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A Historical Perspective on Housing Downturns

**Eric S. Rosengren
President & Chief Executive Officer
Federal Reserve Bank of Boston**

**Connecticut Business and Industry Association's
2008 Economic Summit and Outlook**

**Hartford, Connecticut
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I would like to thank the CBIA for organizing this event and for scheduling it after New Year's Day, since economists tend not to be particularly helpful for holiday cheer but quite useful when thinking of New Year's resolutions. On your list of New Year's resolutions, I would include *not* listening to pundits who claimed:

- 1) ...that housing prices could not go down, nationally;
- 2) ...that triple-A ratings meant no default risk;
- 3) ...that calculating fair market value was easy for mortgage products.

My talk today will touch on all three, because I am going to discuss recent trends in residential real estate, and their economic relevance.¹

Today I am going to examine two prior periods of declining house prices – with some observations on how they were addressed, the similarities and differences from our situation today, and the lessons we can draw. Throughout, I will refer to actions being pursued by a wide variety of actors including the Federal Reserve, financial institutions, investors, borrowers, and policymakers.

Recent Trends in Residential Investment

In 2007, residential investment was the laggard among the components of Gross Domestic Product (GDP). Residential investment began declining in the first quarter of 2006, and has continued to decline in each quarter since. It seems all but certain that residential investment also declined in the fourth quarter of 2007 – and many economic forecasts expect residential investment to continue to decline at least through the first half of 2008.

How should we interpret what could be nine or more continuous quarters of declining residential investment? Exhibit 1 provides some initial context. Should the forecasts prove to be right, we will have experienced a longer string of back-to-back quarters of declining residential investment than at any other time in the past 50 years.^{2, 3}

That historical observation should focus our attention, but must also be tempered somewhat by the unique aspects of our current situation. Let me be clear – this is an unusual economic situation and we cannot predict exactly what is going to happen. For one thing, to date this decline in residential investment has occurred in an economic environment of reasonably healthy job and income growth, and low rates of unemployment – although the December Labor Department report, released last Friday, suggests less welcome developments, as the

unemployment rate rose to 5.0 percent in December while non-farm payroll employment was essentially unchanged (an increase nationwide of 18,000).⁴

Previous periods where residential investment declined for a year or more were either accompanied by, or closely followed by, an economic downturn. But history may or may not repeat itself, because this period of prolonged weakness in housing is distinctive in several other ways that add to uncertainty over its ultimate impact on the broader economy.

For one thing, most other periods of extended decline in residential investment were preceded by rising inflation rates, which in turn induced a policy response – usually in the form of a significant tightening of monetary policy (that is, increases in interest rates) [see Exhibit 2]. However, the current period of weakness in housing has occurred despite a low inflation rate and low real interest rates, by historical standards.

Another difference has been the *national* nature of the decline in housing prices. Historically, housing prices have often shown sharp swings in particular states or regions, but it was unusual for prices to fall nationwide.

Through the 1980s there were a series of rolling regional downturns that resulted in big fluctuations in regional housing prices. These were generally due to significant regional economic factors, such as the surge in oil prices in the late 1970s that disproportionately boosted the southwestern portion of the country. When oil prices then fell by nearly half in the early 1980s, this same region experienced sharp drops in home prices. Similarly, the northeast's house-price cycle of the 1980s and early 1990s was a regional phenomenon, as the promise of a new technology-based "economic miracle" proved too good to be true.

In these earlier episodes, housing finance was still dominated by local financial institutions; and house price declines were regional, not national, and were not particularly well synchronized with national recessions.

The regional nature of these housing problems is illustrated in Exhibit 3, which plots changes in real estate prices by census region. Movements of housing prices in various regions during the 1980s – shown on the far left side of the chart – were not particularly correlated. Housing prices in some regions went up despite significant declines in other regions. The OFHEO national house price index did not decline, giving some analysts a false sense of confidence that a geographically diversified portfolio of real estate loans would perform at least reasonably well, since real estate prices were dominated by local effects.

Then, over the 1990s, there was less regional variation in housing price appreciation and more of a common trend, which has become more pronounced recently. Greater correlation of housing price increases and decreases across regions of the country meant that the diversification benefit resulting from holding a national portfolio of real estate loans was significantly less than history would imply.

With housing price changes more correlated across regions, mortgage securities and derivatives of mortgage securities behaved differently than many investors had assumed they would. The Boston Fed's research⁵ shows that, in large part due to widespread house-price declines, foreclosures have risen sharply in much of the country – not just in regional pockets. Many of the investment products consisting of securitized mortgages assumed more favorable house-price trends, so many that carried triple-A ratings have been downgraded to below investment grade – or are trading as if they were downgraded to below investment grade.

In part, the trend towards securitizing mortgage loans allowed the financing arrangements to be driven by national rather than regional conditions. As long as investor demand for higher-yielding mortgage securities and derivatives was strong, there was little of the natural “governor” that occurs when financial institutions become unduly concentrated in particular regions or asset classes. This change enabled the supply of financing, particularly to riskier borrowers, to expand rapidly in all regions of the country.

Exhibit 4 illustrates how abruptly the pattern in house prices has changed. The home price indexes generated by both the U.S. Office of Federal Housing Enterprise Oversight (OFHEO)⁶ and S&P/Case-Shiller⁷ show that home prices that accelerated during the first half of the decade have been quickly reversing that trend.

As of the close of the third quarter, the S&P/Case-Shiller index indicates that house prices are down 4.5 percent from a year earlier. The S&P/Case-Shiller composite 10 monthly index, representing the average of 10 large metropolitan areas, provides more recent data and has declined by 6.7 percent over the last year.⁸ This is the largest decline in the 21-year history of the index.

There has also been significant variation across metropolitan areas, illustrated in Exhibit 5. The largest decline among the 10 metro areas was in Miami, where prices have declined by 12.4 percent over the past year, while Denver’s decline was just 1.8 percent.

