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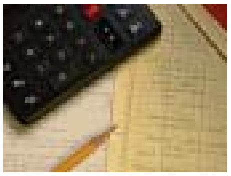

Economics & Financial Markets

United States Equity Markets

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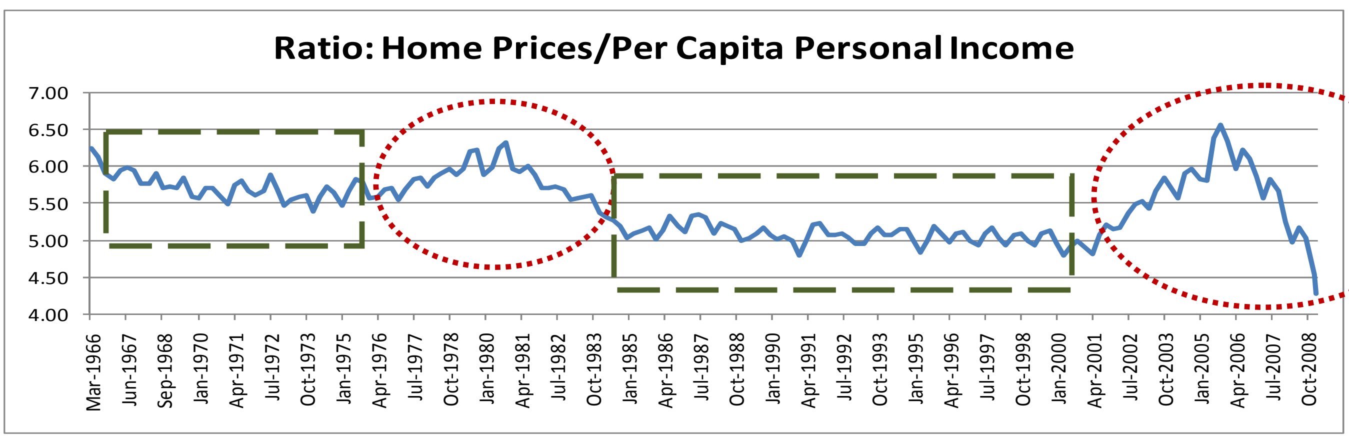
Housing Crisis near its End: Existing Home Prices Likely to Fall Another 15% - Part I

Figure I: Ratio of Existing Home Prices/Per Capita Personal Income 1966 to 2009



Source: NAR, BEA, SISR

I. <u>Introduction</u>

For the past several weeks questions of bank nationalization the effectiveness of the Stimulus, TARP, TALF, have been front and central as to the effectiveness of Governmental Programs as a way to bring the economy out of the recession. Recently the Treasury has stated that they will implement stress tests to determine how much potential capital is required for the banks to remain solvent in light of progressively worsening conditions. This in itself has caused concern within the market place, because the parameters of the stress test make fairly dire assumptions about the economy. In some ways there has been real genus and extreme care in creating what we will call an almost fail safe set of conditions for resolving this economic downturn. As creative as some of the components are the solutions were created in a crisis and in a piecemeal manner, without getting at the core problem.

The solutions have dealt with the symptoms not the cause. The programs in place have addressed the effect of the cause, which is the banking crisis, without sufficiently addressing the cause the radical decline in home prices that has caused the banking system to nearly collapse. This report will attempt to look at the declining price of homes, and access how much lower home prices are likely to go given the current environment. The banking crisis will not go away until the home prices stop dropping and the recession will not end until home prices stabilize. Part II, will place this analysis into a broader contest of the entire recession and the programs that have been implemented.

II. Similarities in the Housing Economy between the Late 1970's and the early 1980's

The current recession 0f 207-09 is often identified with the recession of the late 1970's to the early 1980's in terms of the serenity of the downturn. Figure II shows this in light of the serenity of the decline in home building that has occurred in each of the post war recession.

Figure II: Major Events and the Percent Change in Permits from 1959 to the Present

Major Event	Date	High/Low	% Δ
Kennedy Tax Cut	Feb 1959	1,667	
Recession	Dec 1960	1,063	-36.23
1973 Oil Crisis	Jan 1973	2,481	
	Feb 1975	904	-63.56
1979 Energy Crisis	Apr 1978	2,197	
	May 1980	927	-57.81
World Financial	Jan 1989	1,621	
Crisis	Mar 1991	921	-43.18
Dot Com Bubble	Jan 1999	1,748	
	Jul 2000	1,463	-16.30
Housing Bubble	Jan 2006	2,292	
	Jan 2009	521	-77.26

Source: Department of Commerce: SISR

The current housing bubble is the most sever home building downturn in the post war period, with a 77.26 decline in housing permits from the peak in January of 2006. The second worst home building decline occurred in the mid 1970's and was followed by the recessions of the 1980's, were there was a 63.56% decline in the mid 1970's and a 57.81% decline that occurred in the early 1980's. In a way, but this is a discussion for a different report, all three 1970 and 1980 recessions can be rolled into one event that was never successfully resolved, i.e. the post Viet Nam inflation.

