</sup> Noncurrent loans are defined as loans 90 days or more past due or in nonaccrual status.

## Historical Performance of Real Estate Loan Portfolios at Banks and Thrifts

Across the historical period for which loan performance data are available, mortgage lending has generally proven to be a relatively low risk line of business accompanied by comparatively low returns. Charts 1 and 2 show that both the average return on assets and the average loan chargeoff rate for institutions specializing in mortgage lending have generally remained below the average for all FDIC-insured institutions over the past 15 years. This performance is not surprising because mortgage loans have traditionally been collateralized, subject to industry-standard underwriting practices and tradable in a fairly deep and liquid secondary market.

In contrast, the credit performance of construction and development (C&D) loans has tended to be more variable over the long-term. Specifically, Charts 3 and 4 show that C&D loans performed poorly on average during the banking and thrift crises of the late 1980s and early 1990s. During that period, speculative construction loans, both for residential and nonresidential properties, played a significant role in the failure of institutions insured by the FDIC and the FSLIC.<sup>2</sup> By contrast, the average overall performance of home mortgage loans remained comparatively strong during the early 1990s and has remained so up to the present time.

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<sup>2</sup> See FDIC, *History of the Eighties-Lessons for the Future*, Chapter 3: “Commercial Real Estate and the Banking Crises of the 1980s and early 1990s,” 1997.

It also is important to note that recent ratios of both problem loans and net chargeoffs have been very low by historical standards in every loan category related to housing finance. This performance can be attributed in large part to the low interest rates of recent years, as well as the large home price increases that have been seen in many parts of the nation.

Notwithstanding the lower losses generally associated with mortgage loans over time, mortgage credit distress has been observed historically in certain metropolitan areas where severe local economic distress was accompanied by steep declines in home prices. A prime example was Houston, Texas between 1984 and 1987. As documented in the FDIC's history of the period, the shifting fortunes of the oil industry -- from boom in the early 1980s to bust after 1985 -- was the primary force behind both a real estate bust in the latter half of that decade and the failure of hundreds of federally-insured depository institutions in the region. This boom-bust cycle represented the most serious of the regional banking crises experienced around the nation during that era.

#### Recent FDIC Analysis of Housing Boom and Bust Cycles

Given its historical experience, the FDIC has in recent years continuously monitored trends in U.S. home prices and mortgage lending practices as part of its risk analysis activities. FDIC analysts issued two companion studies in our *FYI* series in February and May 2005 that examined housing boom and bust cycles. These studies,

which are summarized in my testimony and available on the FDIC's website<sup>3</sup>, concluded that housing booms do not necessarily lead to housing busts. Instead, the analysis found that housing busts were usually associated with episodes of local economic distress.

### *Analytical Approach*

The FDIC studies make use of the OFHEO House Price Index (HPI) series, which tracks average house prices for many U.S. metropolitan areas as far back as 1977. Based on "matched sale" observations of sale prices, and appraisals on refinancings, for the same properties over time, these data are thought to be a reliable indicator of home price trends that is relatively unaffected by changes in the composition of the housing stock.

Measuring annual changes in HPI for all metropolitan areas for which it is available, the FDIC analysts asked three simple questions:

- Where have housing booms been located?
- Where have housing busts been located?
- Does boom necessarily lead to bust in U.S. housing markets?

In order to answer these questions, the analysts first had to develop definitions of boom and bust in terms of observed price changes.

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<sup>3</sup> C. Angell and N. Williams, "U.S. Home Prices: Does Bust Always Follow Boom?," FDIC, *FYI*, February 10, 2005, <http://www.fdic.gov/bank/analytical/fyi/2005/021005fyi.html>, and Angell and Williams, "FYI Revisited - U.S. Home Prices: Does Bust Always Follow Boom?," FDIC, *FYI*, May 2, 2005, <http://www.fdic.gov/bank/analytical/fyi/2005/050205fyi.html>.

The definition of a housing boom used in the studies includes any metropolitan area that experienced at least a 30 percent increase in its HPI -- adjusted for inflation -- during a given three-year period. This definition serves not only to identify cities that have experienced large cumulative upward price changes in a relatively short period, but the inflation adjustment also helps to create a standard yardstick that can be used to compare price changes during periods of relatively high inflation (the late 1970s) with periods of relatively low inflation (since the early 1990s).

The analysts also created a standard definition for a metropolitan-area housing bust, namely any metropolitan area that experienced at least a 15 percent decline in HPI, in nominal terms, during a given five-year period. Nominal, as opposed to inflation-adjusted, price changes were used in the definition of a bust because it is nominal price declines that can potentially erode the equity of homeowners and reduce the incentive to repay the loan as well as the proceeds that can be obtained from the underlying collateral in the event of foreclosure. A nominal price decline of 15 percent was chosen because this represents a serious erosion of value. Such a decline would eliminate any equity of homebuyers who made only a 10 percent down payment and would seriously impair the equity of those who made a 20 percent down payment. Given the increase in high loan-to-value mortgage lending during the recent housing boom, a decline of this magnitude could cause concern.<sup>4</sup>

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<sup>4</sup> In 2005, 43 percent of first-time buyers obtained 100 percent financing. Source: "2005 National Association of Realtors Profile of Home Buyers and Sellers," NAR, January 2006.

Finally, a five-year period was chosen in the definition of bust because of the observation that price declines tend to be long, drawn-out affairs rather than brief, precipitous declines. What this means is that home prices tend to be -- in economist jargon -- “sticky downward,” with consequences described below.