While real estate has not generally experienced the volatility of many financial instruments, large regional price declines over a relatively short period of time can, and have, occurred. And if regional price declines are becoming more tightly correlated, as some of this suggests, a more significant national house price decline cannot be ruled out.

The sharp declines experienced in many regions of the country have occurred despite low real interest rates and, until December, an unemployment rate below 5 percent. This highlights a risk to the housing sector going forward: Since prices have declined substantially even in a relatively benign economic environment, one cannot discount the possibility that they could fall more rapidly should economic performance not remain strong in 2008.

The Real Effects of Housing Price Declines

While the outlook for housing will be greatly affected by the economy, history indicates that “institutional” factors can also play an important role. It is instructive to compare our current situation with earlier episodes of falling housing prices. Two very different scenarios, and outcomes, are illustrated by experiences in New England and Japan.

To give you a peek at the punch line, let me mention up front what I think the broadest lessons are:

- First, that transparency matters, and is generally beneficial;
- Second, that prompt recognition of losses leads to a more efficient outcome – if somewhat more pain in the short run;
- Third, that adjustments are easier in an orderly economic environment with a well-functioning financial system. This is something the Federal Reserve is working to help ensure.

New England’s Experience

Exhibit 6 illustrates the significant decline in house prices that occurred in New England in the late 1980s and early 1990s. In contrast to the current period, many of those loans were

held by local financial institutions. As prospects for the New England economy boomed in the mid to late 1980s, these financial institutions significantly increased their portfolio of construction, residential, and commercial real estate loans.

Financial institutions were regionally based, so they were highly susceptible to regional shocks. When the New England economy subsequently faltered, the real estate market collapsed. Prices on both residential and commercial real estate declined, resulting in losses to banks' loan portfolios. Many financial institutions found that they were inadequately diversified and had inadequate capital to absorb losses.

The supervisory process forced banks to recognize these losses. A key component of the bank examiner's job is to insure that problem loans are appropriately recognized on bank balance sheets. Accordingly, banks were forced to write down the value of real estate loans to reflect declines in the value of the underlying collateral, and the reduced ability of borrowers to service their loans. In fact, very large declines in bank assets frequently occurred at the time of bank examinations.⁹

The large losses sustained by banks in that era resulted in 115 banks failing.¹⁰ The combination of failed banks and significant losses at surviving banks limited the supply of credit to bank-dependent borrowers, many of whom were engaged in businesses not directly related to real estate. Many of the problem loans ended up in the hands of the Federal Deposit Insurance Corporation (FDIC), which expedited the necessary adjustment process by quickly disposing of the collateral property.

The prompt action of the bank examiners and the FDIC was, and remains, controversial. The swiftness of the write-downs and disposal of troubled assets initially aggravated the decline in residential and commercial prices. But it also meant that prices fell to the point that many

investors became convinced that subsequent capital gains were inevitable. Thus, while the decline in prices was steep, the duration of the problem was probably shortened by aggressive and transparent actions. Within four years of the trough, housing prices had already returned to their previous peak.

Japan's Experience

One can think of the New England experience, and the swift action of examiners, as one end of a continuum. At the other end is the experience in Japan. As the 1990s began, stock prices and real estate prices peaked. While stock prices fell relatively quickly, real estate prices declined much more gradually.

Keenly aware of the credit-crunch experienced in the United States, Japanese regulators chose to move slowly in forcing write-downs of problem assets. In fact, in the early 1990s there was relatively little official information published on the extent of problems. To prevent write-downs, problem assets were not revealed publicly. This lack of transparency and disclosure made many investors and counterparties wary of Japanese financial institutions, as the magnitude of problems was difficult to discern. In addition, financial institutions and the government accumulated problem assets, which they held rather than disposing of the assets at “distress” prices.

While reported prices in real estate declined slowly, volume was limited by investors' concerns that the large pool of problem assets would eventually need to be sold in the market. While bank lending did not decline abruptly, several studies have indicated that lending was quite inefficient – often used to prop up distressed borrowers rather than to allocate credit in the economy more efficiently.¹¹

The overall result was that real estate prices declined for over a decade [see Exhibit 7]. Mirroring the gradual decline in prices, the recovery in prices was similarly very slow. The economy experienced subpar growth for an extended period of time.

While our current period is different in many ways from the New England and Japan experiences with declining real estate prices, there are lessons to be drawn.

For one, the degree of transparency in financial statements can significantly affect confidence in financial institutions. Uncertainty about asset values may ultimately be worse than losses.

In the past cases of New England and Japan, and today as well, there are concerns about the value of the underlying assets complicating matters. In New England the problem manifested itself because real estate, especially commercial real estate, changes hands relatively infrequently – particularly in a slump – and thus is difficult to value. The slow recovery of Japanese financial institutions was in part related to significant concerns about their true financial condition, as many of the assets held by banks in Japan were loans to finance assets which changed hands relatively infrequently. The complex, opaque nature of many of today's mortgage-derivative instruments also makes them very difficult to value, which in turn makes them relatively illiquid.

History suggests it is at such times that enhanced transparency can help clarify the extent of the problems, and allow financial market participants to determine appropriate valuations for assets and whether valuation methods are being conservatively applied. I am hopeful that the management of firms with large exposures to securitized subprime mortgages will embrace more detailed disclosures that allow for a more accurate assessment of the extent of the problems.

Financial institutions with poor transparency are likely to have greater difficulty raising external

funds at favorable prices; and indeed, we have seen significant tiering along these lines in the federal funds market and other credit markets.

Looking at the New England and Japan experiences, let me be clear that I am not advocating responses to today's problems that are at either extreme of the continuum. But certainly we can learn what *not* to do from Japan's experience. Clearly it is better to take care of problems now than distort and greatly prolong the needed adjustment process.

