

Housing and the Macroeconomy

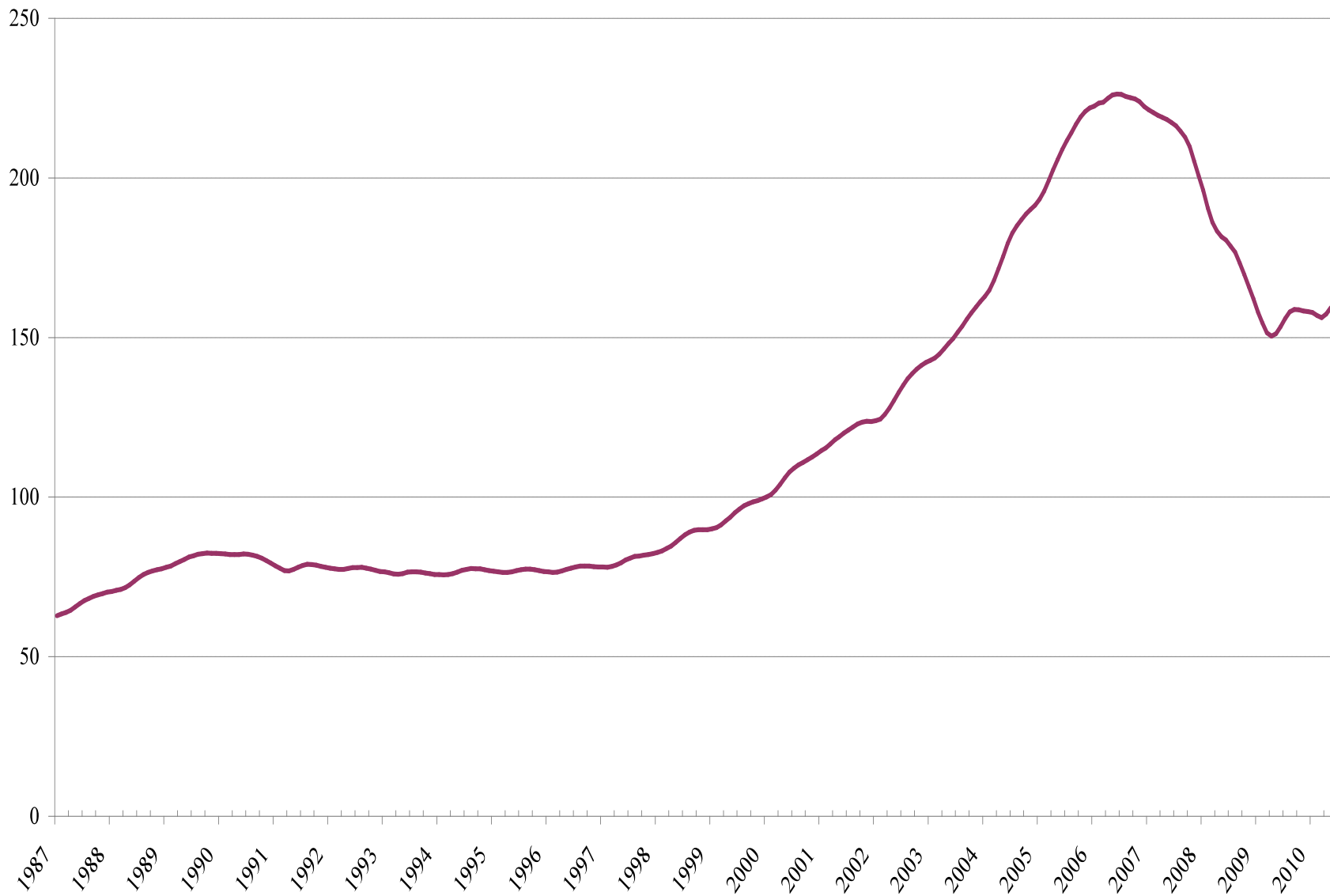
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Wellesley College

