Slow-motion housing cycles

DeForest McDuff
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Preview

Home prices in many U.S. cities have been falling for roughly 3 years now. Many of these price declines have been the largest on record. The table below lists the price changes for 20 of the largest U.S. cities, according to the S&P/Case-Shiller home price indices:

City	Price change from peak	Price change in last year
Phoenix, AZ	-40.6%	-32.7%
Las Vegas, NV	-39.3%	-31.7%
Miami, FL	-38.3%	-29.0%
San Diego, CA	-36.4%	-26.7%
San Francisco, CA	-36.1%	-31.0%
Los Angeles, CA	-34.4%	-27.9%
Detroit, MI	-32.2%	-20.4%
Tampa, FL	-30.5%	-19.8%
Washington, DC	-26.3%	-18.7%
20-city Index	**-23.4%**	**-18.0%**
Minneapolis, MN	-20.7%	-16.3%
Chicago, IL	-13.7%	-10.8%
Boston, MA	-12.8%	-6.0%
Atlanta, GA	-12.2%	-10.5%
New York, NY	-11.9%	-7.5%
Cleveland, OH	-11.9%	-6.2%
Seattle, WA	-11.4%	-10.2%
Portland, OR	-10.8%	-10.1%
Denver, CO	-8.0%	-5.2%
Charlotte, NC	-5.8%	-4.4%
Dallas, TX	-4.6%	-3.0%

Unfortunately, home prices are likely to keep falling for at least 2-3 more years in nominal terms and 5 years or more after adjusting for inflation. In the analysis below, I examine the housing recession from the early 1990s for some guidance as to how home prices will evolve over the next decade.

The main point is that housing cycles are extremely slow. Potential buyers are unlikely to "miss the bottom" by being too patient. If history is any guide, the price trough of the housing cycle is likely to last for many years.

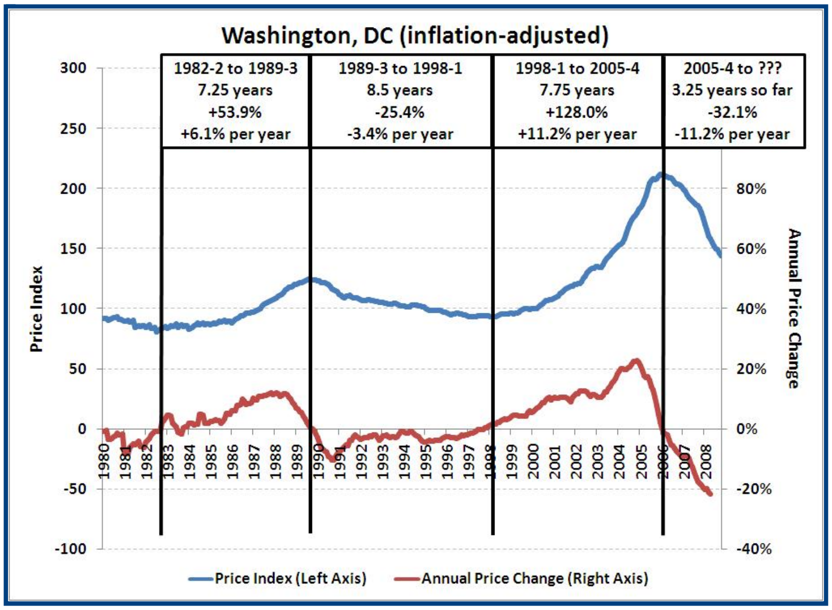
My sense is that home prices are falling close to the steepest rate of decline that will occur in this housing cycle. That is, prices will continue to fall but the current rate of decline is likely to moderate before long.

Slow-motion housing cycles

Housing cycles are easiest to identify when prices are adjusted for inflation. Cycles often last for years and may or may not include nominal price declines. "Bust" cycles often occur when home prices are flat in nominal terms while inflation reduces prices relative to other things. Compared to other financial markets, home prices tend to move slowly and have easily identifiable cycles.

