

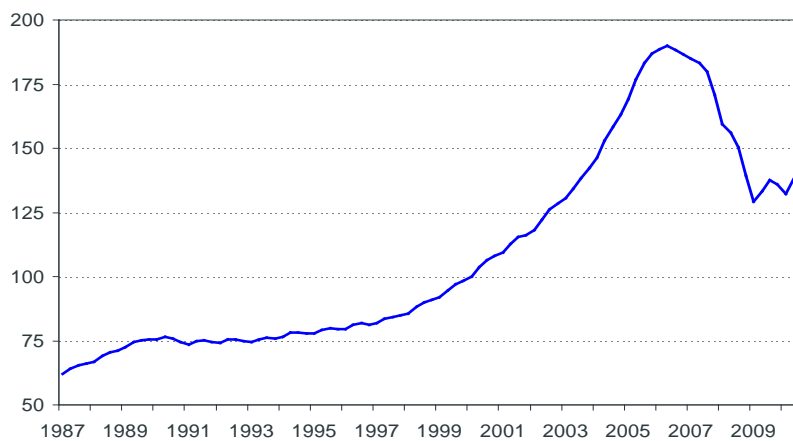
U.S. Real Estate Pricing Trends – Residential

In this section, we briefly survey real estate prices in order to assist us in formulating a thesis on the likelihood and magnitude of additional write-downs U.S. banks may have to take on their real estate-related loan portfolios. As the latter comprise a majority of the total assets of U.S. banks, developing an understanding of real estate price trends should be a worthwhile exercise.

Stabilization of real estate prices would suggest that loan loss provisions and charge-offs may moderate, while continuing price declines may suggest a need for further write-downs, potentially necessitating additional capital raises by U.S. financial institutions. The latter, of course, have been particularly destructive to shareholder value at publicly traded banks, as many banks have been forced to raise equity capital at severely depressed valuations.

U.S. housing prices fell 32% from the peak in the second quarter of 2006 to the trough in the first quarter of 2009. Housing prices have stopped their four-year descent and appear to be stabilizing around the 2009 trough. According to the S&P/Case-Shiller U.S. National Home Price Index⁶, housing prices in the second quarter of 2010 increased 7% from the 2009 trough and are up 4% sequentially from the first quarter of 2010. Following the steep drop over the last four years, recent housing prices approximate the price level in 2003.

S&P/Case-Shiller National Home Price Index, 1987-2010



Source: Standard & Poor's. Prior to April 2006, the S&P Case-Shiller Home Price Index was known as the Case-Shiller Home Price Index. An index is an unmanaged statistical composite.

While average U.S. housing prices have declined by roughly a third from peak to trough, a more detailed look reveals big differences in performance by city. “Best performers” such as Dallas and Denver had peak-to-trough price declines of 11% and 14%, respectively, and have recently seen prices rebound by nearly 10% relative to the troughs reached in February 2009. On the other hand, worst performers such as Las Vegas and Phoenix had peak-to-trough price declines of around 55%. In fact, Las Vegas was the only major city that recorded a new trough in June 2010, with prices down 1% from June 2009.

⁶ The S&P/Case-Shiller U.S. National Home Price Index tracks the value of single-family housing within the United States. The index is a composite of single-family home price indices for the nine U.S. Census divisions and is calculated quarterly. It captures approximately 75% of U.S. residential housing stock by value. For further information visit <http://bit.ly/6lvqgq>

Figure 2 shows peak-to-trough declines for 20 major metropolitan areas and their price performance through June 2010. These 20 major metro areas are aggregated to form the S&P/Case-Shiller Composite-20 housing price index⁷.