TIAA-CREF

May 6, 2013

Case-Shiller Index 1987-2010



Potential Positives in the Recent Data

OFHEO

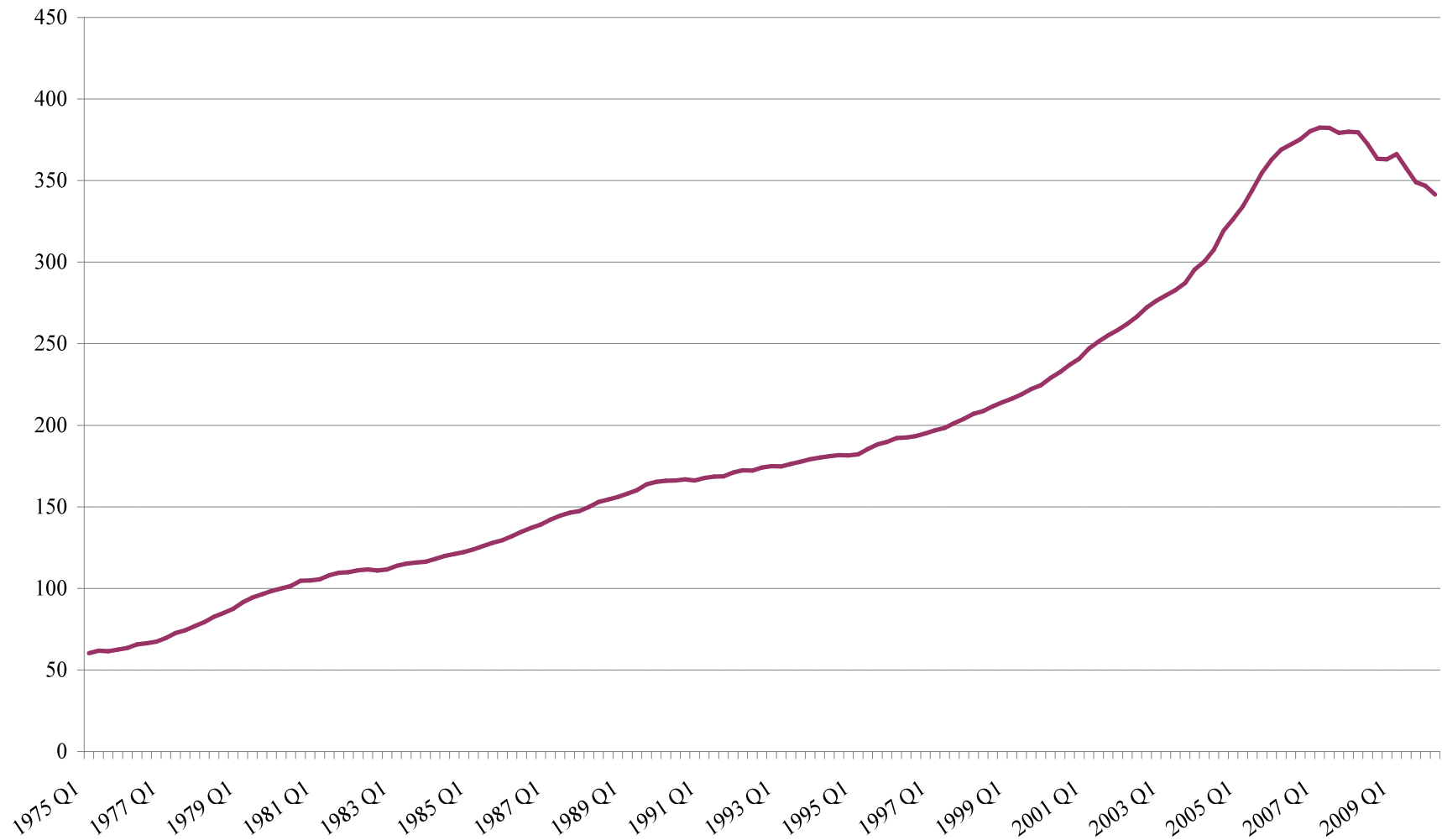
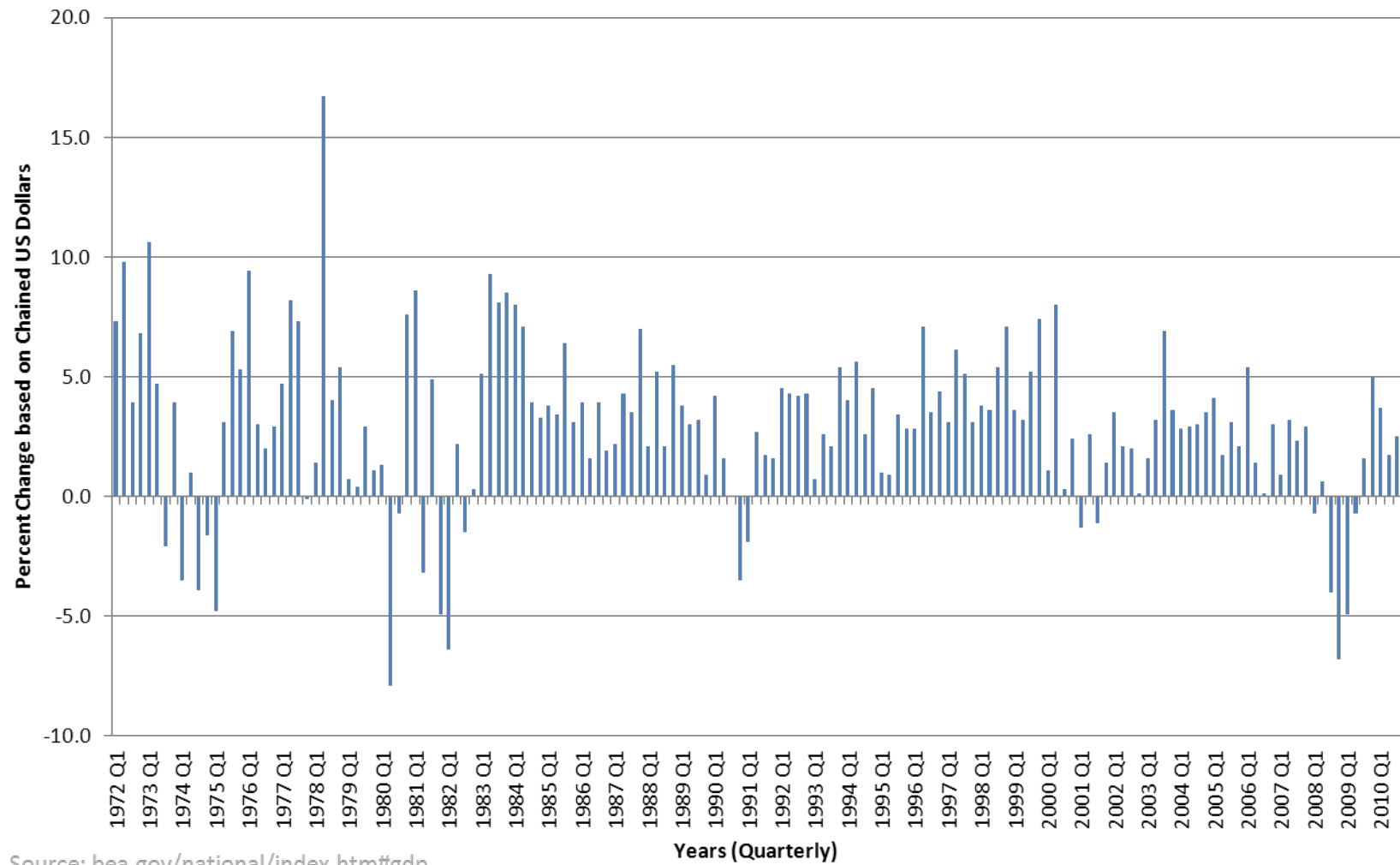


Figure 1. Percent Change in GDP



INSIDE THIS ISSUE: A SURVEY OF THE DRUG INDUSTRY

The Economist

JUNE 18TH-24TH 2005

www.economist.com

To leave or not to leave Iraq?