### *Historical Results*

Applying these standard definitions for booms and busts over the period from 1978 through 1998, FDIC analysts generated the list of cities that appears in Table 2. Based on these results, a few straightforward observations may be made.

1. Housing booms and housing busts, as well as other price trends that do not quite meet the FDIC’s definitions, tend to be long-term trends that play out over years.
2. Despite the fact that the definition of a bust is somewhat less stringent than that of a boom, busts are observed to be relatively rare events. Prior to 2000, only 21 busts were observed compared with 54 housing booms.
3. Of the 21 metropolitan-area housing busts, only nine (43 percent) were preceded within five years by a housing boom.



4. Conversely, of the 54 observed metropolitan-area housing booms, only nine (17 percent) led to a housing bust within five years.
  
5. Housing booms do not last forever. Most commonly, they are followed by an extended period of “stagnation” where prices may fall, but usually not by enough to meet the FDIC’s definition of a bust.

Based on these results, FDIC analysts could not conclude that boom necessarily leads to bust. Instead, they found that housing busts were usually associated with episodes of local economic distress, such as the energy-sector problems that beset Houston in the mid-1980s.

Other metropolitan areas where housing busts were at least in part attributable to problems in the energy sector included Anchorage, AK; Casper, WY; Grand Junction, CO; Lafayette, LA; Oklahoma City, OK; and five metropolitan areas in Texas. The study also attributed early 1990s housing busts in parts of New England and Southern California to a combination of defense industry cutbacks, a slowdown in commercial real estate construction, and the effects of the 1990-91 recession. Finally, the busts recorded in Peoria, IL from 1984 through 1988 and Honolulu, HI from 1996 through 2001 were largely attributed to the effects of distress in the U.S. farm sector and the Japanese economy, respectively, and were both interpreted in the study as arising from outside the local housing sector itself.

The finding that housing booms do not necessarily lead to bust is somewhat reassuring from a risk management perspective. The periods of price stagnation that typically follow booms have not necessarily been associated with high mortgage credit losses to the degree that have sometimes been seen in bust markets. Rather housing stagnation tends to be characterized by steep declines in common measures of housing market activity, including new home sales, existing home sales, and housing starts. Home price stagnation can also be marked by declines in home prices that do not meet the FDIC's criteria for a bust.

The FDIC's analysis shows that average home prices fell in at least one year of the five years following a housing boom in 35 of the 54 booms that were identified. In 28 cases, the cumulative five-year change in home prices following the boom was negative, although only nine of these cases met the "15 percent" criteria for a bust.

These periods of stagnation can be painful for homeowners, real estate investors, and others who make their living in real estate. In places like metropolitan New York, where prices fell by nine percent between 1988 and 1991, or Washington, D.C., where home prices remained essentially unchanged on average between 1990 and 1995, many can still recall the difficulties and disappointments they experienced trying to sell properties during the early 1990s. While often difficult in an individual situation, the credit implications of such periods of stagnation are much less severe, at least for mortgage loans, than situations where home prices decline sharply.

### *Current Boom Markets*

Somewhat less reassuring, however, are the results derived by applying the studies' framework to the U.S. housing boom that developed during the first half of this decade and that now appears to be near an end.

Chart 5 tracks the number of boom markets from 1978 through 2005. It shows that the number of boom markets has grown rapidly all through this decade -- accelerating after 2002 as the number of markets exceeded its previous 1988 peak and nearly tripling to 89 metropolitan areas. A listing of all recent boom markets and 3-year cumulative percent changes in average real home prices in these markets is provided in Table 3.

As in previous housing booms, recent boom markets have continued to be concentrated in the Northeast, the Middle Atlantic States, California, the Northwest, and areas of the Mountain West States. The state of Florida, which had never experienced a boom market according to the FDIC's criteria between 1977 and 2002, was home to 21 boom markets as of 2005.

Factors shared by many boom markets -- particularly those that had recurrent booms across time -- include a combination of vibrant economies that are generating jobs

and drawing in new residents, or a scarcity of available land on which to build new homes to meet demand, or both. By contrast, metropolitan areas in the middle of the country that depend more heavily on agriculture and manufacturing, and where land is readily available, have generally had much lower rates of home price appreciation in this decade.

However, the intensification of the home price boom since 2002 has been unprecedented in scale as well as in scope. Chart 6 tracks annual changes at the national level in both the OFHEO home price index and disposable personal incomes, both measured in nominal terms. It shows that while disposable incomes have grown slightly faster than average home prices during most years, home prices began to grow faster than incomes beginning in 2001 much the same as they had during previous boom periods in 1978-79 and 1986-87. What stands out in Chart 6 is the acceleration of average U.S. home price growth to double-digit rates in 2004 and 2005. Average U.S. home prices grew more than three times faster than disposable incomes in 2005.

### *Recent Changes in Mortgage Markets*

In seeking to explain the recent acceleration in home price growth, the FDIC analysts in their May 2005 *FYI* study pointed to important changes in the mortgage lending business in 2004 and 2005 that may be related to the acceleration of home price growth. Certainly, low short-term and long-term interest rates are factors that have helped to support home price growth in recent years. However, in 2004, just as short-

term interest rates were beginning to rise, borrowers began to migrate toward adjustable-rate mortgages (ARMs) that are commonly indexed to short-term interest rates.