City by City Peaks, Troughs and Recent Data *

City	Peak value	Peak date	Trough value	Trough date	Current	Peak to trough declines to date	Peak to current declines	Recovery from recent lows
Miami	280.87	Dec-06	144.59	May-09	146.92	-48.5%	-47.7%	1.6%
Los Angeles	273.94	Sep-06	159.18	May-09	175.66	-41.9%	-35.9%	10.4%
Washington	251.07	May-06	165.94	Mar-09	185.77	-33.9%	-26.0%	12.0%
San Diego	250.34	Nov-05	144.43	Apr-09	163.82	-42.3%	-34.6%	13.4%
Tampa	238.09	Jul-06	136.46	Mar-10	138.58	-42.7%	-41.8%	1.6%
Las Vegas	234.78	Aug-06	101.77	Jun-10	101.77	-56.7%	-56.7%	0.0%
Phoenix	227.42	Jun-06	103.56	May-09	110.98	-54.5%	-51.2%	7.2%
San Francisco	218.37	May-06	117.71	Mar-09	142.55	-46.1%	-34.7%	21.1%
New York	215.83	Jun-06	168.91	Apr-10	172.76	-21.7%	-20.0%	2.3%
Seattle	192.3	Jul-07	143.56	Dec-09	146.83	-25.3%	-23.6%	2.3%
Portland	186.51	Jul-07	143.61	Mar-10	148.73	-23.0%	-20.3%	3.6%
Boston	182.45	Sep-05	145.83	Mar-09	157.83	-20.1%	-13.5%	8.2%
Minneapolis	171.12	Sep-06	108.62	Apr-09	125.91	-36.5%	-26.4%	15.9%
Chicago	168.6	Sep-06	119.71	Mar-10	124.9	-29.0%	-25.9%	4.3%
Denver	140.28	Aug-06	120.22	Feb-09	129.19	-14.3%	-7.9%	7.5%
Atlanta	136.47	Jul-07	103.73	Mar-10	109.74	-24.0%	-19.6%	5.8%
Charlotte	135.88	Aug-07	114.77	Mar-10	117.24	-15.5%	-13.7%	2.2%
Detroit	127.05	Dec-05	67.68	Mar-10	70.04	-46.7%	-44.9%	3.5%
Dallas	126.47	Jun-07	112.26	Feb-09	121.14	-11.2%	-4.2%	7.9%
Cleveland	123.49	Jul-06	96.86	Mar-09	107.26	-21.6%	-13.1%	10.7%
Composite-10	226.29	Jun-06	150.44	Apr-09	161.04	-33.5%	-28.8%	7.0%
Composite-20	206.52	Jul-06	139.26	Apr-09	147.97	-32.6%	-28.4%	6.3%

* Data available as of August 31, 2010.

Source: Standard & Poor's. Prior to April 2006, the S&P Case-Shiller Home Price Index was known as the Case-Shiller Home Price Index. An index is an unmanaged statistical composite.

Recent Performance

The S&P/Case-Shiller Composite-20 index was up 1% y-y in July, confirming that the price rebound from the second quarter continued into the third quarter.

As the figure on the following page shows, performance diverged again by market. Twelve cities experienced price increases, seven had price declines, while prices in one market remained unchanged. The positive recent price performance appears supported by the home buyer tax credit, which covered purchases closing through September 30, 2010.

It remains unclear how housing prices will develop following expiry of the tax credit and in the absence of new government support programs. According to David Blitzer, Chairman of the Index Committee at Standard & Poor's, "While we could still see some residual support from the homebuyers' tax credit... anyone looking for home prices to return to the lofty 2005-2006 might be disappointed. Judging from the recent behavior of the housing market, stable prices seem more likely."

⁷ The S&P/Case-Shiller Composite-20 index measures the average change in home prices in 20 major metropolitan areas and is calculated monthly.

July Housing Price Level by Metropolitan Area *

Metropolitan Area	July 2010 Level	July/June Change (%)	June/May Change (%)	1-Year Change (%)
Atlanta	109.92	0.2%	1.7%	-0.2%
Boston	158.83	0.6%	1.2%	2.8%
Charlotte	117.03	-0.2%	0.7%	-3.5%
Chicago	126.17	1.0%	2.5%	-1.7%
Cleveland	107.31	0.0%	1.3%	-0.6%
Dallas	120.75	-0.3%	0.9%	-0.4%
Denver	128.72	-0.4%	0.7%	-0.1%
Detroit	71.17	1.6%	2.5%	1.3%
Las Vegas	100.91	-0.8%	-0.6%	-4.9%
Los Angeles	176.27	0.3%	0.6%	7.5%
Miami	147.88	0.7%	0.4%	0.4%
Minneapolis	127.01	0.8%	2.6%	6.4%
New York	174.90	1.3%	1.2%	0.6%
Phoenix	110.30	-0.6%	0.0%	3.4%
Portland	148.33	-0.3%	0.5%	-1.2%
San Diego	165.02	0.7%	0.4%	9.3%
San Francisco	143.23	0.5%	0.3%	11.2%
Seattle	147.04	0.1%	0.0%	-1.6%
Tampa	138.24	-0.2%	0.2%	-3.2%
Washington	187.98	1.1%	1.8%	6.5%
Composite-10	162.27	0.8%	1.0%	4.1%
Composite-20	148.91	0.6%	1.0%	3.2%