PAGES 14, 23-25 AND 27

Change at last at Morgan Stanley

PAGE 69

John McCain, radical conservative

LEXINGTON, PAGE 32

Viacom splits into two

PAGE 61



After the fall

Case-Shiller Indexes – through February 2013

	February 2013	February/January	January '13/December '12	
Metropolitan Area	Level	Change (%)	Change (%)	1-Year Change (%)
Atlanta	97.01	0.0%	1.1%	16.5%
Boston	153.89	0.1%	0.0%	5.2%
Charlotte	114.93	-0.2%	0.2%	6.2%
Chicago	110.72	-0.8%	-0.9%	5.1%
Cleveland	99.24	-0.8%	-0.7%	5.3%
Dallas	120.74	0.2%	0.0%	7.1%
Denver	133.90	-0.2%	0.0%	9.9%
Detroit	80.58	-0.6%	0.1%	15.2%
Las Vegas	105.70	1.6%	1.6%	17.6%
Los Angeles	182.04	1.0%	0.9%	14.1%
Miami	153.97	0.3%	0.8%	10.4%
Minneapolis	123.81	-0.9%	-0.5%	12.0%
New York	162.00	0.4%	-0.3%	1.9%
Phoenix	128.10	1.1%	1.1%	23.0%
Portland	141.76	0.7%	-0.4%	9.4%
San Diego	164.25	0.6%	-0.6%	10.2%
San Francisco	148.23	0.5%	0.1%	18.9%
Seattle	140.97	-0.2%	-0.3%	9.3%
Tampa	136.33	0.6%	1.1%	10.0%
Washington	186.57	-0.5%	-0.7%	6.9%
Composite-10	159.24	0.4%	0.0%	8.6%
Composite-20	146.57	0.3%	0.1%	9.3%
Source: S&P Dow Jones Indices and CoreLogic				
Data through February 2013				

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S & P Case-Shiller Index -- Through January 2012

Released March 27, 2012



Metro Area	Peak	% Δ Since Peak	% Δ Last Year	%Δ from December to January	%Δ from November to December	%Δ 2000 to January 2012
NV-Las Vegas	Aug 2006	-61.6%	-9.0%	-0.5%	-0.8%	-9.8%
AZ-Phoenix	Jun 2006	-54.8%	1.3%	0.9%	0.8%	2.8%
FL-Miami	Dec 2006	-50.7%	-1.9%	0.6%	0.2%	38.6%
MI-Detroit	Dec 2005	-45.8%	1.7%	-1.1%	-3.1%	-31.2%
FL-Tampa	Jul 2006	-47.9%	-3.8%	-0.8%	-0.2%	24.1%
CA-Los Angeles	Sep 2006	-41.3%	-5.4%	-0.8%	-1.1%	60.8%
CA-San Francisco	May 2006	-42.5%	-5.9%	-2.5%	-0.8%	25.5%
CA-San Diego	Nov 2005	-40.6%	-5.3%	-1.1%	-0.7%	48.7%
DC-Washington	May 2006	-28.2%	-0.6%	0.7%	-1.2%	80.2%
MN-Minneapolis	Sep 2006	-34.9%	-1.8%	-0.8%	-1.2%	11.4%
WA-Seattle	Jul 2007	-32.4%	-4.0%	-0.7%	-1.3%	30.0%
IL-Chicago	Sep 2006	-35.9%	-6.6%	-1.9%	-2.0%	8.2%
OR-Portland	Jul 2007	-30.3%	-4.3%	-2.1%	-0.4%	30.0%
NY-New York	Jun 2006	-25.3%	-2.9%	-0.8%	-1.4%	61.2%
GA-Atlanta	Jul 2007	-37.4%	-14.8%	-2.1%	-1.8%	-14.5%
MA-Boston	Sep 2005	-18.9%	-2.8%	-0.4%	-1.2%	47.9%
OH-Cleveland	Jul 2006	-22.4%	-3.3%	-2.0%	-1.1%	-4.2%
NC-Charlotte	Aug 2007	-19.2%	-1.0%	0.0%	-0.5%	9.8%
CO-Denver	Aug 2006	-12.4%	0.2%	-0.6%	-0.9%	22.9%
TX-Dallas	Jun 2007	-10.9%	-1.2%	-0.4%	-0.7%	12.7%
Composite-10	Jun 2006	-34.4%	-3.9%	-0.8%	-1.2%	48.4%
Composite-20	Jul 2006	-34.4%	-3.8%	-0.8%	-1.1%	35.5%