According to the Federal Housing Finance Board, over 30 percent of all conventional mortgages closed in 2004 and 2005 were ARMs. The ARM share moderated to 25 percent by the second quarter of 2006. The percentage of ARMs among subprime mortgages is higher. Within subprime mortgage backed securities, the share of ARMs was far higher, close to 80 percent.<sup>5</sup> The prevalence of subprime loans among all mortgage originations doubled from 9 percent in 2003 to 19 percent in 2004.<sup>6</sup>

One possible explanation for the shift toward ARMs and subprime loans is that prime borrowers with a preference for fixed-rate mortgages refinanced in record numbers as long-term interest rates fell to the lowest rates in a generation in 2003. This refinancing boom may have tended to skew the composition of mortgage loans in 2004 and 2005 more toward subprime and ARM borrowers. Another explanation might be that new homebuyers were increasingly using the lower monthly payments associated with ARMs to cope with rapidly rising home prices.

Adjustable-rate mortgage borrowers also increasingly turned to interest-only and payment option loan structures in 2004 and 2005.<sup>7</sup> These mortgages are specifically

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<sup>5</sup> See "ARMs Power the Subprime MBS Market in Early 2006," *Inside B&C Lending*, July 21, 2006. Subprime mortgages are higher-interest mortgages that involve elevated credit risk. For more on subprime mortgages, see C. Angell, "Breaking New Ground in U.S. Mortgage Lending," FDIC Outlook, Summer 2006. [http://www.fdic.gov/bank/analytical/regional/ro20062q/na/2006\\_summer04.html](http://www.fdic.gov/bank/analytical/regional/ro20062q/na/2006_summer04.html).

<sup>6</sup> See "Mortgage Originations by Product," *Inside Mortgage Finance*, February 25, 2005.

<sup>7</sup> In an interest-only (IO) mortgage, the borrower is required to pay only the interest due on the loan for the first few years, during which time the rate may be fixed or fluctuate. After the IO period, the rate may be

designed to minimize initial mortgage payments by eliminating or relaxing the requirement to repay principal during the early years of the loan. Although it is difficult to measure the use of these mortgage structures across all mortgage originations, they appear to have made up as much as 40 to 50 percent of all loans securitized by private issuers of mortgage-backed securities during 2004 and 2005.

Finally, there is evidence that a significant proportion of mortgage loans were made to real estate investors in 2004 and 2005. The National Association of Realtors found that 28 percent of all homes purchased in 2005 were for investment rather than occupancy by the buyers, up from 25 percent in 2004.<sup>8</sup> This high share signals an increase in speculative purchases of residential properties, particularly condominiums. While speculative buying is a fairly common feature of housing booms, this activity deserves particular mention when home price increases have been so large and when use of nontraditional mortgages has increased as much as in the past two years.

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fixed or fluctuate based on the prescribed index; payments consist of both principal and interest. In a payment option ARM, the borrower may choose from a number of payment options that may include options that allow for negative amortization – an increase in the principal balance of the loan. For more on these loan types, see C. Angell, “Breaking New Ground in U.S. Mortgage Lending,” FDIC Outlook, Summer 2006. [http://www.fdic.gov/bank/analytical/regional/ro20062q/na/2006\\_summer04.html](http://www.fdic.gov/bank/analytical/regional/ro20062q/na/2006_summer04.html).

<sup>8</sup> “Second Home Sales Hit Another Record in 2005; Market Share Rises,” NAR, April 5, 2006, <http://www.realtor.org/PublicAffairsWeb.nsf/Pages/SecondHomeSales05?OpenDocument>. Loan data compiled by LoanPerformance Corporation from its loan-service companies found that 9.5 percent of home-purchase mortgages in 2005 were for investors, up from 8.6 percent in 2004. The discrepancy between the two reports may lie in differences in data collection and reporting. LoanPerformance does not capture data on homes purchased without a loan, and some investors may not identify themselves as such to lenders in order to avoid higher rates typically charged to investors. “Investment Homes To Get Less Focus, Realtors Predict,” *The Wall Street Journal*, April 6, 2006.

## Implications for the Future Path of U.S. Home Prices

After undergoing a boom of historic proportions in recent years, a variety of recent indicators show that housing market activity is waning in most areas of the nation. Sales of new homes in July 2006 were 22 percent lower than a year ago, while sales of existing homes were down 11 percent. Home price increases in most markets appear to be tapering off to single-digit rates, while small price declines have been seen in a number of markets located in the upper Midwest states.

The FDIC's analysis of metropolitan-area boom and bust cycles over a period of almost 30 years indicates that the metropolitan-area housing booms that have recently occurred in record numbers cannot last indefinitely. In their aftermath, there will almost certainly be one of two possible outcomes: 1) a period of stagnation with weak home prices and even weaker measures of housing market activity; or 2) a price bust, or a sharp decline in home prices with severe adverse consequences for homeowners, lenders and the real estate sector as a whole.

The historical experience clearly implies that a widespread price bust remains an unlikely outcome for two reasons. One is that historically price busts are typically associated with severe local economic distress that arises from outside the housing sector itself. While recent macroeconomic performance has benefited a great deal from expansion in the housing sector, the prospects appear good that the solid growth in jobs and incomes that has occurred in recent quarters will continue to be supported by other

sectors of the economy, including business investment, exports and nonresidential construction.