III. Ratio of Existing home Prices to Personal Per Capita Income

There are many measures to access home affordability, but the affordability index does not capture the full equation. The equation includes the supply of homes, affordability, the lending environment, the shock to the economic system, interest rates, unemployment, energy costs, and inflation among many others. In many ways all of these factors are included in the simple ratio of existing home prices over per capita income (EH/PCI). The price of the home will be affected by inflation, unemployment, home inventories, affordability, the lending environment; and per capita income is a good indicator of how able individuals are to maintain their homes. The ratio also is the long run equilibrium between home prices and income.

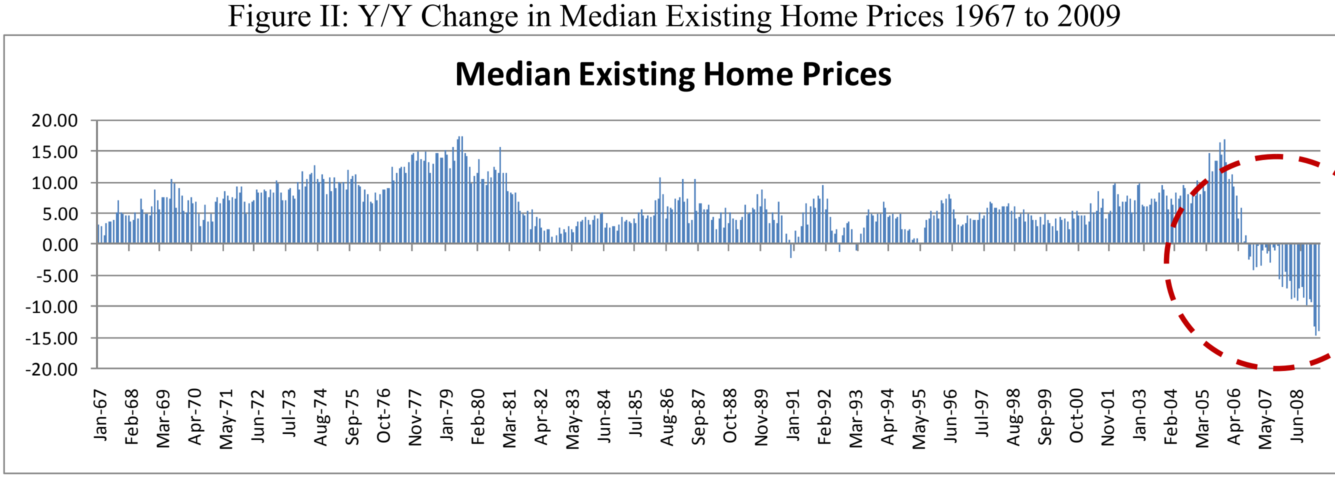
Currently we are in the worst recession of the post war period with many similarities to the 1980's. Figure I above plots this ratio between existing home prices and per capita income (EH/PCI). From 1967 there were only two spikes in this ratio, the late 1970's to early 1980's and 2006 to the present. In both instances after the increase there was a steep drop below the steady state line that preceded the increase. This simple ratio appears to capture in a cleaner way what many 20 to 50 equation econometric models may not do as well. This pattern of spike has only occurred twice in the past 50 years.

In the late 1970's and early 1980 there was an increase in the ratio only to see it crash and again stabilize at a much lower level. That lower level like the stable level of the late 1960's to late 1970's lasted for 20 years until it rose again in the early 2003 period. The steady state condition indicates that there is a long term relationship between income and home prices with these two indicators moving together in times of inflation, unemployment, and other economic events.

IV. 2007-09 is Uncharted Territory of Home Price Declines

One of the more interesting aspects of the 1980 and mid 2000 increases in the ratio is that we are currently in uncharted territory. During the post war period we have never experienced a period in U.S. history where we have had home prices decline. There was one month on a year over year change basis in 1991 when home prices dropped less than 1% but NEVER have we seen a phenomenon like we are currently seeing, where homes are down 20 to 30% nationally, and more in certain regions. The irony is why does the EH/PCI ratio in Figure I look so similar between the 1980 spike and the 2000 spike?