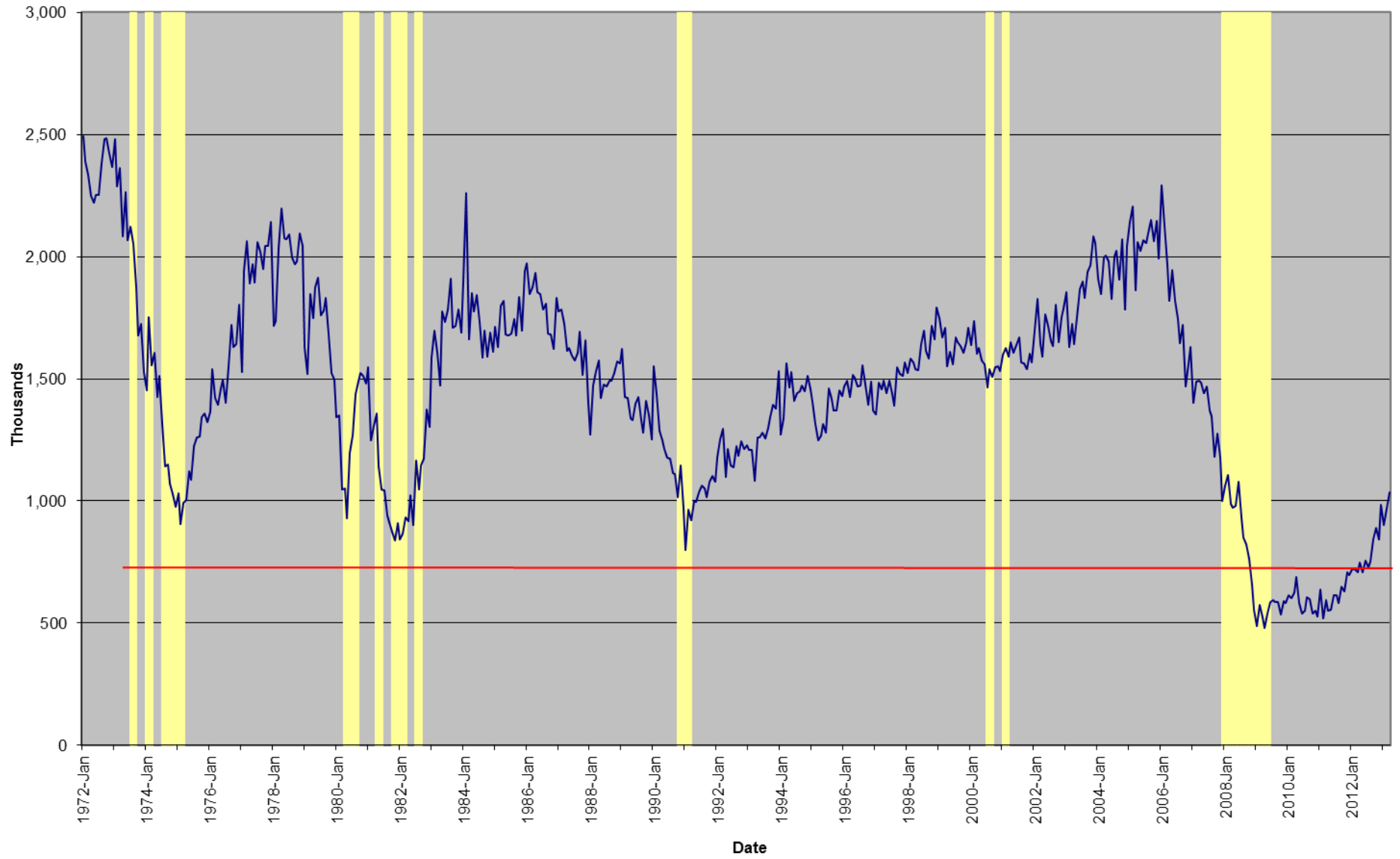
Balance Sheet of Households

2006-2011:Q4

(trillions of dollars)

	2006	2008	Change 2006-2008	2011 Q4	Change 2006-2011
Assets	78.6	66.7	-11.9	72.2	-6.4
Liabilities	13.4	14.2	0.8	13.8	0.4
Net Wealth	65.1	52.4	-12.7	58.5	-6.6
Home Equity	12.9	7.0	-5.9	6.1	-6.8

Housing Starts 1972-2013



**Frequency of Total Number of Housing Starts Observed
United States
January 1959 - August 2012**

	Total Number of Months During Which Corresponding Number of Housing Starts Was Observed	
Total Number of Housing Starts (Range)	Pre - October 2008	Post - October 2008
More than 2 million	62	0
1.5 - 2.0 million	250	0
1.0 - 1.5 million	260	0
800,000 - 1.0 million	22	0
Fewer than 800,000	1	47
Total	595	47

Notes:

[1] The highest number of housing starts observed in any given month over the period of interest was 2.494 million units, observed in January 1972. The lowest number of housing starts observed in any given month over the period of interest was 478,000 units, observed in April 2009.

[2] Analysis considers housing starts reported at seasonally adjusted annual rate (SAAR).

Q7: Expected Increase in Home Value in EACH of the Next 10 Years

	Alameda	Boston	Milwaukee	Orange
Mean-trimmed 10%				
2003	12.3	8.9	7.1	11.5
2004	14.1	10.6	10.4	17.4
2005	11.5	8.3	11.9	15.2
2006	9.4	7.5	9.9	9.5
2007	10.7	5.3	8.1	12.2
2008	7.9	6.4	7.2	9.4
2009	8.5	6.2	8.2	6.9
2010	9.8	5.0	7.3	5.7
2011	7.6	4.1	4.7	7.1
2012	5.4	3.1	3.1	5.0

Q6: Expected Increase in Home Value Over the Next 12 Months

	Alameda	Boston	Milwaukee	Orange
Mean-trimmed 10%				
2003	7.6	4.4	5.5	9.4
2004	9.3	7.6	6.4	13.1
2005	9.6	6.3	6.6	8.7
2006	7.4	1.9	5.9	6.0
2007	4.9	2.9	6.1	-0.1
2008	-1.6	-0.7	2.4	-2.6
2009	2.4	2.0	1.5	0.7
2010	4.4	2.2	3.7	3.8
2011	2.3	2.3	1.7	0.3
2012	4.4	2.3	2.3	3.6

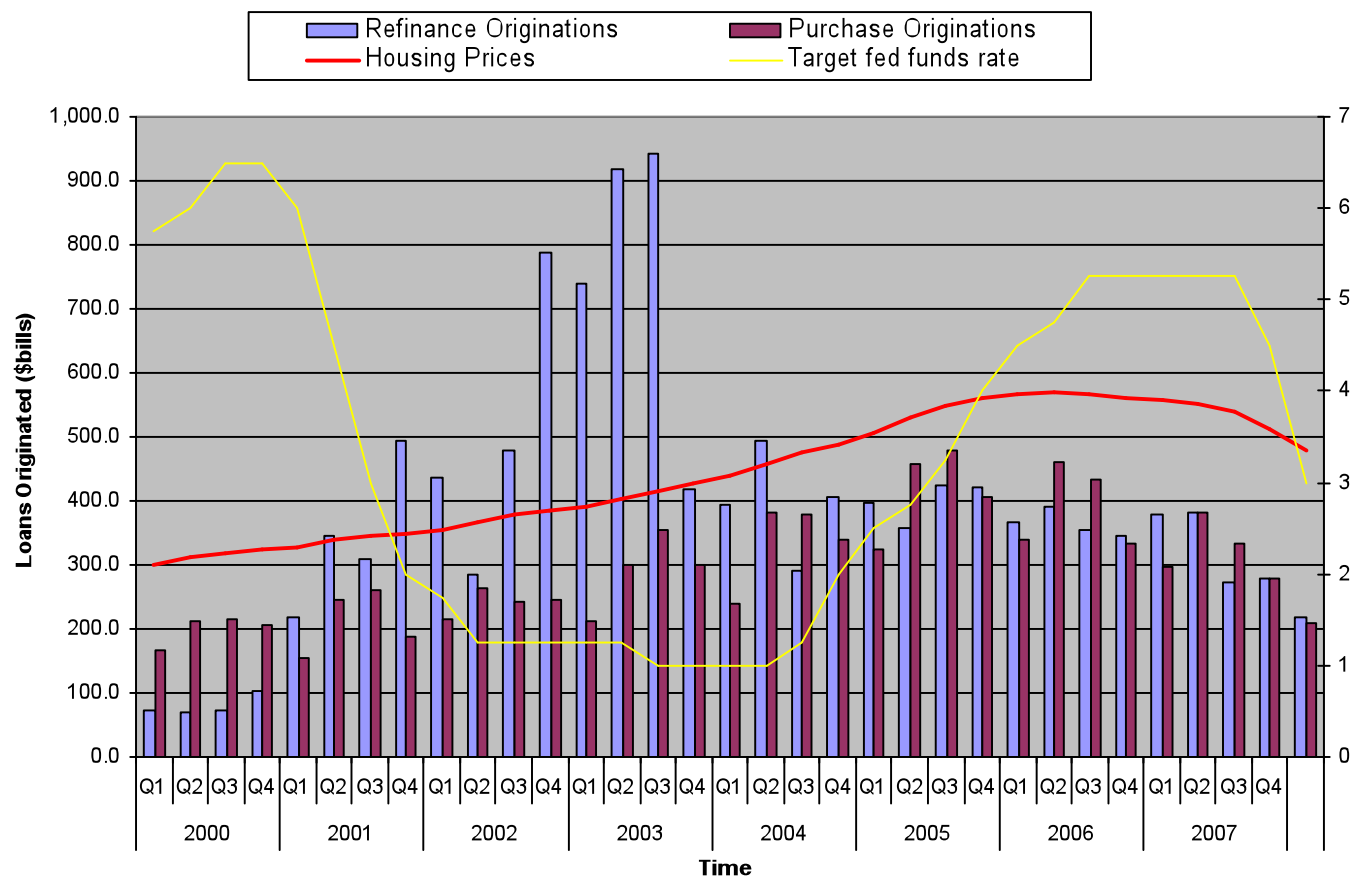
Actual v. Expected Changes in Short-Run and Long-Run Home Values
Orange County, California
1996 - 2012