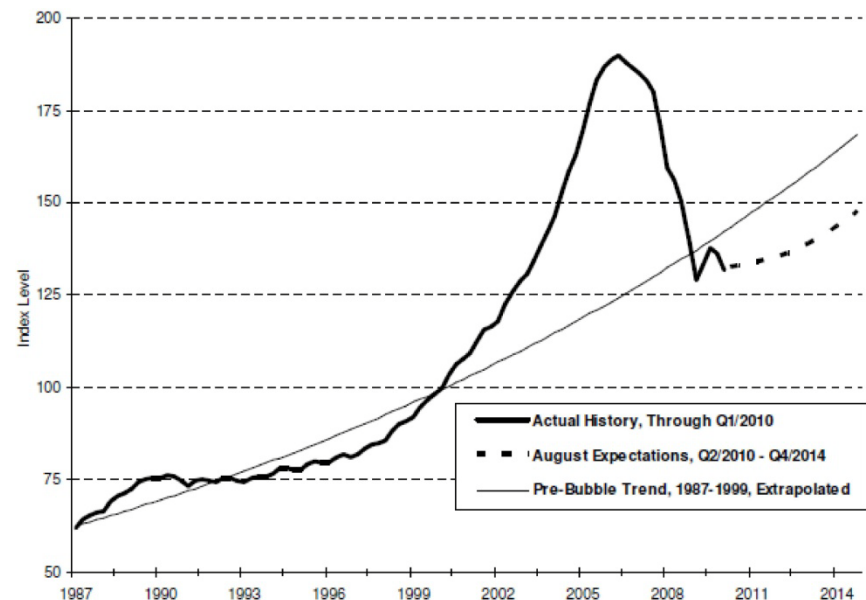
* Data through July 2010.

Source: Standard & Poor's and Fiserv.

Outlook

As the figure below shows, housing prices are slightly below the “pre-bubble” trend line of the S&P/Case-Shiller U.S. National Home Price Index. The trend line is based on an extrapolation of index values from 1987 through 1999, with the latter year marking the start of the most recent housing boom. If one excludes the aberration of housing prices since 1999, recent prices are approximately in-line with the historical pricing trend since the late 1980s. While this does not mean prices will not decline further, it puts the recent boom and bust in residential real estate into historical perspective.

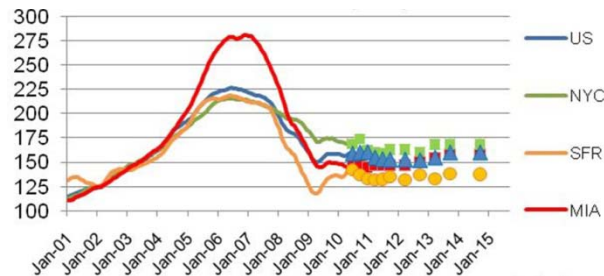
S&P/Case-Shiller Index and Survey of Professional Forecasters



Sources: Standard & Poor's, Fiserv (historical data), MacroMarkets (mean future expectations data).

With regard to an outlook for U.S. housing prices, we note the existence of a home price futures market.⁸ Based on recent futures prices, the consensus is for prices to remain relatively stable at recent levels through 2014. While the futures market in housing is relatively new, it may be as good an indicator as any for the future direction of housing prices.