Figure II: Y/Y Change in Median Existing Home Prices 1967 to 2009



Source: NAR, SISR

In the late 1970's we had a period of very high inflation, actually the highest during the post war period. The increase in the ratio was a consequence of home prices following the rate of inflation with income lagging. The reversal had home prices stable but income catching up to create the period of equation. Stability occurred when income began to rise with home prices remaining constant.

V. Projecting the 2009-2010 Housing Bottom

The late 1970's and early 1980's recession ended in November of 1982. Stability in the housing market occurred in 1983 to 1984 when the EH/PCI ratio which had gone from a 10 year average of 5.65 up to 6.32 an 11.78% increase and then dropped 20.89% to 5.05. This indicates that after the shock of the recession and the housing crisis, it took more income per dollar of home value to achieve equilibrium.

The higher relative income per dollar of home value was required to soak up the excess inventory. Stated differently for a given level of income home prices needed to come down, more than the equilibrium that had existed in the prior steady state condition. We expect to see the same pattern in 2009 with a drop in the steady state line of equilibrium.

In mid 2006 we saw the ratio peak at 6.56 a 30.02% increase. Currently the ratio has fallen back to 4.28 a 34.76% drop in the ratio. Assuming the patterns are the same we would expect that the ratio is likely to fall to about 3.6% which would be a 45.12% drop in the ratio. At constant income home prices we would need them to fall to $143,053 from the current $169,900 which would be another 15.8% drop from the current price of the medium existing home to have a 3.6 ratio.

At the current rate of decline of 2.5% (Case Shiller) to 3.07% (NAR) we would expect that home prices would continue to decline for another 4 months prior to stabilizing with the EH/PCI ratio at a much lower level than the two decade average of 5.05, and be closer to a 3.6 ratio. The lowering of the ratio is caused by the sucking up of the excess home inventory to the point where personal income and home prices are again in equilibrium. As home price exceeded their equilibrium ratio of income to home prices the markets eventually collapsed from its own weight.

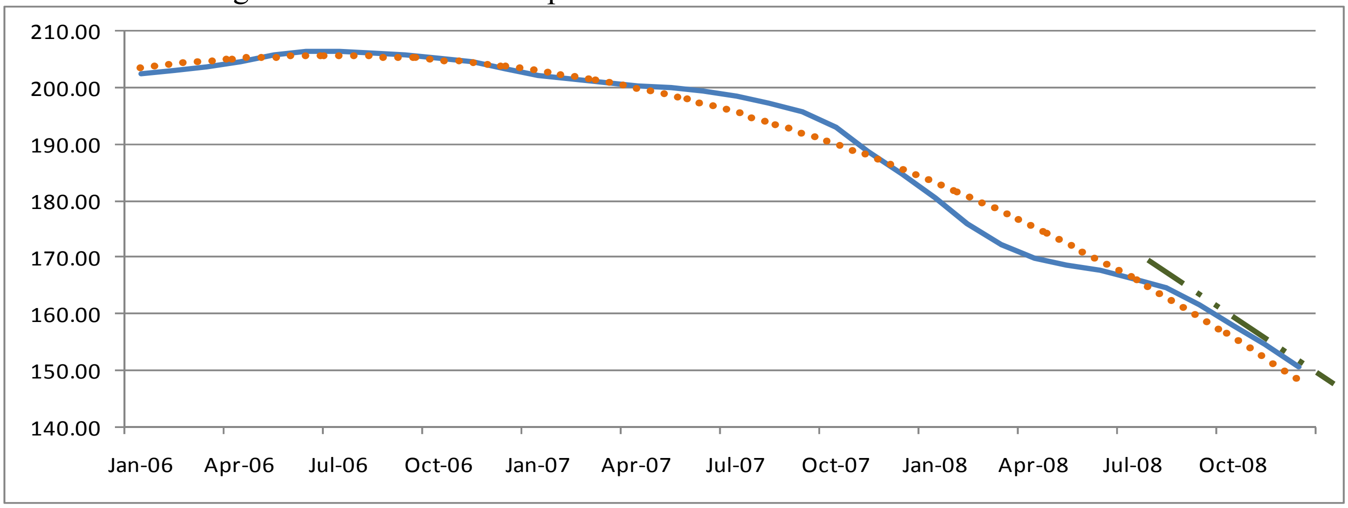
VI. Current Rate of Decline in Existing Home Prices from Case Shiller and the National Association of Realtors (NAR)

A. Case Shiller

The S&P Case Shiller index for December declined from 154.55 to 150.66 for the composite 20 cities a 2.52% decline, and declined from 166.00 to 162.17 a decrease of 2.31% for the 10 city composite. The slope of the decline increased over the past five months Figure III).