	Homeowners' Expected Annual Increase in Home Value			
Year	Short-Run (%)	Long-Run (%)	Actual Annual Increase In Home Value (%)	Simulated Value of \$100,000 Home [1]
1996	---	---	---	\$100,000
1997	---	---	+ 5	\$105,040
1998	---	---	+ 16	\$121,856
1999	---	---	+ 8	\$132,008
2000	---	---	+ 11	\$146,106
2001	---	---	+ 10	\$160,249
2002	---	---	+ 17	\$187,715
2003	+ 9.4	+ 11.5	+ 20	\$224,580
2004	+ 13.1	+ 17.4	+ 28	\$287,713
2005	+ 8.7	+ 15.2	+ 21	\$346,924
2006	+ 6.0	+ 9.5	+ 5	\$367,480
2007	- 0.1	+ 12.2	- 9	\$335,037
2008	- 2.6	+ 9.4	- 28	\$241,468
2009	+ 0.7	+ 6.9	- 6	\$226,146
2010	+ 3.8	+ 5.7	+ 3	\$233,692
2011	+ 0.3	+ 7.1	- 5	\$221,706
2012	+ 3.6	+ 5.0	+ 2	\$225,724

Actual v. Expected Changes in Short-Run and Long-Run Home Values
Boston, Massachusetts
1996 - 2012

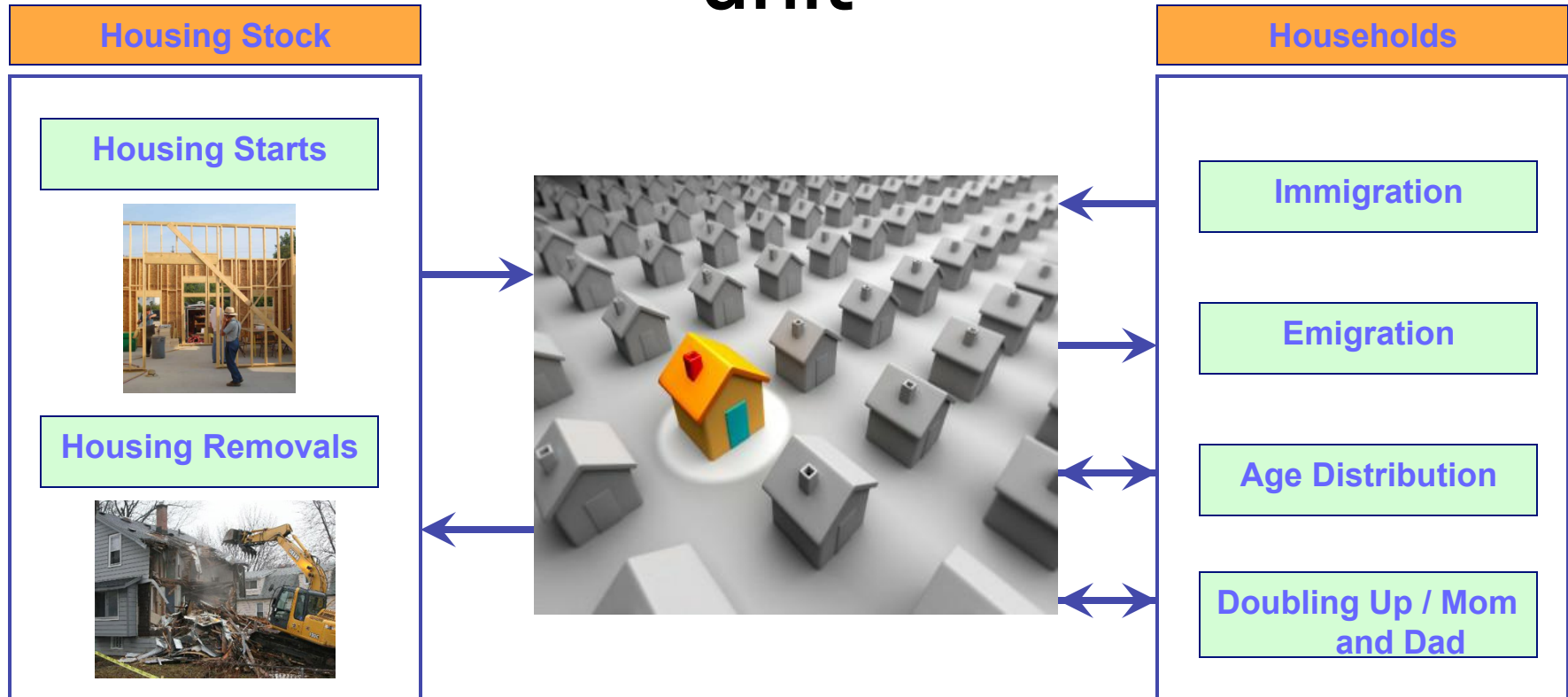
	Homeowners' Expected Annual Increase in Home Value			
Year	Short-Run (%)	Long-Run (%)	Actual Annual Increase In Home Value (%)	Simulated Value of \$100,000 Home [1]
1996	---	---	---	\$100,000
1997	---	---	+ 6	\$106,383
1998	---	---	+ 11	\$118,085
1999	---	---	+ 13	\$133,947
2000	---	---	+ 15	\$154,078
2001	---	---	+ 14	\$176,118
2002	---	---	+ 13	\$198,923
2003	+ 4.4	+ 8.9	+ 7	\$212,630
2004	+ 7.6	+ 10.6	+ 10	\$234,643
2005	+ 6.3	+ 8.3	+ 5	\$245,499
2006	+ 1.9	+ 7.5	- 4	\$236,907
2007	+ 2.9	+ 5.3	- 4	\$228,273
2008	- 0.7	+ 6.4	- 6	\$214,621
2009	+ 2.0	+ 6.2	- 3	\$208,633
2010	+ 2.2	+ 5.0	- .2	\$208,211
2011	+ 2.3	+ 4.1	- 1	\$206,042
2012	+ 2.3	+ 3.1	+ 1	\$207,556