The second reason a home price bust remains an unlikely outcome is the anticipated response on the part of homeowners to weakness in their local real estate market. As was mentioned earlier in my testimony, home prices tend to be “sticky downward” in large part because homeowners are usually extremely reluctant to sell their homes at a loss unless forced to do so by the relocation or loss of their jobs. Under a wide range of adverse economic scenarios, homeowners have proven to go to extraordinary lengths to avoid selling their homes at a loss. Most commonly, they will simply choose to remain in them, or to rent them so as to cover at least part of their debt service costs. While the reluctance to sell has the effect of limiting the extent of the decline in home prices, the resulting period of stagnation can last for years.

The exception to this rule has been episodes of severe local economic distress that produce large job losses, declines in personal incomes, and, in many cases, out-migration to other areas where job prospects are brighter. While such circumstances remain possible in areas dominated by troubled industry sectors, they will remain the exception rather than the rule.

What is yet to be determined is the effect that recent changes in the mortgage lending business may have on the ability of homeowners to meet their monthly obligations under adverse housing market conditions. While adjustable-rate mortgages



are not new in the marketplace, many of the newly popular interest-only and payment option structures may lead to a significant increase in monthly payments due to higher short-term interest rates or simply the expiration of low introductory interest rates. It remains uncertain how much the “payment shock” associated with these structures may contribute to selling pressure in local housing markets on the part of distressed homeowners or lenders looking to sell foreclosed properties.

It is important to note that the overall prevalence of nontraditional mortgage structures remains fairly limited. While total ARMs originated in 2004 and 2005 are estimated to represent approximately 22 percent of all U.S. mortgage loans, it is likely that just under half that amount is comprised of interest-only and payment option structures<sup>9</sup>. Borrowers who took on nontraditional loans as a means to afford a more expensive home may be particularly vulnerable to adverse housing market conditions. However, other borrowers who have used these structures to help manage their wealth or compensate for irregular income streams will be less severely affected.

## Conclusion

In conclusion, FDIC studies indicate that housing price booms historically have not necessarily been followed by housing price busts. Instead, they found that housing busts were usually associated with episodes of local economic distress, such as the energy-sector problems that beset Houston in the mid-1980s. Housing booms are more

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<sup>9</sup> “Mortgage Payment Resets: The Rumor and the Reality,” C. Cagan, First American Real Estate Solutions, February 8, 2006.

frequently followed by periods of housing stagnation that tend to be characterized by steep declines in common measures of housing market activity, including new home sales, existing home sales, and housing starts. Home price stagnation can also be marked by declines in home prices that do not meet the FDIC's criteria for a bust.

Although housing price booms have not necessarily been followed by housing price busts, there are two factors in today's markets that are different from the historical experience. The number of boom markets is substantially higher currently than the historical experience. In addition, the use of ARMs and non-traditional mortgage products is unprecedented and could have an impact on future market performance.

This concludes my testimony. I will be happy to respond to any questions the Subcommittees might have.

**Tables and Charts Accompanying the Testimony of Richard A. Brown  
Federal Deposit Insurance Corporation  
September 13, 2006**

*In order of reference*

Table 1

Annual Rates of Growth in Housing-Related Assets  
Held by FDIC-Insured Institutions, 2002 - June 2006

Asset Category	2002	2003	2004	2005	June 2006 /1
<b>Housing-Related Assets</b>					
Mortgage-Backed Securities	12.6%	7.6%	13.4%	2.3%	6.3%
1- to 4-Family Mortgages	9.6%	6.5%	14.0%	11.2%	10.5%
Home Equity Lines of Credit	39.1%	34.9%	41.8%	8.9%	4.1%
Loans Secured by Multifamily Properties	9.6%	12.3%	11.4%	11.3%	6.5%
Construction and Development (C&D) Loans <i>-includes both residential and nonresidential properties</i>	5.8%	11.2%	24.0%	33.2%	31.8%
<b>Other Loan Categories</b>					
Commercial and Industrial (C&I) Loans	-6.6%	-3.3%	5.1%	12.2%	11.8%
Loans Secured by Commercial Real Estate (CRE) Properties	10.2%	8.7%	10.3%	9.8%	9.7%
Consumer Loans					
<b>Total Assets</b>	<b>7.2%</b>	<b>7.6%</b>	<b>11.4%</b>	<b>7.6%</b>	<b>10.0%</b>

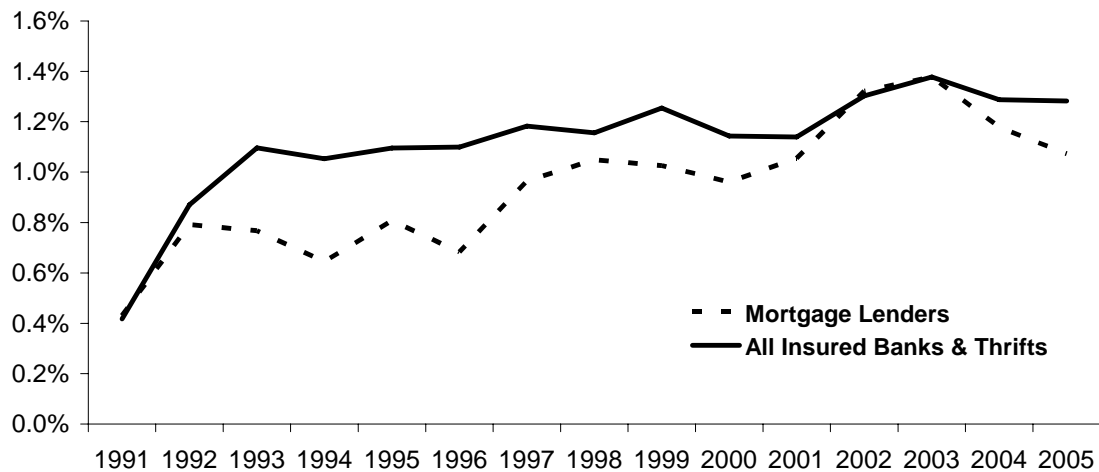
Source: FDIC

1/ Growth rate for June 2006 reflects percent change from a year ago.