Along with greater transparency, the New England experience reminds us that a full recognition of losses will create incentives for firms to dispose of bad assets. However, we face an added challenge today. When problem loans were held in commercial banks, much of the loss recognition was enforced through the bank-examination process. With today's opaque financial products held in a variety of financial intermediaries – not just traditional commercial banks, and located both in the U.S. and abroad – the loss recognition is not likely to be consistently enforced.

Maintaining confidence in financial institutions and financial markets is key to a quick recovery from a crisis. Falling real estate prices caused a credit crunch during the early 1990s New England downturn, as banks reduced lending to borrowers *in general* as a result of the banks' capital-adequacy problems. In Japan, problem real estate loans caused banks to misallocate credit to inefficient projects to prevent recognition of their problems. However, in today's situation we are fortunate that most financial institutions have entered the current problems with significant capital cushions and that many U.S. financial institutions are moving to proactively address the problems.

However, the potential for a credit crunch remains. Commercial banks are still an important source of liquidity and there are troubling developments at work. Allow me to delve for a moment into banking finance to make this point.

Many commercial banks participated in the subprime market by sponsoring off-balance sheet investment vehicles. These vehicles were financed by short term commercial paper. In many cases, subprime loans were only a small fraction of the asset holdings of these vehicles. However, investors are very leery of anything associated with subprime loans and are reluctant to buy the commercial paper of these vehicles.

For both reputational and legal reasons, some of the sponsoring banks are now moving these off-balance sheet instruments onto their balance sheets, funding them as part of the bank portfolio. As shown in Exhibit 8, bank assets have grown significantly since the financial turmoil emerged in July. However, banks have capital requirements that limit their ability to expand. Thus, there is a risk that this unintended growth in bank assets will squeeze out loans to other borrowers.

Risk Mitigation by the Federal Reserve

In the midst of this recent financial turmoil, I am hopeful that actions taken by the Federal Reserve will reduce the potential negative impact.

My view is that the continued decline in residential investment has heightened the risk of a more significant downturn in the overall economy. Falling housing prices further weaken the incentives for residential investment, but are also likely to dampen consumer and business confidence and spending. Furthermore, falling house prices roil financial markets and financial institutions by exacerbating exposures to the housing market.

As I suggested a moment ago, the Federal Reserve can minimize the severity and spillover of housing and associated weakness by implementing policies that foster a sound macroeconomic environment, low and stable inflation rates and a well-functioning financial systems. In that regard, the Fed has reduced its key policy rate by 100 basis points over the past five months.

Also, in an effort to help return markets to more normal short-term funding patterns, the Federal Reserve has initiated a new Term Auction Facility or TAF. The TAF enables banks with illiquid collateral to borrow from the discount window at a price determined by an open auction. This innovative tool has the potential to provide greater flexibility for the Federal Reserve to respond to the sort of liquidity problems that we have seen in recent months. The benefit to banks is that they can borrow relatively low-cost funds using assets that are temporarily illiquid as collateral. This facility is particularly useful in providing term lending, and appears to have been helpful as financial institutions sought liquidity at the end of 2007.

The first two auctions have provided term funding at a rate above the overnight federal funds rate but below the primary credit rate that banks borrow from the Fed's Discount Window. An added benefit of the TAF is that it allows the Fed to supply funds to the market *without* adding to stresses in Treasury markets by engaging in direct purchases of Treasury securities. Treasury markets have experienced significant stress in recent months, as Treasury issues were in great demand by investors around the world who sought safe, liquid assets.¹²

On a more regional note, the New England states have seen a falloff in housing construction and home sales roughly comparable to that of the nation. Housing prices, which grew very rapidly from 1998 to 2005, have leveled off and in three New England states –

Massachusetts, Rhode Island and New Hampshire – prices are down from a year ago.¹³ While Connecticut's experience is a little more favorable than some of its neighbors, the picture is broadly similar.

As housing prices have leveled off or declined in New England, foreclosure rates have risen from well below the national average to the national average, which is also rising. Again, Connecticut's experience is a little more favorable, but similar.

The increase in foreclosures has been particularly sharp for subprime adjustable rate mortgages. The typical subprime adjustable rate mortgage is a hybrid, with a fixed rate of about 8 percent for two years that resets to about 11 percent. The surge in foreclosures thus far is not due to resets. However, many borrowers holding subprime loans face resets in the coming year, indeed the next few quarters. This prospect threatens to make a difficult situation even worse.

So I am very pleased that five large New England banks have formed a consortium to reach out to subprime borrowers to see whether they might be candidates for loans at prime rates, making use of existing federal and state insurance programs. This initiative, called the Mortgage Relief Fund, was launched shortly before Christmas with a \$125 million commitment from the five banks and has already has some success in generating inquiries. Exhibit 9 is an excerpt from the effort's web site.

To date the banks – Bank of America, Citizens Bank, Sovereign Bank, TD Banknorth, and Webster Bank – have had over 430 calls from borrowers, and a number of them are beginning the application process or have already submitted loan applications. Because borrowers can qualify for government-insured loan programs with as little as 3 percent equity in the house, this is an important initiative for borrowers to consider if they are currently holding subprime loans.

The challenge, really, is getting the word out and convincing borrowers who may face trouble in coming months that it is in their best interest to act *now*.

So I strongly encourage homeowners paying a high subprime rate, and possibly facing a rate-reset to an even higher level, to visit the website – www.MortgageReliefFund.com – to begin exploring whether they would be better off financially by taking advantage of this program.

The Federal Reserve Bank of Boston is pleased to be working with the five banks on the Mortgage Relief Fund initiative and commends them for their efforts.

Conclusion

In conclusion and by way of recap, the weakness in the housing sector has slowed economic growth in the overall economy. The collateral effects of the residential slowdown are likely to be significantly affected by the path of housing prices and, importantly, how a wide variety of financial intermediaries react to the current and future problems. I have offered a few thoughts, gleaned from history, on how I *hope* financial intermediaries and others will react. In addition, I think it is important to note that the Federal Reserve has taken action on several fronts to date — actions that should help reduce the downside risk to the real economy.