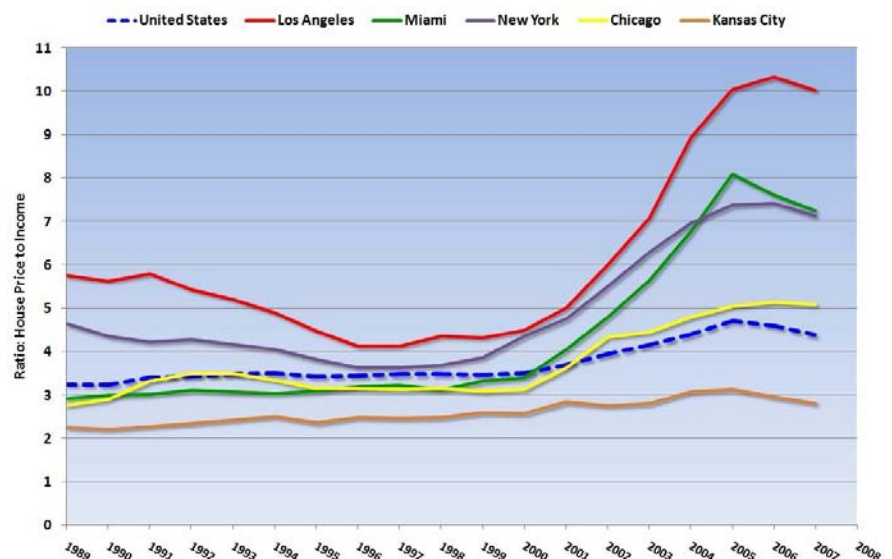
S&P/Case-Shiller Index and CME Futures



Sources: Standard & Poor's.

It is usually instructive to compare housing prices to per-capita income as a measure of housing affordability. As the below figure shows, the median house price to median household income has averaged around 3.5x in the decade leading up to the start of the housing boom in 2000. While the ratio reached nearly 5.0x in 2005/06, it has declined closer to 4.0x recently. Assuming household incomes do not rise, house price declines are needed for the ratio to revert to the “pre-bubble” level of 3.5x. Again, the ratio differs widely by major metro area, reflecting local peculiarities. In New York, for example, the ratio reached a high of almost 10x in 2005/06 before declining to ~7x in 2010. As this remains modestly above the trend-line level of 6x, it may indicate further price declines ahead. On the other hand, the price-to-income ratio of under 5x for Arizona is at the lowest level since at least 1975. This may indicate that housing prices in Arizona are too low assuming incomes do not deteriorate further.

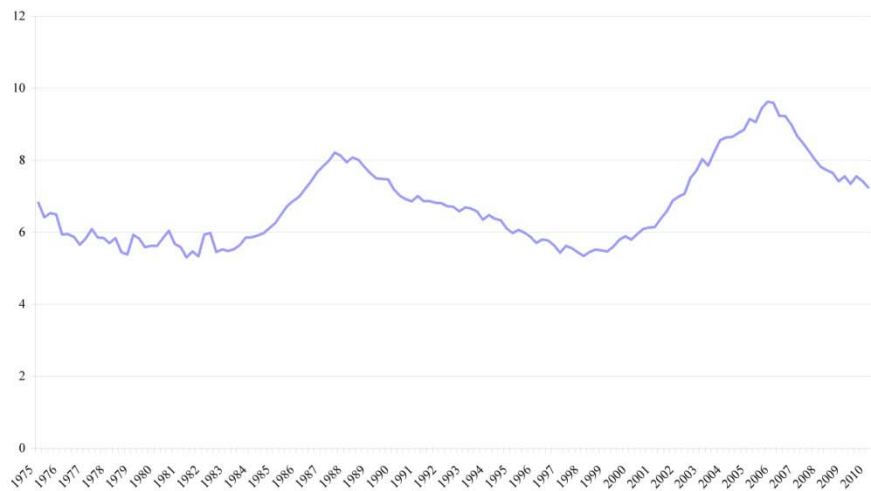
Median House Price to Median Household Income



Source: Harvard JCHS, <http://calculatedrisk.blogspot.com>

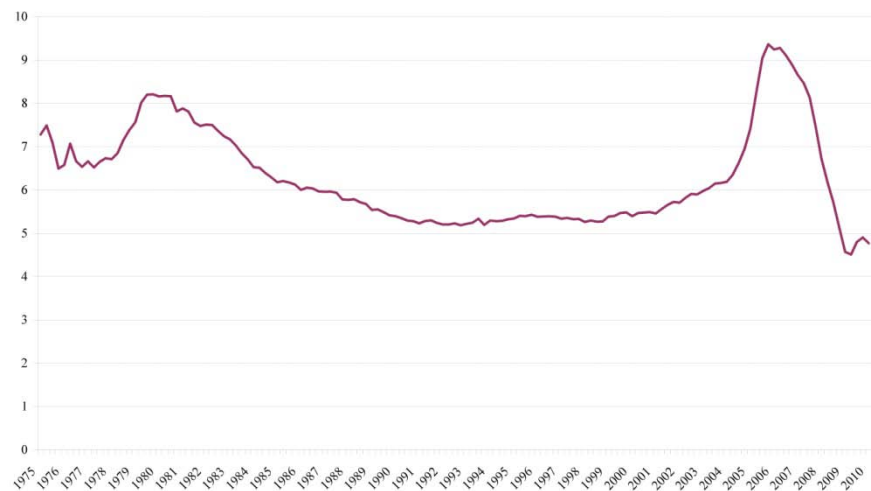
⁸ See <http://bit.ly/cg1OMb>

House Price to Per-Capita Income, New York



Note: House price is calculated as the Case-Shiller state house price index multiplied by the 2000 Census mean value for owner-occupied housing units. Source: Standard & Poor's.