Chart 1

**Earnings of FDIC-Insured Mortgage Lenders Have Been Steady, if Unspectacular, in Recent Years**

Annual Return on Average Assets

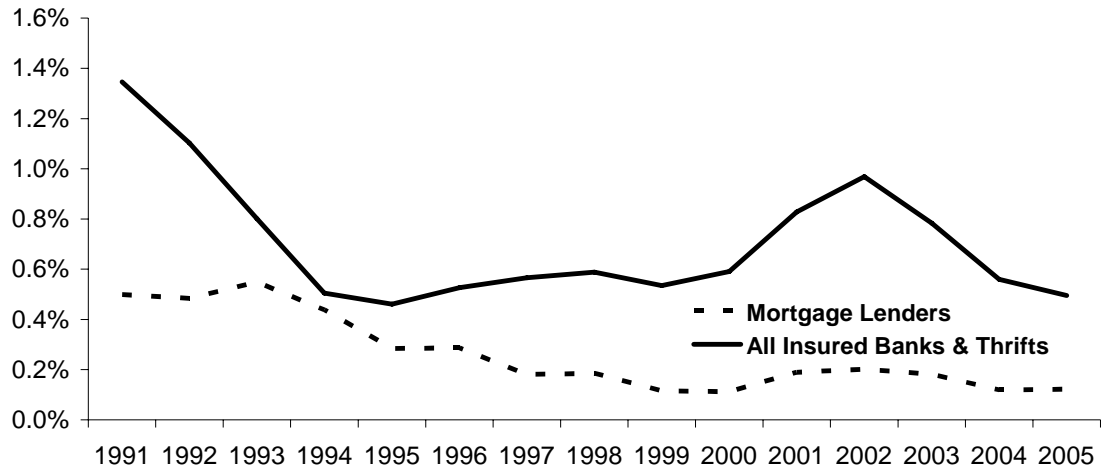


Source: FDIC. Mortgage lenders include those institutions whose residential mortgage loans, plus mortgage-backed securities, exceed 50 percent of total assets.

## Chart 2

### Loan Losses of FDIC-Insured Mortgage Lenders Have Generally Remained Well Below Industry Averages

Annual Net Loan Chargeoffs to Average Loans and Leases

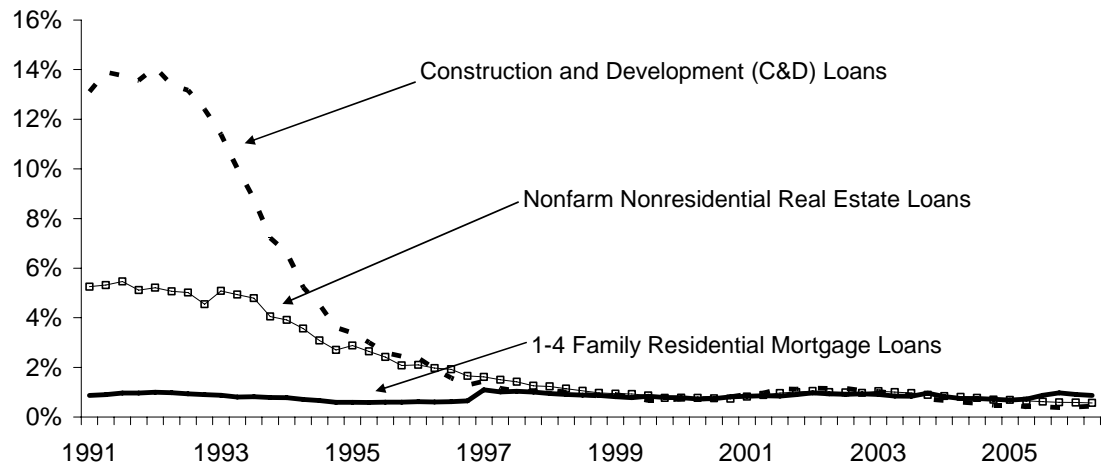


Source: FDIC. Mortgage lenders include those institutions whose residential mortgage loans, plus mortgage-backed securities, exceed 50 percent of total assets.