Thank you again for inviting me to speak with you today.

¹ The views I express today are my own, not necessarily those of my colleagues on the Board of Governors or the Federal Open Market Committee (the FOMC).

² Notably, there were 11 consecutive quarters of decline ending in 1958.

³ This is not to suggest that the current downturn in residential investment is unprecedented in its severity. Downturns that extended from 1978 to 1982 and from 1987 to 1991 were longer but were interrupted by some “up” quarters. Also, the 1973-75 downturn in residential investment was arguably shortened by fiscal stimulus (large tax rebates) in the second quarter of 1975.

⁴ The December Employment Situation report released January 4 by the Bureau of Labor Statistics of the U.S. Department of Labor went on to say that “Job growth in several service-providing industries, including professional and technical services, health care, and food services, was largely offset by job losses in construction and manufacturing. Average hourly earnings rose by 7 cents, or 0.4 percent.”

⁵ “Subprime Outcomes: Risky Mortgages, Homeownership Experiences, and Foreclosures” by Kristopher Gerardi, Adam Hale Shapiro, and Paul S. Willen, Federal Reserve Bank of Boston working paper 07-15.

⁶ The OFHEO’s home-price index (HPI) “is a broad measure of the movement of single-family house prices. The HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancings on the same properties. This information is obtained by reviewing repeat mortgage transactions on single-family properties whose mortgages have been purchased or securitized by Fannie Mae or Freddie Mac since January 1975.” (Source: OFHEO website – www.ofheo.gov)

⁷ The S&P/Case-Shiller® Home Price Indices “measures the residential housing market, tracking changes in the value of the residential real estate market in 20 metropolitan regions across the United States. These indices use the repeat sales pricing technique to measure housing markets. First developed by Karl Case and Robert Shiller, this methodology collects data on single-family home re-sales, capturing re-sold sale prices to form sale pairs. This index family consists of 20 regional indices and two composite indices as aggregates of the regions.” (Source: Standard & Poor’s website – www2.standardandpoors.com)

⁸ The figure is 6.1 percent for the Case-Shiller average of 20 metropolitan areas, which only goes back to 2000.

⁹ See Joe Peek & Eric S. Rosengren, “Bank regulatory agreements in New England,” in the *New England Economic Review*, Federal Reserve Bank of Boston, May 1995, pages 15-24; and Joe Peek and Eric Rosengren, “The Capital Crunch: Neither a Borrower nor a Lender Be,” in the *Journal of Money, Credit and Banking*, Blackwell Publishing, vol. 27(3), pages 625-38, August 1995.

¹⁰ Over the period from 1989 to 1994. The 115 banks included 93 commercial and savings banks in New England, plus 22 New England thrift institutions regulated by the Office of Thrift Supervision.

¹¹ See, for example, Joe Peek and Eric S. Rosengren, “Unnatural Selection: Perverse Incentives and the Misallocation of Credit in Japan,” in the *American Economic Review*, American Economic Association, vol. 95(4), pages 1144-1166, September 2005; and Caballero, Hoshi, and Kashyap, “Zombie Lending and Depressed restructuring in Japan,” NBER Working Paper No. 12129 (2006).

¹² A conventional “open market operation” would provide funds in the federal funds market by directly purchasing Treasury and Treasury repo securities.

¹³ As a reminder, housing prices in New England began to appreciate rapidly in the second half of the 1990s, and through the end of 2004 price increases in the region outstripped those nationally. When housing prices were rising rapidly in New England, the number of foreclosures initiated was very low – considerably lower, as a fraction of loans outstanding, than nationally. Beginning in 2005, however, foreclosure initiations began to rise in the region, particularly for subprime adjustable-rate mortgages.

Exhibit 1

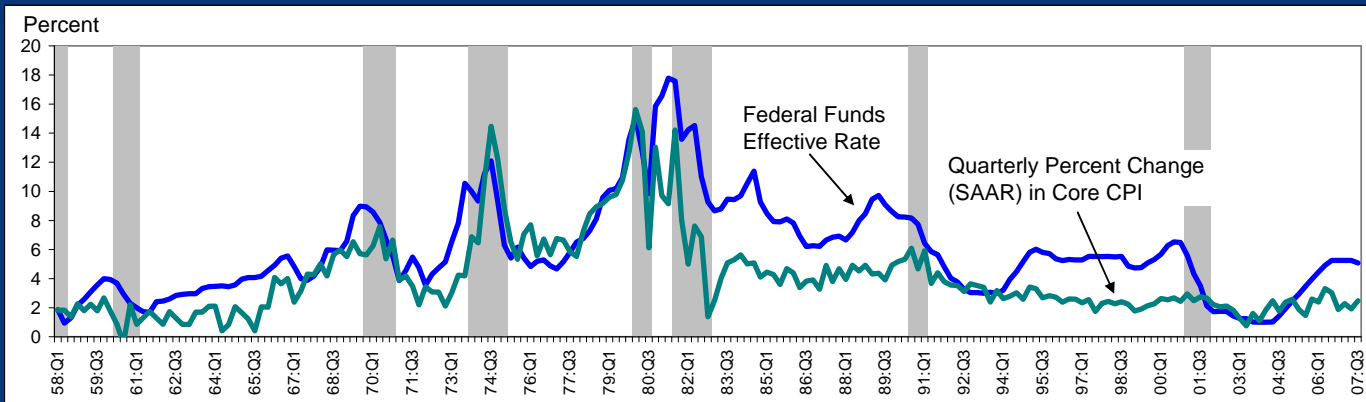
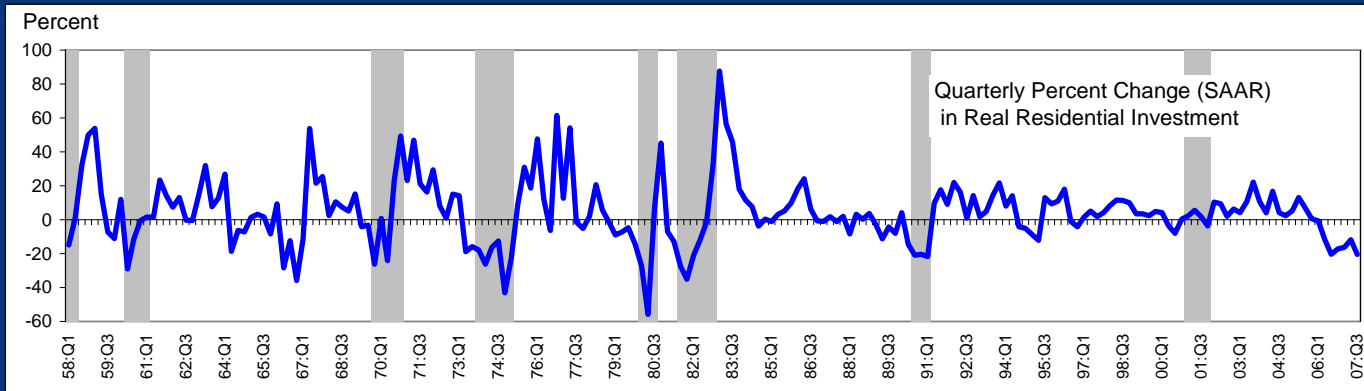
Continuous Declines of Three Quarters or more in Real Residential Investment 1958-2007:Q3