Figure 11 b: United States Total Quarterly Originations 2000-2008



Source Greenspan and Kennedy, Federal Reserve Board of Governors, S&P Case-Shiller.

Household is an occupied housing unit



Estimates of the Total Housing Inventory for the United States

2005:2-2012:2

(Revised, based on Vintage 2010 and 2011 Housing Controls)

	2005:2	2012:2	Change
Total Housing Units	125.1	132.7	7.6
Vacant	16.2	18.5	2.5
Occupied Units (Households)	109.1	114.2	5.1
Owner Occupied	74.8	74.8	0
Renter Occupied	34.3	39.4	5.1

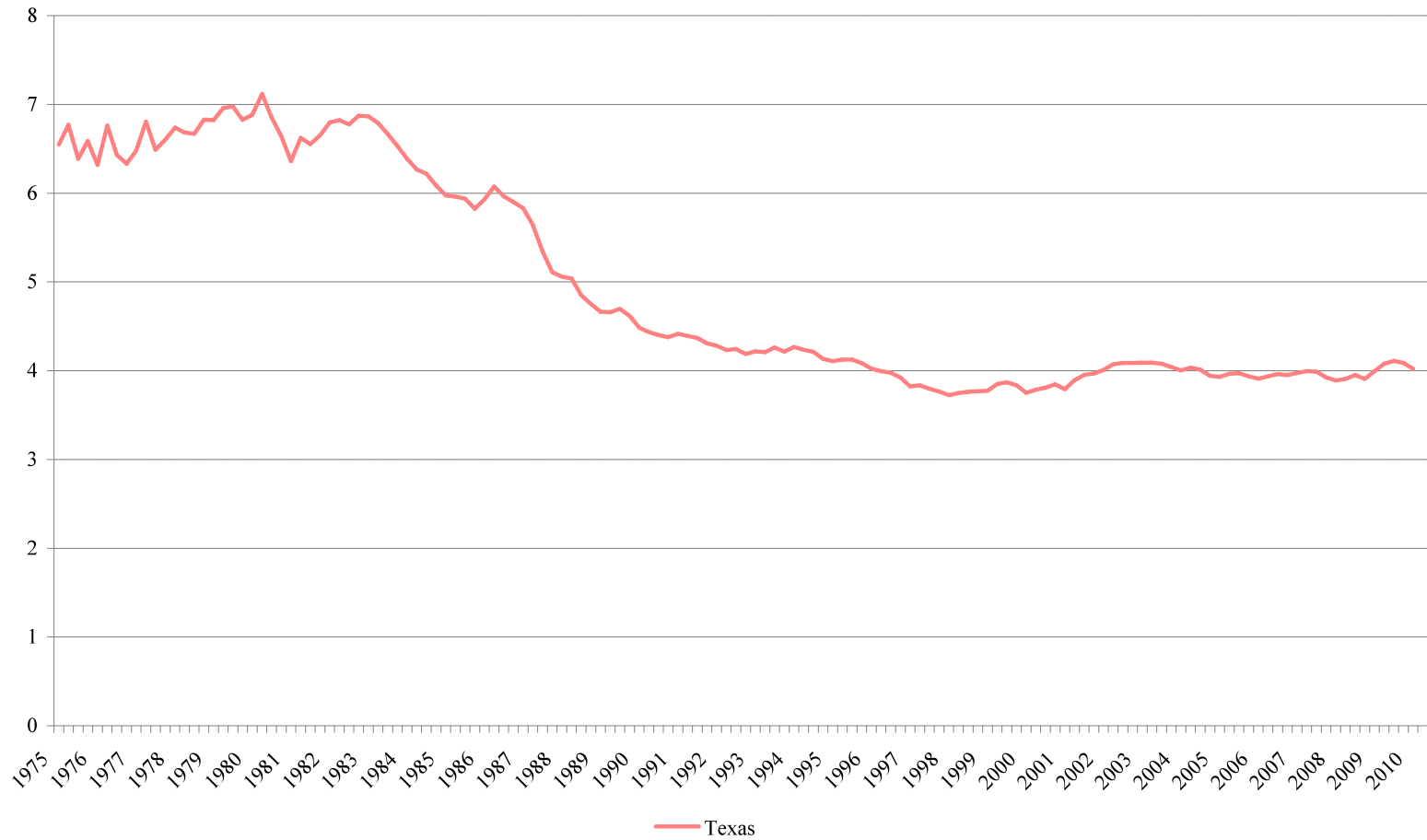
Source: Current Population Survey/Housing Vacancy Survey, Series H-111, Bureau of the Census, Washington, DC 20233

Household Composition 1960, 1976, and 2012

	1960	1976	2012
Single Person Household	15%	21%	33%
Male or Female Head of Household w/ Others	10%	14%	17%
Total	25%	35%	50%
Couples w/ Children <18	45%	35%	21%