## Chart 3

### Noncurrent Rates for Home Mortgage Loans Have Stayed Far Below Rates for Other Real Estate Loans in Times of Distress

Noncurrent Loans as a Percent of Total Loans, Quarterly\*

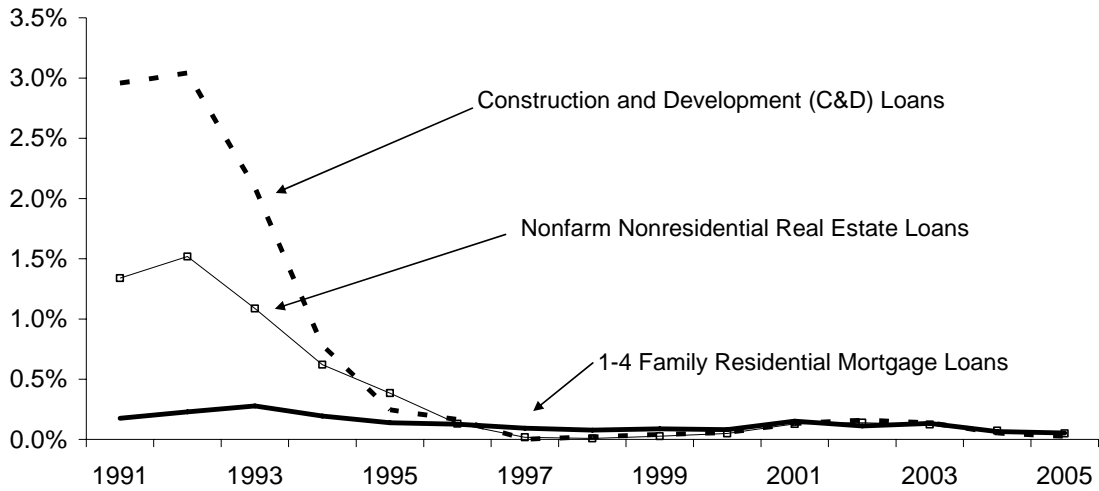


Source: FDIC. \* Noncurrent loans = loans 90 days or more past due or in nonaccrual status. Data for these individual loan types began to be collected in 1991.

## Chart 4

### Chargeoff Rates for Home Mortgage Loans Have Stayed Below Rates for Other Real Estate Loans in Times of Distress

Annual Net Charge-off Rate, As Percent of Average Loans



Source: FDIC. Data for these individual loan types began to be collected in 1991.

Table 2

## Metro-Area Housing Booms and Busts, 1978-1998, as Identified in FDIC Studies

Metropolitan Area	Boom Years	Bust Years	Bust Follows Boom?
<b>California</b>			
Los Angeles-Long Beach-Glendale Metro Div, CA	1978-79		
Los Angeles-Long Beach-Glendale Metro Div, CA	1988-90	1994-98	Y
Modesto, CA	1990		
Napa, CA	1990		
Oxnard-Thousand Oaks-Ventura, CA	1979		
Oxnard-Thousand Oaks-Ventura, CA	1988-90	1994-97	Y
Riverside-San Bernadino-Ontario, CA	1979		
Riverside-San Bernadino-Ontario, CA		1994-98	
Sacramento-Arden-Arcade-Roseville, CA	1979		
Sacramento-Arden-Arcade-Roseville, CA	1990		
San Diego-Carlsbad-San Marcos, CA	1979		
San Diego-Carlsbad-San Marcos, CA	1989		
San Francisco-San Mateo-Redwd Cty Metro Div, CA	1978-79		
San Francisco-San Mateo-Redwd Cty Metro Div, CA	1988-90		
San Jose-Sunnyvale-Santa Clara, CA	1978-79		
San Jose-Sunnyvale-Santa Clara, CA	1989-90		
San Luis Obispo-Paso Robles, CA	1989-90	1994-97	Y
Santa Barbara-Santa Maria-Goleta, CA	1989		
Santa Cruz-Watsonville, CA	1988-90		
Santa Rosa-Petaluma, CA	1989-90		
<b>Other Western</b>			
Bellingham, WA	1990-92		
Bend, OR	1990-91		
Boulder, CO	1994		
Corvallis, OR	1994-95		
Denver-Aurora, CO	1979		
Missoula, MT	1994		
Mount Vernon-Anacortes, WA	1990-91		
Ogden-Clearfield, UT	1995-96		
Provo-Orem, UT	1995-96		
Salt Lake City, UT	1994-96		
Seattle-Bellevue-Everett Metro Division, WA	1978-79		
Seattle-Bellevue-Everett Metro Division, WA	1990-91		
<b>Oil Patch</b>			
Anchorage, AK		1986-91	
Austin-Round Rock, TX		1989-92	
Casper, WY		1988-90	
Grand Junction, CO		1985-88	
Houston-Baytown-Sugar Land, TX		1986-90	
Lafayette, LA		1986-91	
Midland, TX		1987-92	
Odessa, TX		1989-91	
Oklahoma City, OK		1987-91	
San Antonio, TX		1988-92	