Dates	Number of Quarters	Cumulative Decline (%)
1973:Q2-1975:Q1	8	-39.6
1978:Q4-1980:Q2*	7	-31.7
1981:Q1-1982:Q3*	7	-28.5
2006:Q1-2007:Q3	7	-23.7
1966:Q2-1967:Q1	4	-22.7
1989:Q1-1989:Q4**	4	-6.7
1990:Q2-1991:Q1**	4	-19.4
1994:Q3-1995:Q2	4	-7.6
1960:Q2-1960:Q4	3	-11.1
1964:Q2-1964:Q4	3	-8.3
1969:Q2-1969:Q4	3	-9.1

*Declines interrupted by just two quarters of growth in residential investment.
**Declines interrupted by just one quarter of growth in residential investment.
Note: Prior to the sample period, there was an eleven-quarter decline of 20.3%, 1955:Q3-1958:Q1.

Exhibit 2

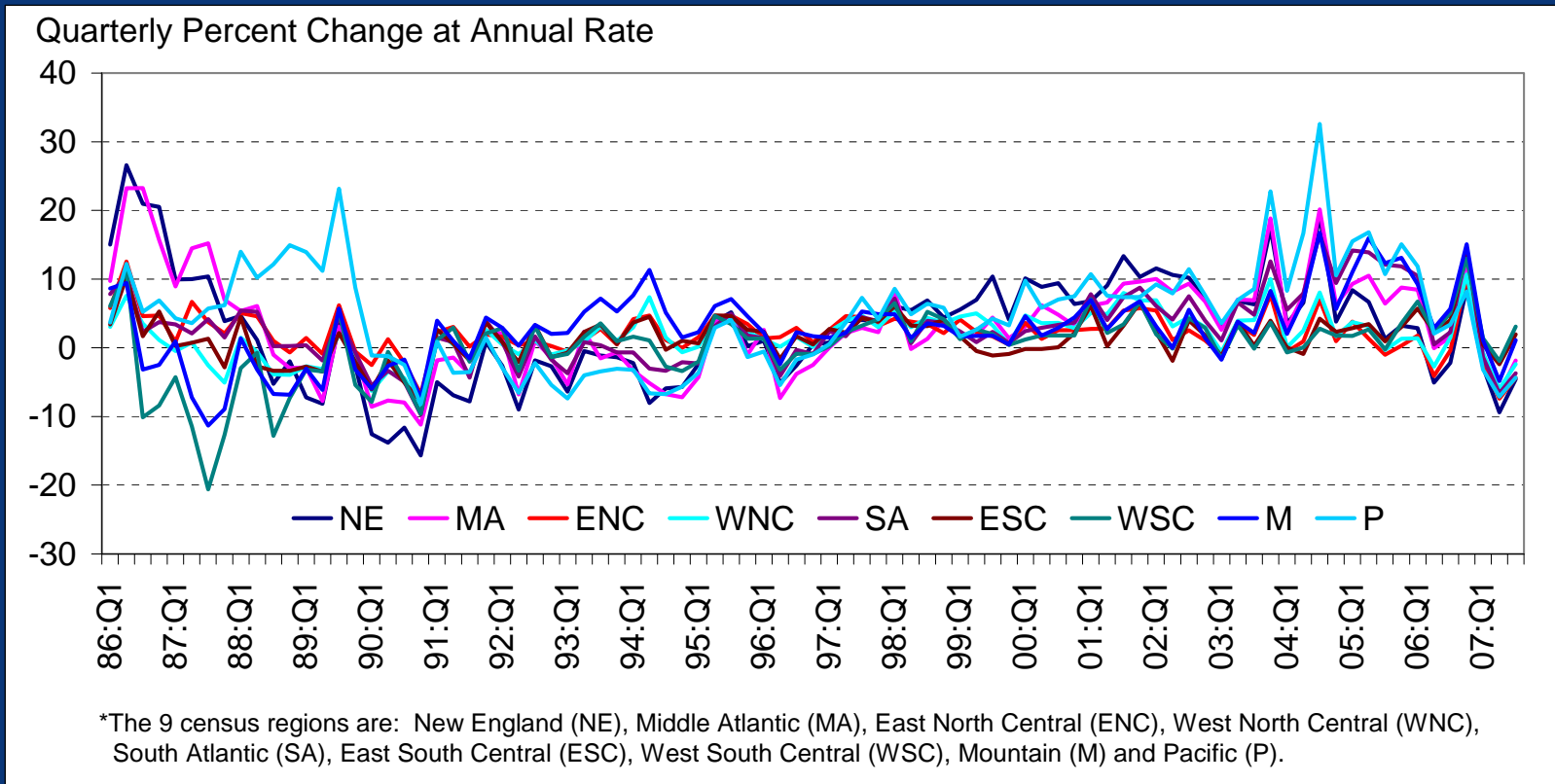
Real Residential Investment and Real Interest Rates