House Price to Per-Capita Income, Arizona



Note: House price is calculated as the Case-Shiller state house price index multiplied by the 2000 Census mean value for owner-occupied housing units. Source: Standard & Poor's.

Conclusion

The U.S. housing market has experienced a boom and bust since 2000, with prices recently returning roughly in-line with the historical trendline.

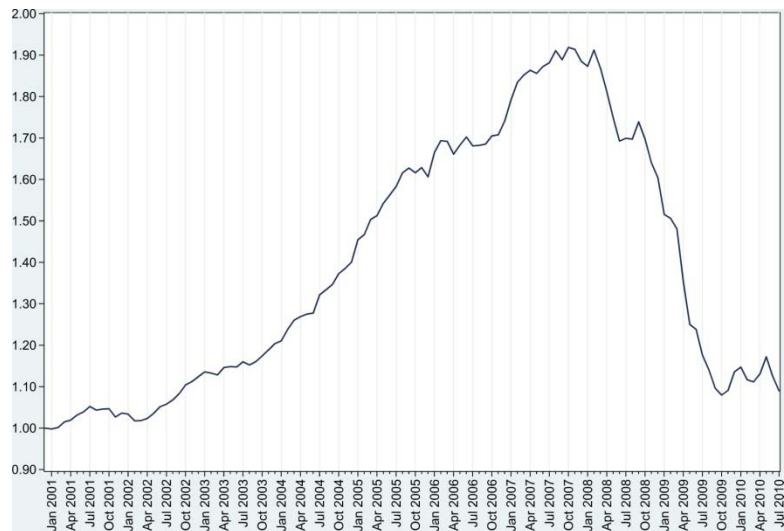
While price performance and housing affordability diverges widely by market, it appears quite clear that on both measures the major adjustment in prices has already occurred. On average, it is therefore reasonable to expect that prices remain at least stable around the 2009 trough levels. This is supported by recent house price performance as well as implied futures prices through 2014.

While a sustained rise in real estate prices likely requires an increase in average household income, a material house price decline from recent levels appears unwarranted if household incomes remain stable.

U.S. Real Estate Pricing Trends – Commercial

According to the Moody's Commercial Property Price Index (CPPI),⁹ U.S. commercial real estate prices fell 44% from the peak of October 2007 to the trough in October 2009. Prices have remained relatively stable since then, with July 2010 data showing prices 1% above the October 2009 trough. This puts recent prices roughly in-line with prices in 2002, the start of the commercial real estate boom. Prices nearly doubled from 2002 to 2007.

All Commercial Real Estate Properties Index – U.S. National



Sources: MIT Center for Real Estate, <http://mit.edu/cre>; Real Capital Analytics, www.rcanalytics.com

A look at the four major commercial real estate property types reveals diverging pricing trends. Whereas apartment and office property prices are on an upward trend, retail property prices appear not to have found a bottom yet. Meanwhile, industrial property prices are relatively stable around the recent bottom.