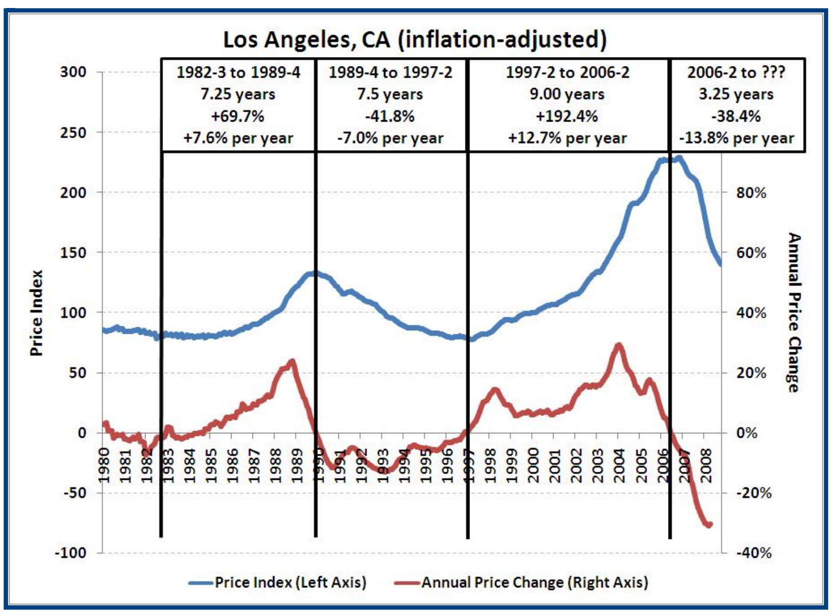
The main point that I want to emphasize is that housing bust cycles last for a long time, often close to a decade. I illustrate this point by analyzing three major housing markets since 1980. I take price data from the **S&P/Case-Shiller** and the **OFHEO** home price indices (I use OFHEO for pre-1987 and Case-Shiller for post-1987).

Consider the Washington, DC market. Below I display the price index adjusted for inflation (in blue) and the annual price changes (in red) and identify four major time periods:



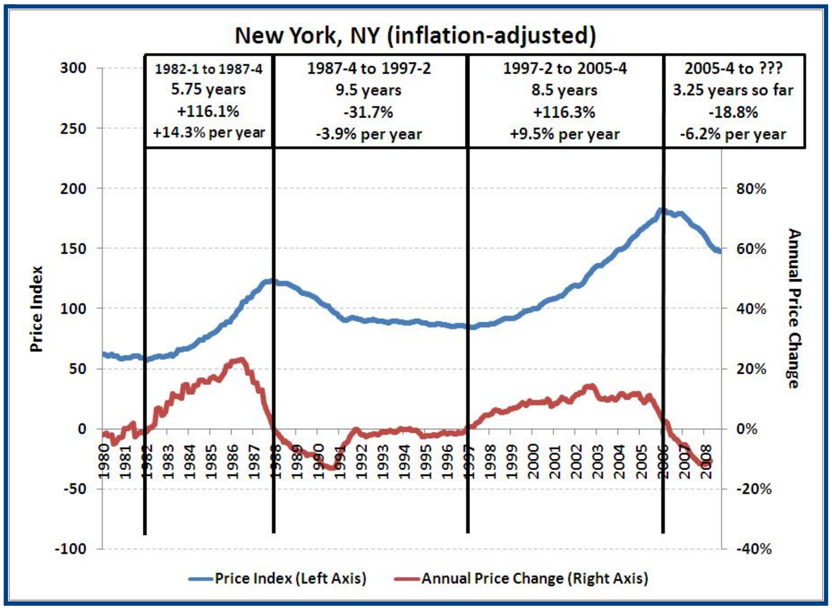
From 1982-1989, Washington DC home prices rose 53.9% adjusted for inflation. From 1989-1998, prices fell by 25.4%. From 1998-2005, prices rose by 128.0%. From 2005-today, prices have fallen 32.1% so far. **The down cycle in the early 1990s lasted for 8.5 years despite a booming economy. There is no reason to expect this down cycle to be any shorter.** Assuming a constant long-run growth rate by linearly connecting the 1982 low with the 1998 low, the inflation-adjusted index should fall to 107. That's another 25% from here (50% off from the peak). I would consider that to be a pessimistic forecast, but it's not unrealistic.