Source: BEA, BLS, Federal Reserve Board / Haver Analytics

Exhibit 3

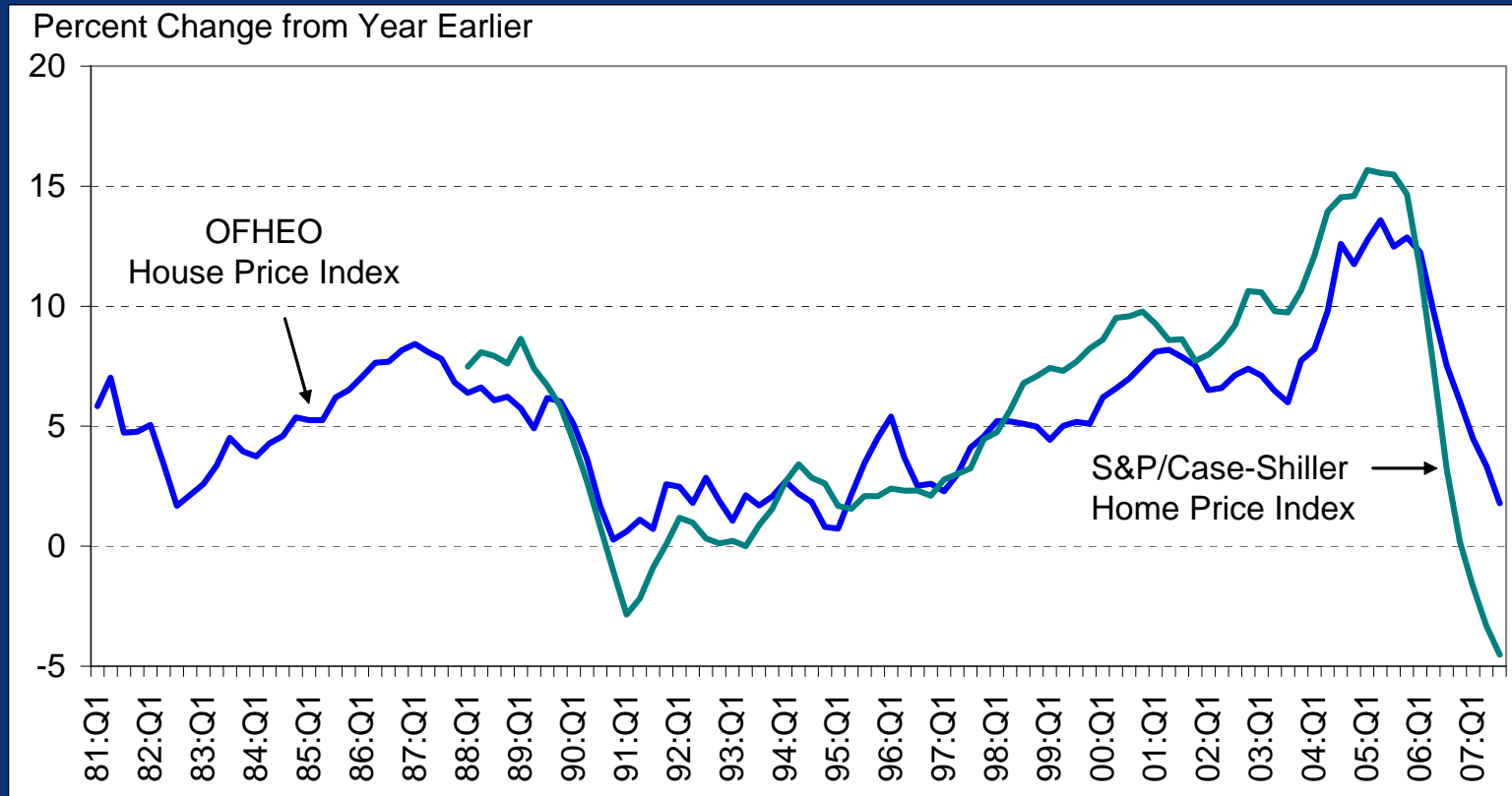
Growth Rate of Real House Prices by Census Region*