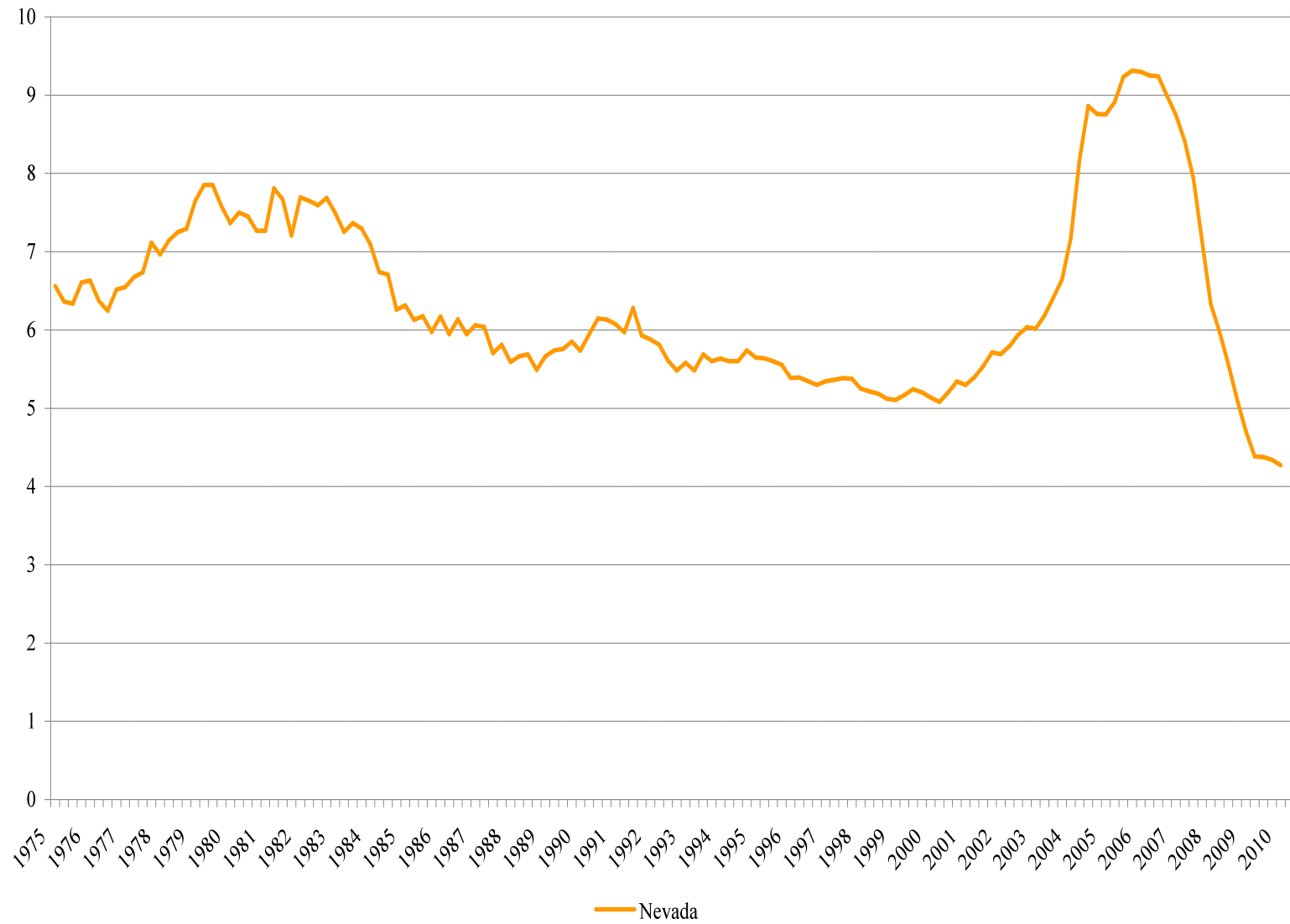
Sources: U.S. Census Bureau 1961: Table 31; U.S. Census Bureau 1991: Table 643; Carter et al. 2006: 1-674; Barrett 1978: Table 2, "Characteristics of Households: 1976"; U.S. Census Bureau 2011: Table 59, Table 68, Table 601.