Similar patterns can be observed in Los Angeles:



From 1982-1989, prices rose relative to inflation by 69.7%. From 1989-1997, prices fell by 41.8%. From 1997-2006, prices rose by 192.4%. Since then, prices have fallen by 38.4%. **Given the magnitude of the latest boom (and subsequent decline), I expect this bust cycle to last at least as long as the previous one. That's at least another 4 more years.** In cities like LA, additional declines (inflation-adjusted) could be as much as 30-40% from here (-60% from the peak).

The same patterns emerge in the New York market:

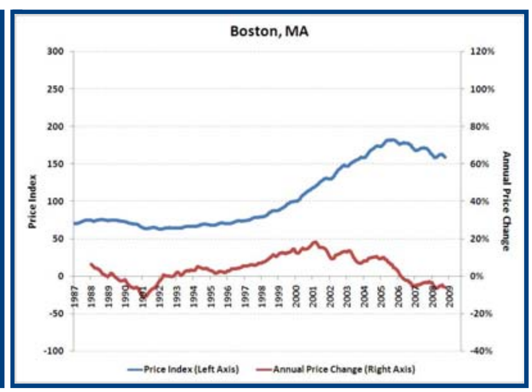


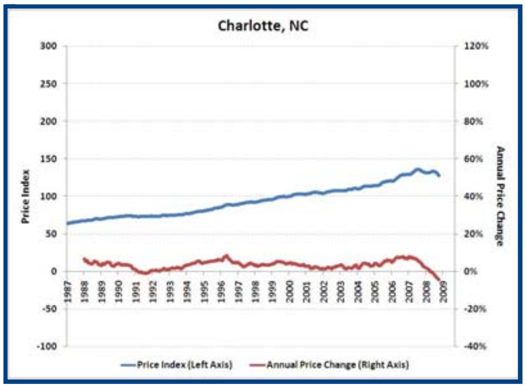
New York home prices have held up surprisingly well so far, but I don't expect that to last. After all, **Wall Street bonuses are down 44% compared to last year** (although the **NYTimes still reports that bonuses are "hefty"**). Rising Wall Street incomes through most of 2007 helped to cushion an otherwise weakening housing market. But that story seems to be ending. On the upside, you'll notice that New York looks less "peaky" than the other cities and that the 2000s price boom was roughly the same magnitude as the 1980s price boom. So the early 1990s bust cycle may not be a bad model moving forward (the unknown factor of course is the recovery [or not] of New York finance).

Price charts for 20 U.S. cities

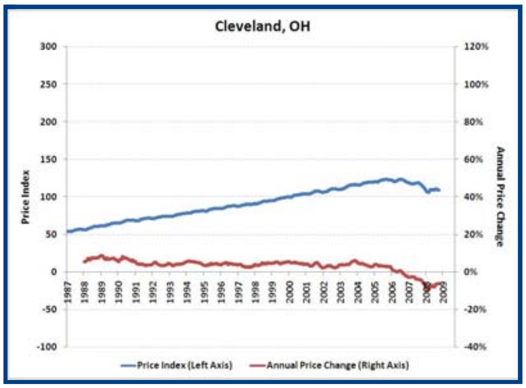
The **Standard & Poor's/Case-Shiller home price indices** are generally thought to be the most accurate reflection of home price appreciation for a given market over time. Home price indices are published for 20 cities across the U.S. and are calculated using a repeated-sales technique, meaning that the index uses consecutive sales at the same homes to construct an average price appreciation in each time period.

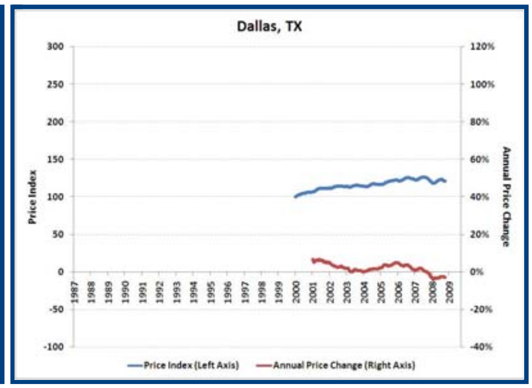
The graphs below display these 20 home price indices through the October 2008 data release. The index itself is displayed in blue and the annual rate of change is displayed in red. The graphs below display the actual price index (not adjusted for inflation) so that you can visually tell whether you think home prices are near a bottom.