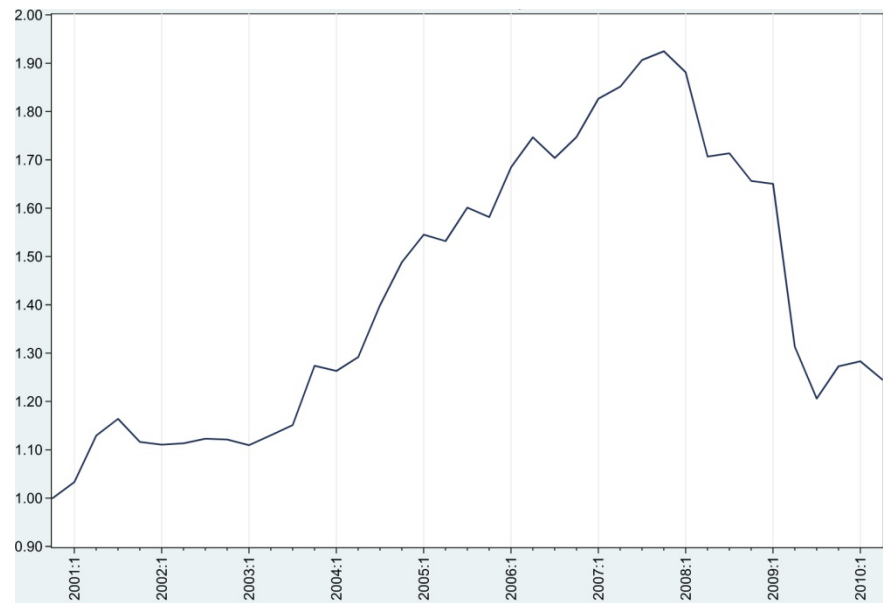
Apartment Properties Index – U.S. National



Sources: MIT Center for Real Estate, <http://mit.edu/cre>; Real Capital Analytics, www.rcanalytics.com

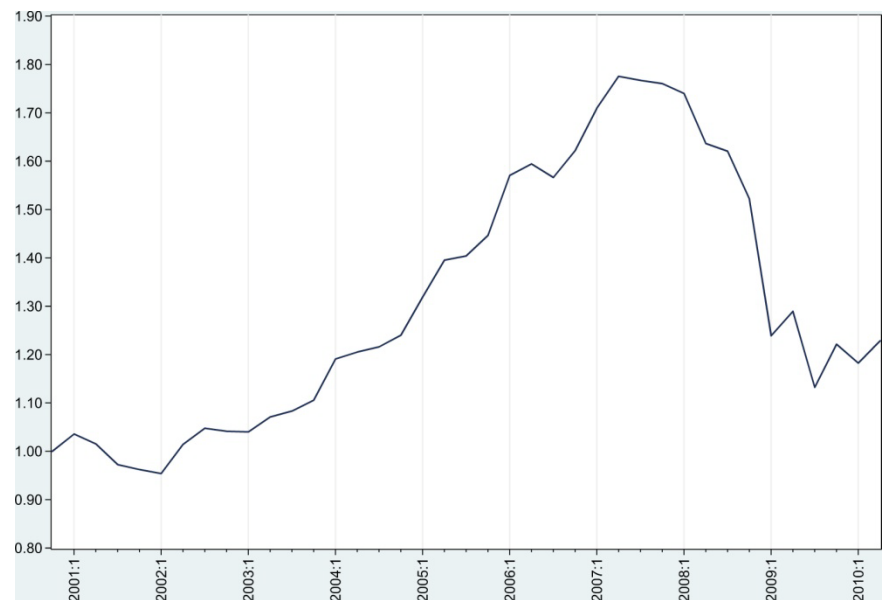
⁹ The Moody's Commercial Property Price Index (CPPI) is a periodic same-property round-trip investment price change index of the U.S. commercial property market based on data from the MIT Center for Real Estate and industry partner Real Capital Analytics. For more, visit <http://bit.ly/cBGLI>

Industrial Properties Index – U.S. National



Sources: MIT Center for Real Estate, <http://mit.edu/cre>; Real Capital Analytics, www.rcanalytics.com

Office Properties Index – U.S. National



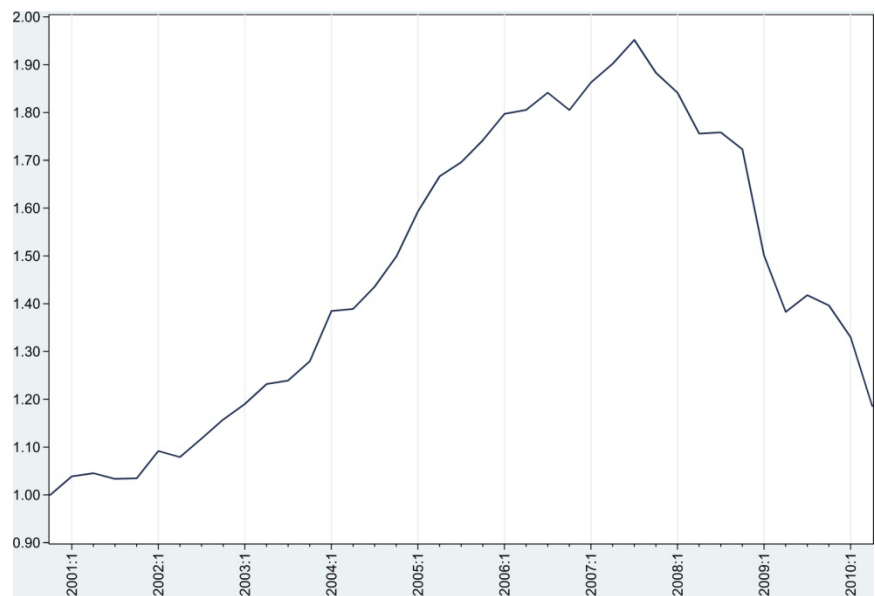
Sources: MIT Center for Real Estate, <http://mit.edu/cre>; Real Capital Analytics, www.rcanalytics.com