Source: OFHEO, BLS / Haver Analytics

Exhibit 4

National Home Price Indexes



Source: OFHEO, S&P/Case-Shiller / Haver Analytics

Exhibit 5

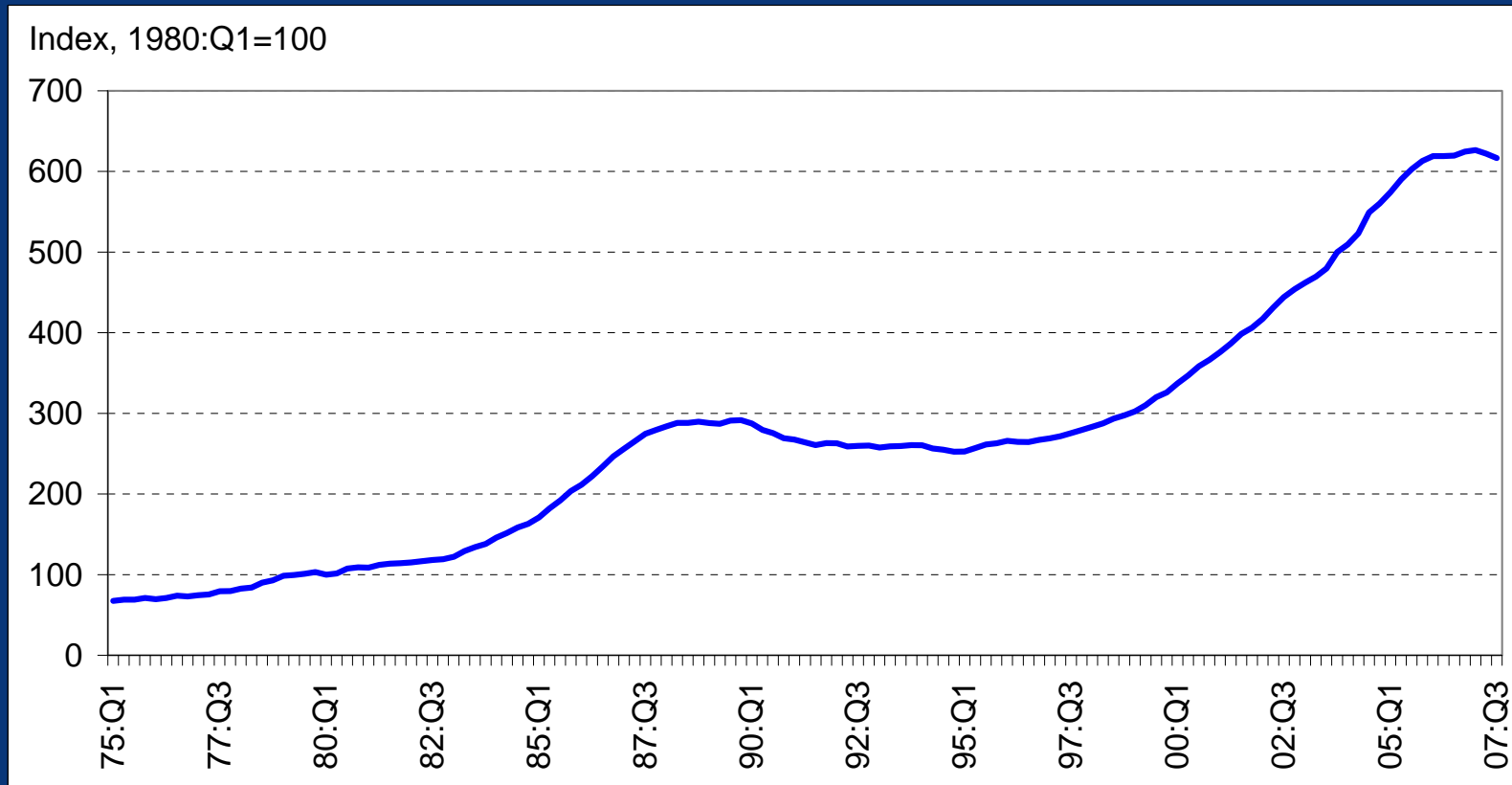
S&P/Case-Shiller Home Price Index: Ten Metro Areas and Composite

	Percent Change from Year Earlier				
	Oct-03	Oct-04	Oct-05	Oct-06	Oct-07
Composite 10	12.6	19.6	16.1	2.6	-6.7
Boston	6.9	10.4	4.7	-3.5	-3.6
Chicago	8.2	8.9	9.2	5.1	-3.2
Denver	1.1	4.0	4.2	0.7	-1.8
Las Vegas	14.0	51.4	10.0	2.6	-10.7
Los Angeles	19.6	28.1	20.6	5.2	-8.8
Miami	15.1	21.7	32.3	8.5	-12.4
New York	12.1	14.6	14.2	3.2	-4.1
San Diego	17.7	30.0	7.5	-2.3	-11.1
San Francisco	6.3	19.1	19.3	-0.1	-6.2
Washington	13.5	23.4	22.2	-0.7	-7.0