House Price / Per Capita Income Texas

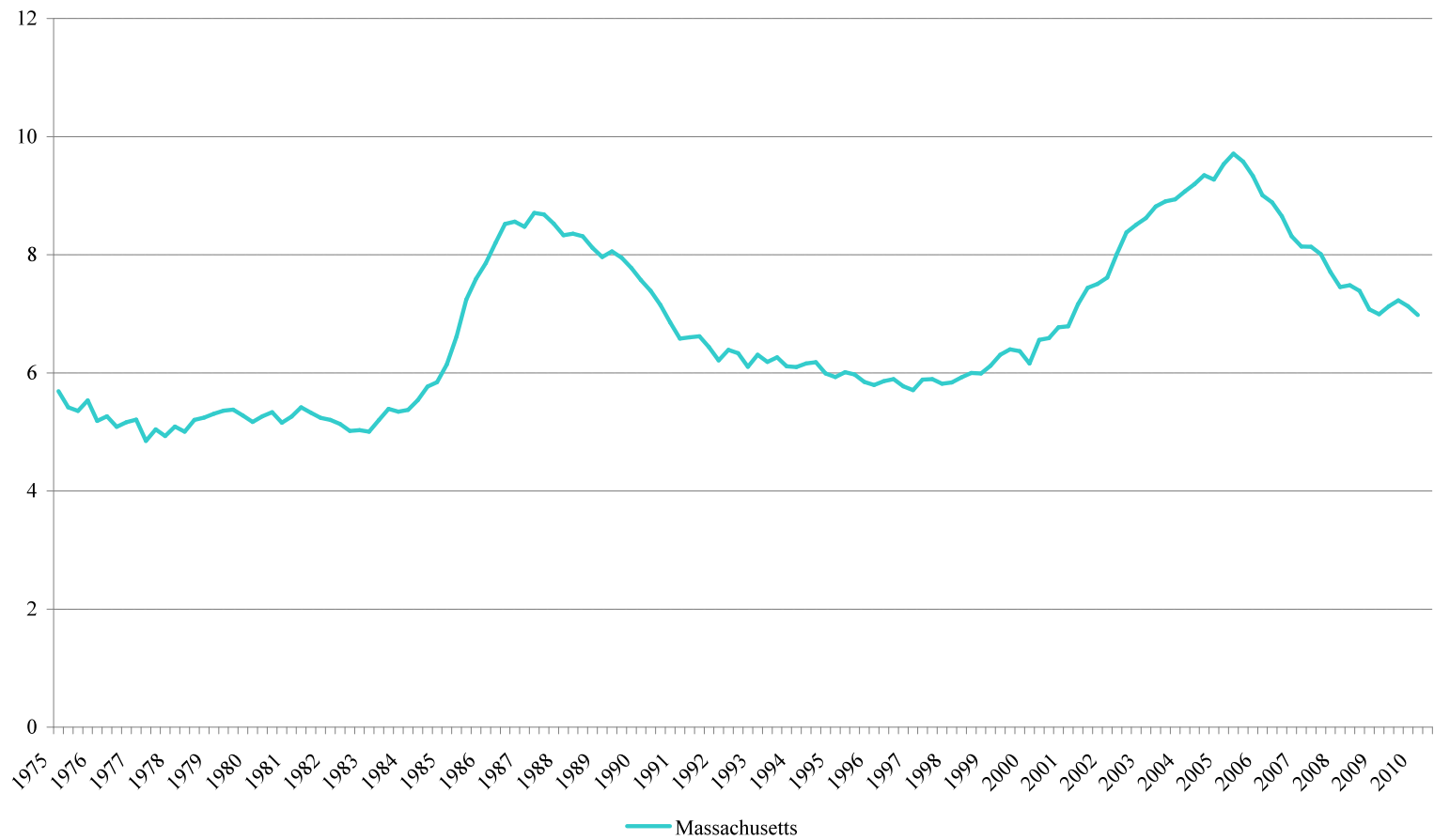


House Price / Per Capita Income

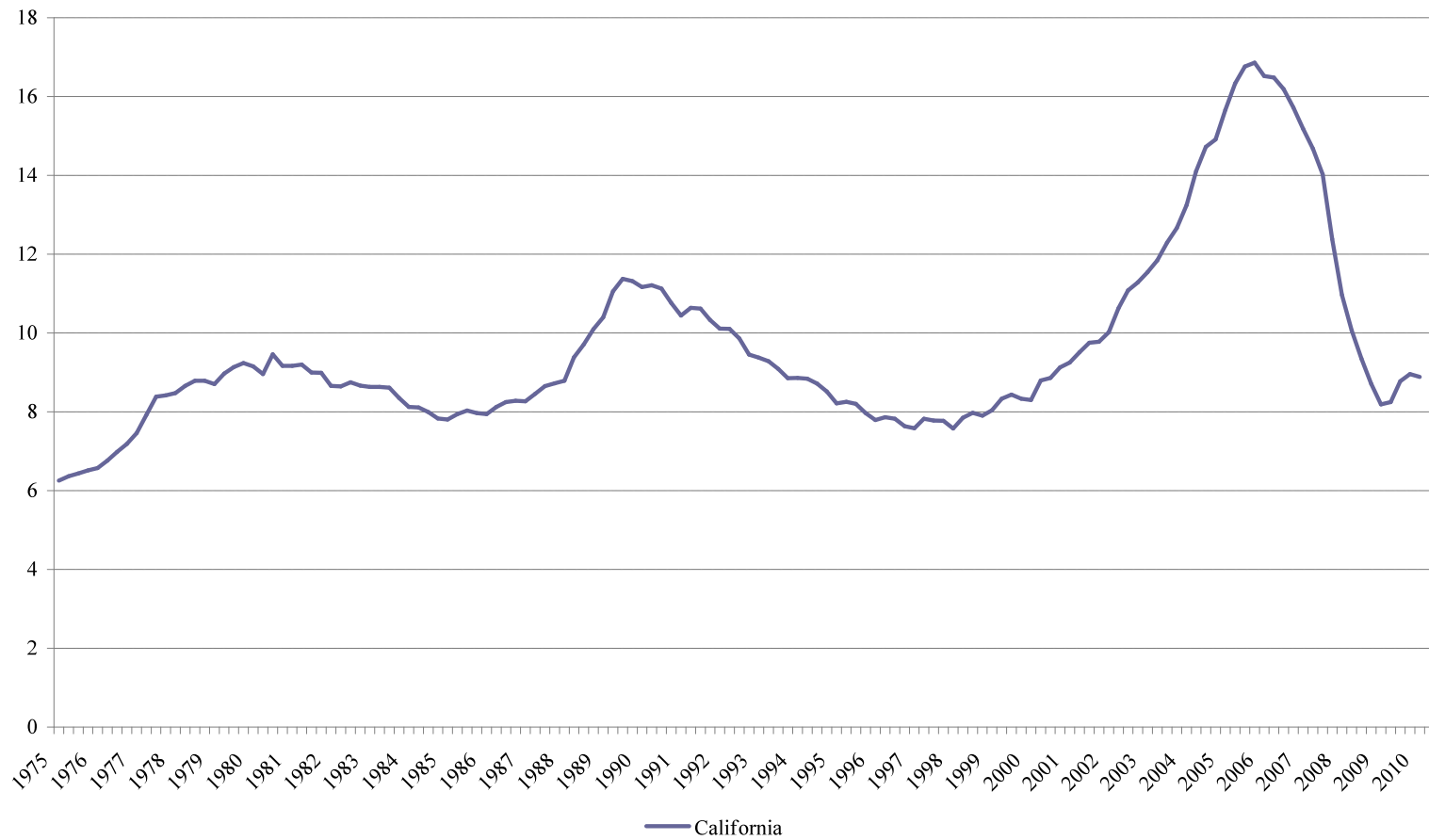
Nevada



House Price / Per Capita Income Massachusetts



House Price / Per Capita Income California



- Interest rates 30 year fixed: 3.57
- Existing Home Sales March NAR 4.92 million
down slightly
- New Home Sales July: 372,000 Census
- Inventory of new homes for sale: 4.7 months
- Housing Starts MAR 2013: 1036
- Affordability: various sources
- Inventories, both existing and new: NAR/Cen.
- Decline in foreclosures and distressed sales
- Demographics (see household chart below)
- High variance geographically: zips /street talk
- Vacancies at very low levels: Census
- Expectations of prices up: CS survey
Home price futures are up as is volume

Questions and Negatives

- Pending Home Sales
- Credit is tight
- What will happen to rates as we move to risk based pricing?
- Shadow inventory is still high?
- National economy – slowdown is bad but speed up raises rates quickly
- Regional economies are very different as are neighborhoods

Big Worries

- Demographics
- Disposition and future of Fannie Mae, Freddie Mac, and FHA
- Federal tax reform
- Excess liquidity in world financial markets
- Boom, tail wind, head wind, bust?