The Case Shiller index show a constant slope of decline from August to the present a five month average of between 2 and 3 % each month. If we need a 15% further drop in home price to reach the steady state equilibrium between EH/PCI we are approximately 4 months away from equilibrium, which would take us to the May June time period.

Figure III: Case Shiller slope of the decline in Home Pirces 2006 to 2009

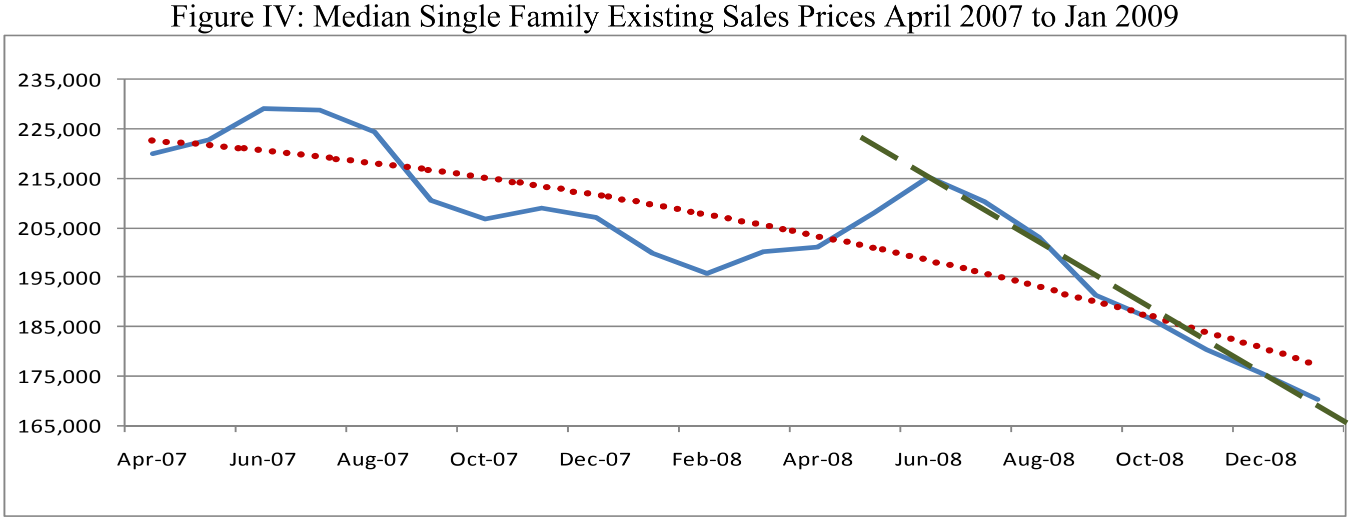


Source: S&P Case Shiller, SISR

B. National Association of Realtors (NAR)

Existing home sales were down -5.3% in the month of January to an annual rate of 4490K down from the December rate of 4,740K, seasonally adjusted (Figure IV). Inventories which had decreased to a monthly supply of 9.4 months in December rose in January to 9.6 months. The median sales price of home declined again with a constant slope of decline since June of 2008. This month existing home prices fell 3.07% after falling 2.55% in December and 3.32% in the prior month of November.

Figure IV: Median Single Family Existing Sales Prices April 2007 to Jan 2009



Source: National Association of Realtors, SISR

Here again we have a constant slope for the decline of home prices of approximately 2.8% m/m and at that rate we should achieve the 15% decline by June of this year. This is consistent with our economic forecast for an improving economy by summer of 2009.

VII. Conclusion

Using the EH/PCI ratio we are projecting that home prices will decline another 15% prior to the period when home prices stabilize. Based on the current rate of decline, as indicated in Case Shiller and NAR, home prices will stop declining in May or June of this year. The rate of decline in both the Case Shiller and the NAR report since August has been at a constant slope of between 2.5% and 3 %. If our assumptions are correct we can expect that home prices will hit bottom in about 3 to 4 months at this current rate of decline.

The EH/PCI ratio appears to incorporate many variable that would require a very complex econometric model of 20 to 50 equations. This metric appears not only intellectually sound but it has proven that during the two most severe recessions that impacted housing the ratio performed as expected and is providing a reasonable basis for projecting the end to this housing bubble.

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