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Table 2

Metro-Area Housing Booms and Busts, 1978-1998, as Identified in FDIC Studies

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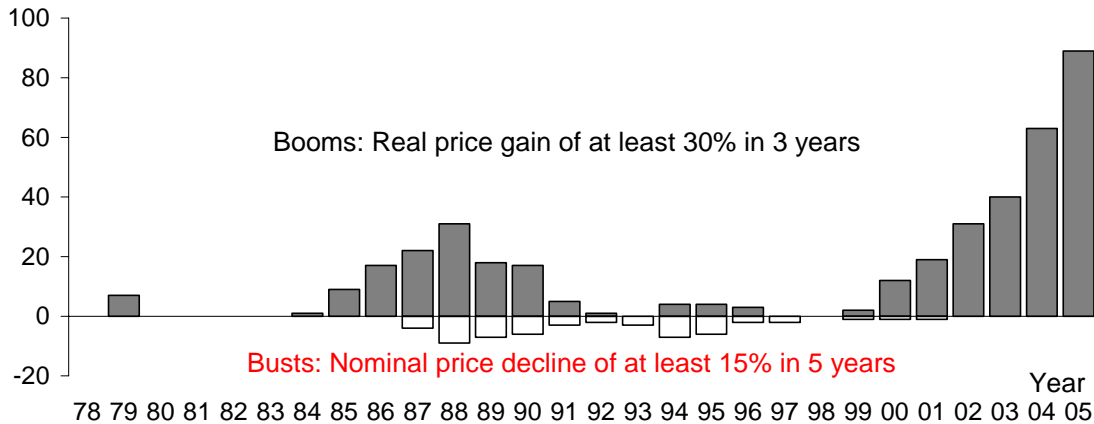
Metropolitan Area	Boom Years	Bust Years	Bust Follows Boom?
<b>New England</b>			
Barnstable Town, MA	1987-88	1992-95	Y
Boston-Cambridge-Quincy Metro Division, MA	1985-88		
Bridgeport-Stamford-Norwalk, CT	1985-88		
Burlington-South Burlington, VT	1986-88		
Hartford-West Hartford-East Hartford, CT	1986-88	1993-98	Y
Manchester-Nashua, NH	1986-88	1991-96	Y
New Haven-Milford, CT	1986-88	1992-97	Y
Norwich-New London, CT	1988	1993-96	Y
Portland-South Portland-Biddeford, ME	1986-88		
Providence-New Bedford-Fall River-Warwick, RI	1985-89		
Springfield, MA	1986-88		
Worcester, MA-CT	1985-88		
<b>Other Northeast</b>			
Albany-Schenectady-Troy, NY	1986-88		
Allentown-Bethlehem-Easton, PA-NJ	1987-89		
New York-Northern NJ-Long Island, NY-NJ	1985-88		
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	1987-88		
Poughkeepsie-Newburgh-Middletown, NY	1986-88		
Scranton-Wilkes-Barre-Hazleton, PA	1988		
Trenton-Ewing, NJ	1986-88		
Washington-Arlington-Alexandria Metro Div, DC	1988-89		
<b>Other Regions</b>			
Honolulu, HI	1980		
Honolulu, HI	1989-91	1996-2001	Y
Niles-Benton Harbor, MI	1985		
Peoria, IL		1984-88	

Source: Adapted from: Cynthia Angell and Norman Williams, "U.S. Home Prices: Does Bust Always Follow Boom?" Federal Deposit Insurance Corporation, *FYI*, February 10, 2005.

### Chart 5

## The Number of U.S. "Boom" Housing Markets Nearly Tripled to 89 Between 2002 and 2005

Total Annual Number of Home Price Boom and Bust Markets  
(Note: Busts recorded below the line)



Source: FDIC analysis based on OFHEO house price index (HPI). See C. Angell and N. Williams, "U.S. Home Prices: Does Bust Always Follow Boom?" FDIC, *FYI*, February 10, 2005.

**Table 3**

**Metro-Area Housing Booms, 2001-05, as Identified in FDIC Studies**

Shaded cells indicate metro areas that meet criteria for home price "boom."  
 Cell entries reflect 3-year cumulative increase in house price index (HPI), adjusted for inflation.

Metro Area	2001	2002	2003	2004	2005
<b>California</b>					
Bakersfield, CA				48	73
Chico, CA			41	50	54
El Centro, CA					54
Fresno, CA			38	59	71
Hanford-Corcoran, CA				39	63
Los Angeles-Long Beach-Glendale Metro Div, CA			35	54	63
Madera, CA			35	57	71
Merced, CA		38	40	43	64
Modesto, CA		38	44	44	60
Napa, CA	44	46	39	41	45
Oakland-Fremont-Hayward Metro Division, CA	44	42			40
Oxnard-Thousand Oaks-Ventura, CA		30	35	54	58
Redding, CA			39	52	58
Riverside-San Bernadino-Ontario, CA			36	58	70
Sacramento-Arden-Arcade-Roseville, CA		37	40	47	55
Salinas, CA	49	46	33	38	58
San Diego-Carlsbad-San Marcos, CA	32	39	41	56	54
San Francisco-San Mateo-Redwd Cty Metro Div, CA	44	34			
San Jose-Sunnyvale-Santa Clara, CA	46	33			
San Luis Obispo-Paso Robles, CA	38	46	42	44	46
Santa Ana-Anaheim-Irvine Metro Division, CA		30	36	54	59
Santa Barbara-Santa Maria, CA	34	41	45	54	57
Santa Cruz-Watsonville, CA	48	39			30
Santa Rosa-Petaluma, CA	48	42			39
Stockton, CA	36	38	36	35	56
Vallejo-Fairfield, CA	40	45	39	41	50
Visalia-Porterville, CA				36	64
Yuba City, CA			43	56	68
<b>Other Western</b>					
Bellingham, WA					42
Bend, OR					30
Boulder, CO	31				
Bremerton-Silverdale, WA					31
Carson City, NV				44	60
Coeur d'Alene, ID					41
Flagstaff, AZ-UT					41
Honolulu, HI				35	51
Las Vegas-Paradise, NV				44	61
Medford, OR				32	50
Olympia, WA					
Phoenix-Mesa-Scottsdale, AZ					43
Prescott, AZ					41
Reno-Sparks, NV				41	61
St. George, UT					34
Tucson, AZ					36
Yuma, AZ					46
<b>New England</b>					
Barnstable Town, MA	42	48	43	44	34
Boston-Quincy Metro Division, MA	35	38	34	32	
Cambridge-Newton-Framingham Metro Division, MA	34	34			
Essex County Metro Division, MA	33	36	30		
Manchester-Nashua, NH		35	32		
Norwich-New London, CT				31	31
Portland-South Portland-Biddeford, ME				30	
Providence-New Bedford-Fall River-Warwick, RI		34	39	46	39
Rockingham County-Strafford County Metro Div, NH	31	35	30		
Worcester, MA-CT		34	33	31	

*Continued on next page*



**Table 3**

**Metro-Area Housing Booms, 2001-05, as Identified in FDIC Studies**

Shaded cells indicate metro areas that meet criteria for home price "boom."  
 Cell entries reflect 3-year cumulative increase in house price index (HPI), adjusted for inflation.