A Cautionary Note

While the above indices are helpful to put the boom and bust in commercial real estate prices in historical perspective, recent data may be misleading in assessing the state of the market and prospects for a recovery. This is because commercial real estate transaction volume declined nearly 90% from 2007 to 2009 and has remained low during 2010.

In addition, the CPPI index is based on repeat transactions, and therefore excludes many distressed properties that have not traded yet. As a result, it appears reasonable to assume recent pricing trends are more a reflection of the market for “healthy” properties and may be too optimistic as a proxy for the overall market including the most distressed properties.

Retail Properties Index – U.S. National

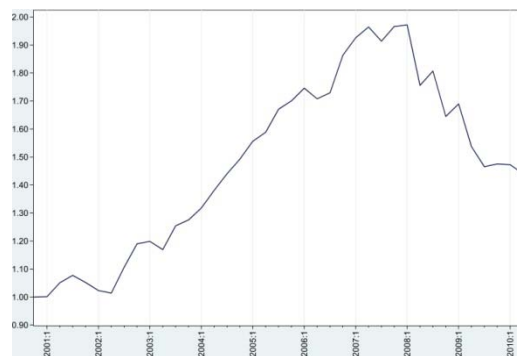


Sources: MIT Center for Real Estate, <http://mit.edu/cre>; Real Capital Analytics, www.rcanalytics.com

The figures below provide a further breakdown of commercial real estate pricing trends by geographic region and property type.

West Region, 2001-2010 (quarterly)

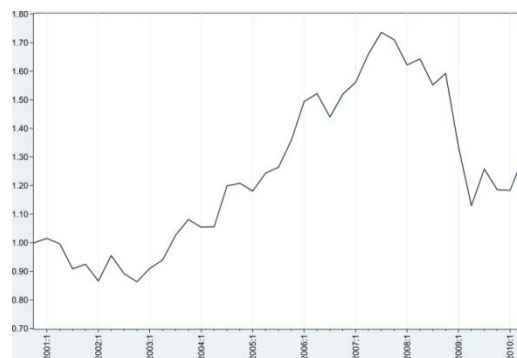
Apartments



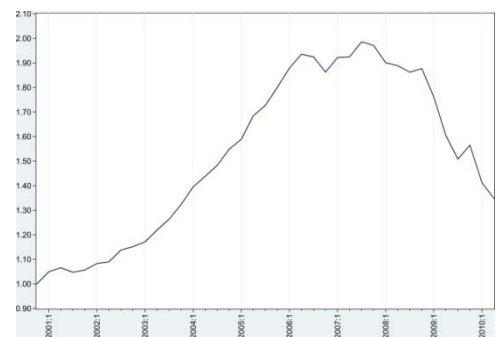
Industrial



Office



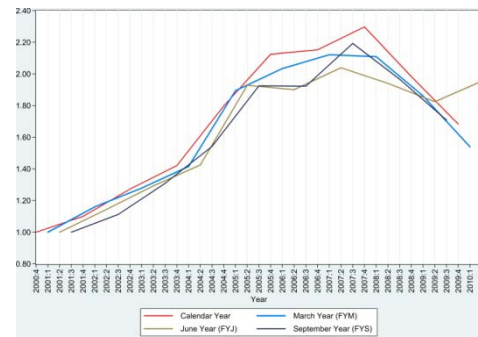
Retail



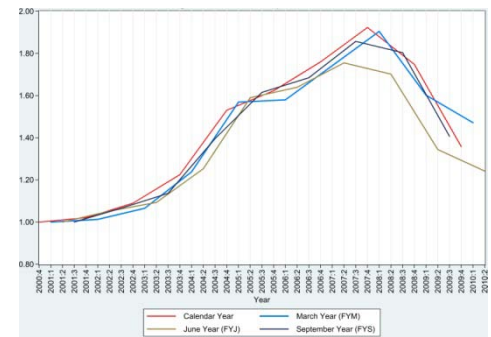
Sources: MIT Center for Real Estate, <http://mit.edu/cre>; Real Capital Analytics, www.rcanalytics.com