Source: S&P/Case-Shiller / Haver Analytics

Exhibit 6

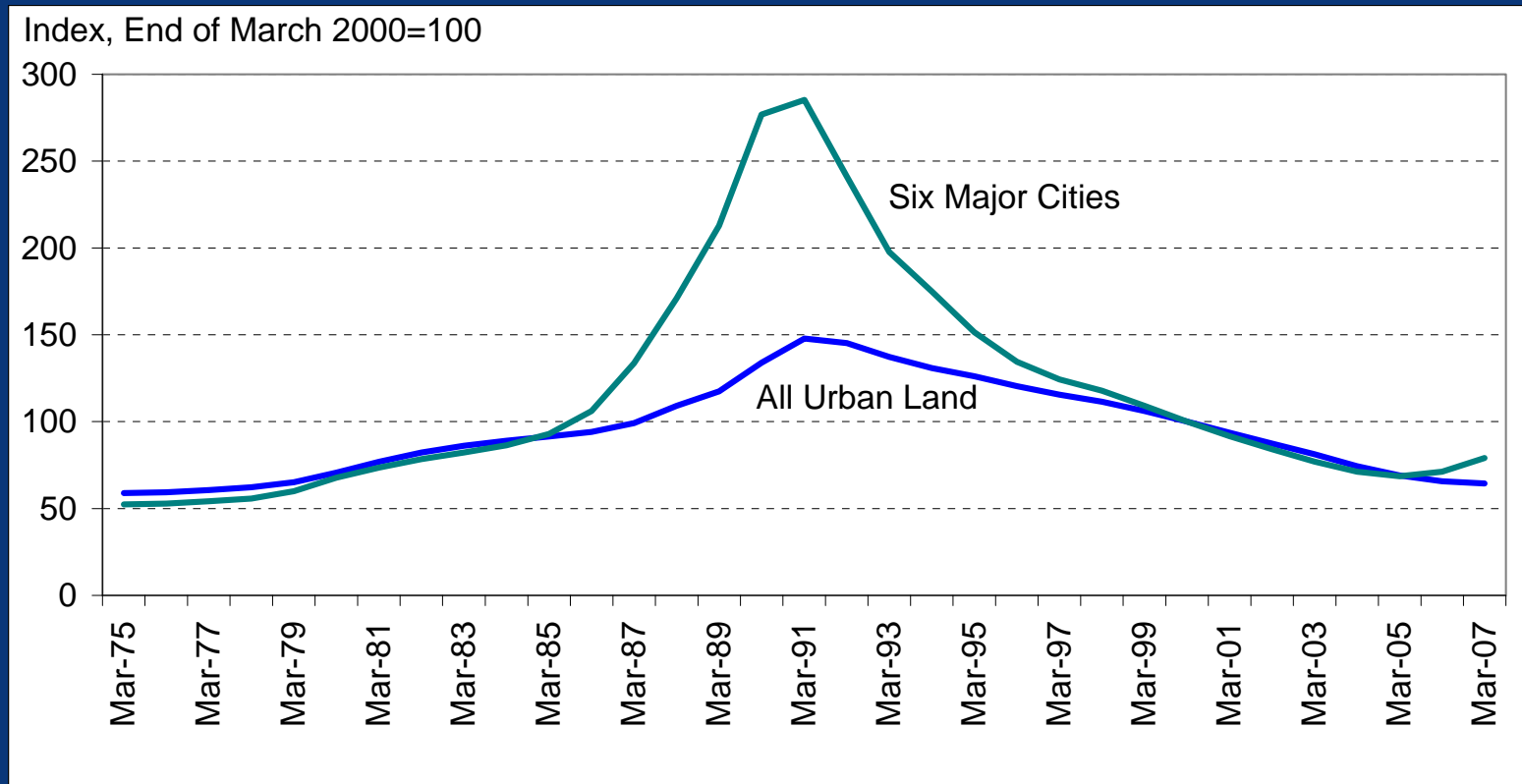
New England House Price Index



Source: OFHEO / Haver Analytics

Exhibit 7

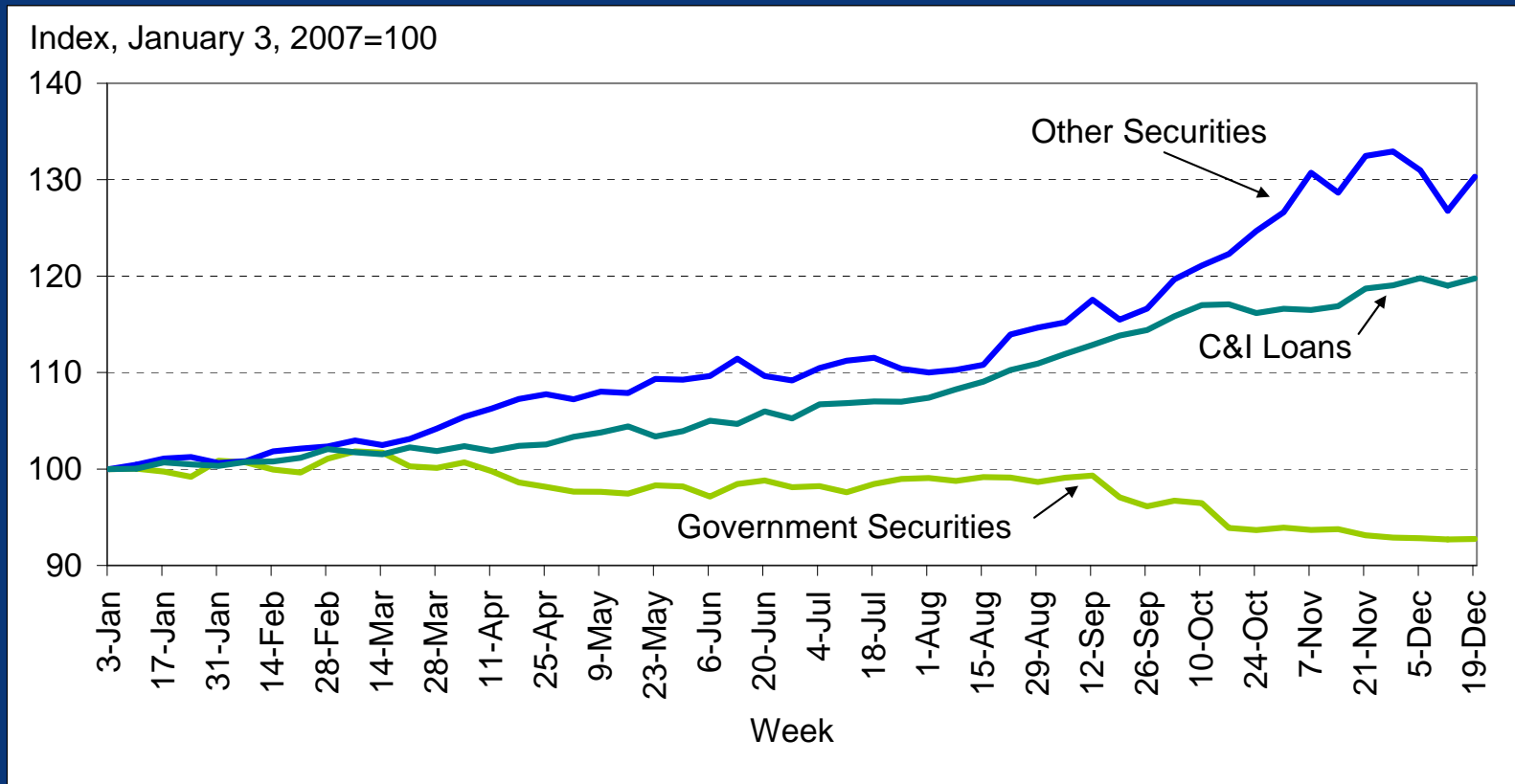
Japanese Land Price Indexes: All Urban Land and Six Major Cities



Source: Japan Real Estate Institute

Exhibit 8

Balance-Sheet Growth at Commercial Banks in the U.S. in 2007



Source: Federal Reserve Board / Haver Analytics

Exhibit 9

www.MortgageReliefFund.com



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