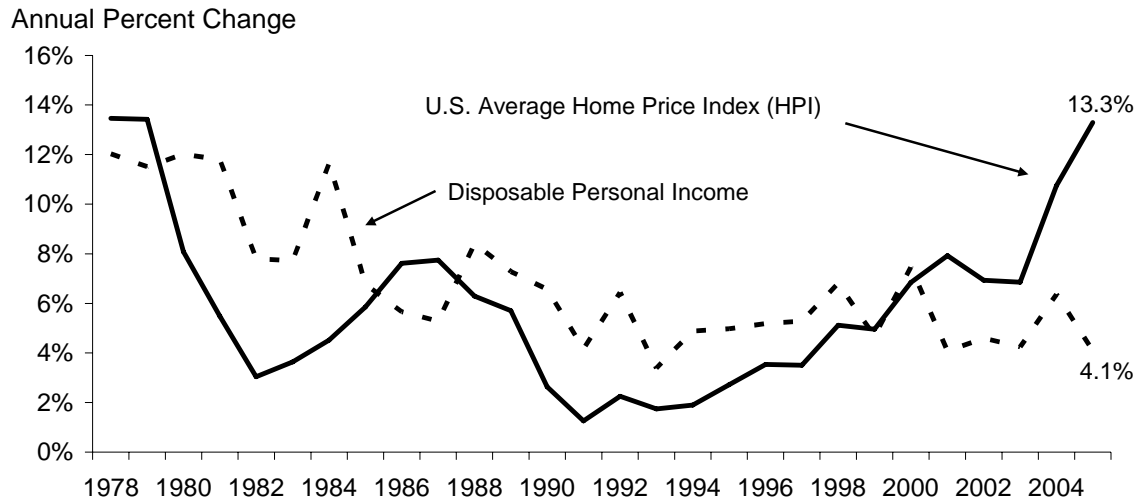
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Metro Area	2001	2002	2003	2004	2005
<b>Northeast and Middle Atlantic</b>					
Albany-Schenectady-Troy, NY					35
Atlantic City, NJ				40	48
Baltimore-Towson, MD				36	45
Bethesda-Frederick-Gaithersburg Metro Div, MD			32	41	46
Camden Metro Division, NJ				33	37
Charlottesville, VA					34
Dover, DE					30
Edison Metro Division, NJ		31	34	39	38
Glens Falls, NY					33
Hagerstown-Martinsburg, MD-WV				30	45
Kingston, NY			33	42	40
Nassau-Suffolk Metro Division, NY	31	37	37	41	38
New York-Wayne-White Plains Metro Division, NY		30		34	35
Newark-Union Metro Division, NJ				32	32
Ocean City, NJ		37	37	46	49
Philadelphia Metro Division, PA				30	32
Poughkeepsie-Newburgh-Middletown, NY			35	41	38
Salisbury, MD					37
Trenton-Ewing, NJ				33	34
Vineland-Millville-Bridgeton, NJ					34
Virginia Beach-Norfolk-Newport News, VA-NC				31	47
Washington-Arlington-Alexandria Metro Div, DC			31	40	51
Wilmington Metro Division, DE					32
Winchester, VA-WV				36	51
<b>Florida</b>					
Cape Coral-Fort Myers, FL			31	38	57
Deltona-Daytona Beach-Ormond Beach, FL				35	53
Fort Lauderdale-Pompano Bch-Deerfld Bch, FL MetDiv		30	38	46	59
Fort Walton Beach-Crestview-Destin, FL				33	63
Gainesville, FL					34
Jacksonville, FL					32
Lakeland, FL					35
Miami-Miami Beach-Kendall Metro Division, FL			37	45	55
Naples-Marco Island, FL		32	31	36	59
Ocala, FL					38
Orlando-Kissimmee, FL					42
Palm Bay-Melbourne-Titusville, FL				44	66
Panama City-Lynn Haven, FL				31	55
Pensacola-Ferry Pass-Brent, FL					38
Port St. Lucie-Fort Pierce, FL			37	54	69
Punta Gorda, FL			31	43	59
Sarasota-Bradenton-Venice, FL				37	56
Tallahassee, FL					31
Tampa-St Petersburg-Clearwater, FL					41
Vero Beach, FL				38	59
W Palm Beach-Boca Raton-Boynton Bch Mtro Div, FL			33	48	63

Source: Adapted from: Cynthia Angell and Norman Williams, "FYI Revisited: U.S. Home Prices -- Does Bust Always Follow Boom?" Federal Deposit Insurance Corporation, *FYI*, May 2, 2005. Update for 2005 reflects both new data and revised metro area definitions.

## Chart 6

### Recent U.S. Home Price Increases Have Outpaced Income Gains by a Wide Margin



Source: OFHEO, Bureau of Economic Analysis.