East Region, 2001-2010 (quarterly)

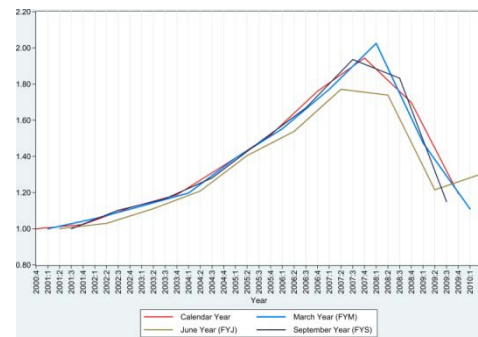
Apartments



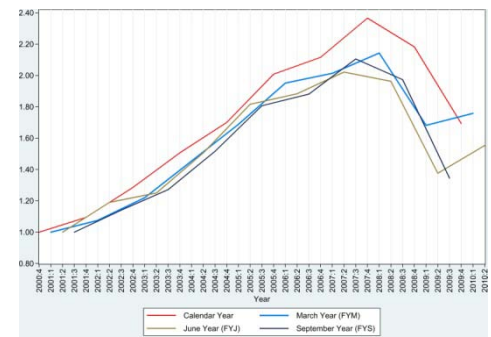
Industrial



Office



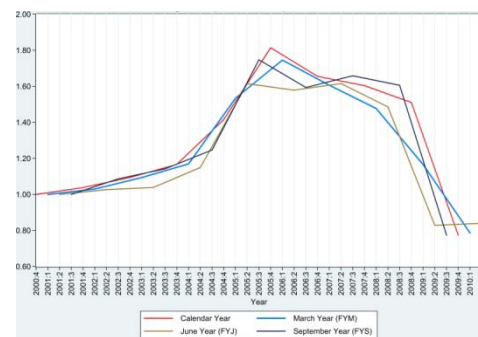
Retail



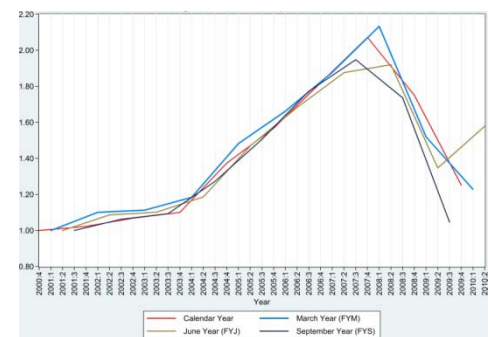
Sources: MIT Center for Real Estate, <http://mit.edu/cre>; Real Capital Analytics, www.rcanalytics.com

South Region, 2001-2010 (quarterly)

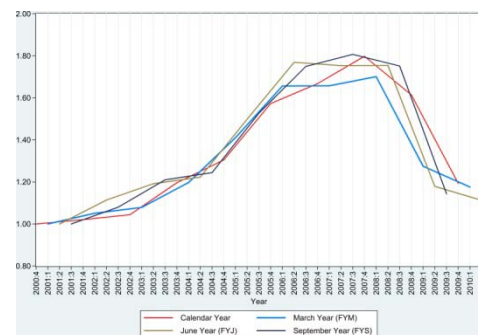
Apartments



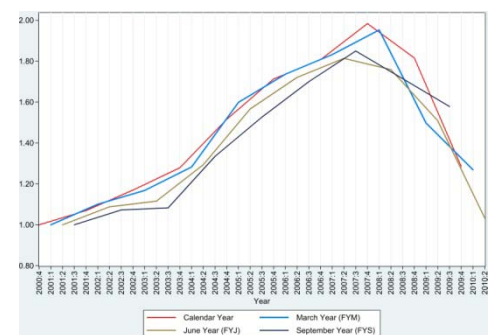
Industrial



Office



Retail



Sources: MIT Center for Real Estate, <http://mit.edu/cre>; Real Capital Analytics, www.rcanalytics.com