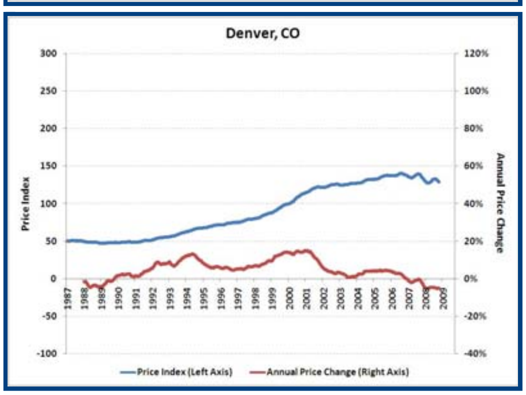


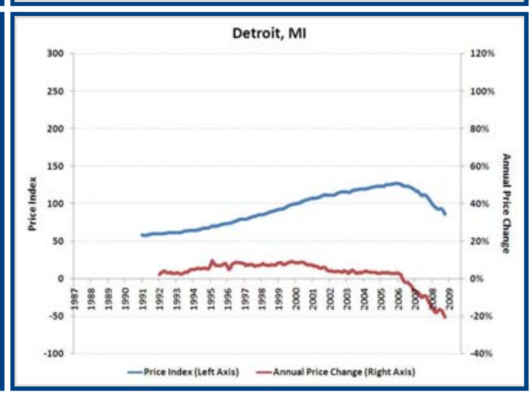

Charlotte, NC
Price Index
Annual Price Change
Price Index (Left Axis)
Annual Price Change (Right Axis)

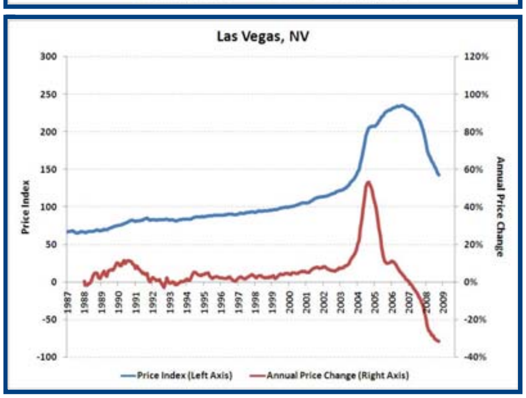

Chicago, IL
Price Index
Annual Price Change
Price Index (Left Axis)
Annual Price Change (Right Axis)


Cleveland, OH
Price Index
Annual Price Change
Price Index (Left Axis)
Annual Price Change (Right Axis)

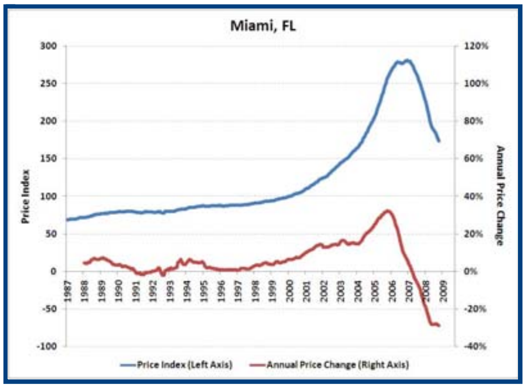

Dallas, TX
Price Index
Annual Price Change
Price Index (Left Axis)
Annual Price Change (Right Axis)

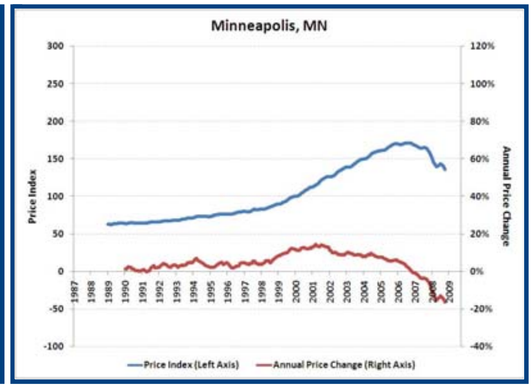

Denver, CO
Price Index
Annual Price Change
Price Index (Left Axis)
Annual Price Change (Right Axis)

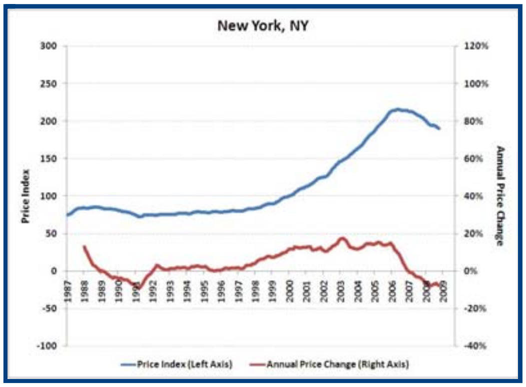

Detroit, MI
Price Index
Annual Price Change
Price Index (Left Axis)
Annual Price Change (Right Axis)

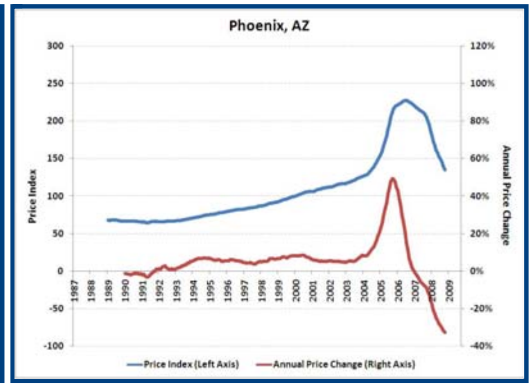

Las Vegas, NV
Price Index
Annual Price Change
Price Index (Left Axis)
Annual Price Change (Right Axis)


Los Angeles, CA
Price Index
Annual Price Change
Price Index (Left Axis)
Annual Price Change (Right Axis)

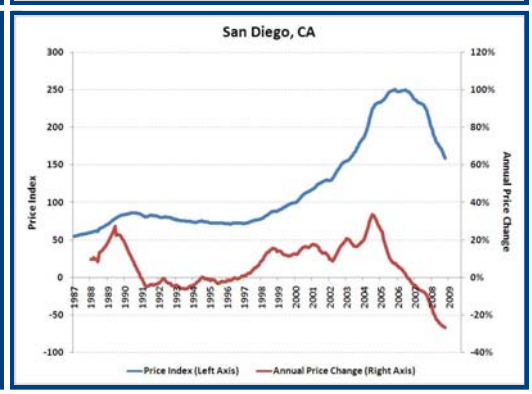

Miami, FL
Price Index
Annual Price Change
Price Index (Left Axis)
Annual Price Change (Right Axis)


Minneapolis, MN
Price Index
Annual Price Change
Price Index (Left Axis)
Annual Price Change (Right Axis)


New York, NY
Price Index
Annual Price Change
Price Index (Left Axis)
Annual Price Change (Right Axis)

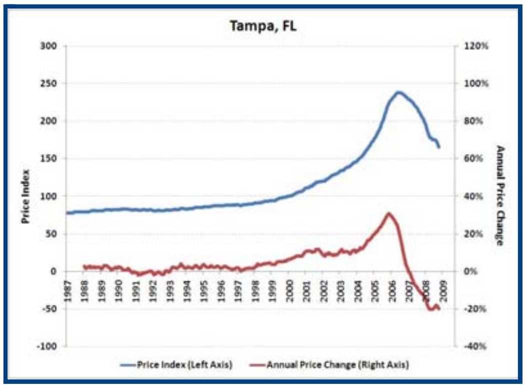

Phoenix, AZ
Price Index
Annual Price Change
Price Index (Left Axis)
Annual Price Change (Right Axis)


Portland, OR
Price Index
Annual Price Change
Price Index (Left Axis)
Annual Price Change (Right Axis)


San Diego, CA
Price Index
Annual Price Change
Price Index (Left Axis)
Annual Price Change (Right Axis)


San Francisco, CA
Price Index
Annual Price Change
Price Index (Left Axis)
Annual Price Change (Right Axis)


Seattle, WA
Price Index
Annual Price Change
Price Index (Left Axis)
Annual Price Change (Right Axis)



Conclusion

Many cities seem to me to be near the point of steepest decent. Home prices will continue to fall but the rate of decline is likely to moderate soon. However, home prices have historically taken nearly a decade to begin rising again after a bust cycle (adjusting for inflation). We are nowhere near a decade yet.

My standard caveat is that **many factors should impact your decision to buy a home**. But price appreciation - at least in the next 5 years - should not be one of them.

Please e-mail thoughts and comments to defomcduff@gmail.com
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