The Housing Bubble - 2008 Update

Summary: This paper updates our Housing Bubble analysis from November, 2007. In our 2005 analysis, we used a "twilight" analogy. In the 2006 Update, we said: "We are probably entering a housing market more akin to a 'nuclear' winter." In 2007, we wrote: "If you do not like 2007, then you are not going to like 2008 either."

In 2008, it feels like a disaster, but it is the first year since 1993 when residential investment per capita is below trend! Can you believe that? It is the first real year below trend in 16 years! We have had 15 straight years of trend or better investment! No wonder 2008 hurts!

We have more bad news: 2009 should be worse than 2008. The so-called "credit crisis" is irrelevant. It is nothing more than a bit player in the housing drama. Fixing the "credit crisis" will not change that.

We have good news, though: 2009 is probably the bottom for residential investment. The real issue is what happens after 2009. If we get hit with either rising inflation, rising interest rates, low income growth, or declining population growth, it could be a decade or more before residential investment recovers to trend.

By

Stephen J. Church
President

Piscataqua Research, Inc.
Portsmouth, NH 03801

December 2, 2008

This analysis updates our November, 2007 analysis of the "bubble" in residential investment. Our analysis shows that the housing investment "bubble" has surpassed even the housing boom of the 1920s. It has now faded away into a very difficult housing market over a period that will likely extend into 2011 and could replicate the lost decade of the 1930s.

In our 2006 analysis, we showed that a future with significantly lower residential investment* was arriving as 2006 faded away. Based on 3rd quarter, 2008 GDP, housing investment has declined nearly 45% compared to 2005. Since 4th quarter housing investment should be worse, the rate of housing investment will likely have fallen close to 50% from 2005. Looks like we were correct in 2006!

In our 2006 calculations, we estimated that it would take up to 5 years of investment levels at 80% of trend(40% to 50% below 2005) in order to significantly diminish the accumulated housing over-investment. We believe that estimate was, and remains, extraordinarily good.

In 2007, we researched population growth and how it impacts our ability to overcome current excess residential investment. We also segmented housing investment into new housing construction and renovation and repair construction. In 2007, both segments were over-invested.

As we suggested in 2006, residential investment has entered a macro-economic "nuclear winter". The latest information indicates that the level of over-investment is more severe than we previously thought. The so-called "credit crisis" is caused by the fact that we have more residential debt than our income supports as shown in the chart on page 5.

Residential investment is nearly 3 years over-invested on the basis of housing units. Population trends show that some markets will not recover for at least a decade. 2009 should be the year when we discover exactly how bad it is.

Even though the Treasury and the Federal Reserve have taken over the mortgage system, socialism has already failed the housing market. The Federal Reserve's interest rate manipulations of the last 15 plus years created this mess. Even though they can now subsidize just about any mortgage rate that they want, it will make little difference.

Summary

In 2006, we stated that the housing boom would be over as we entered 2007. We were correct.

In 2007, we thought there would be no place for 2008 housing investment to hide. We expected that 2008 and 2009 would be a residential investment crater with the average residential investment 35% or more below 2005. We were correct.

In 2008, we now suspect that the crater is possibly as deep as our worst fears in 2006 – up to 60% to 80% below 2005 levels. Americans cannot afford the existing housing stock.

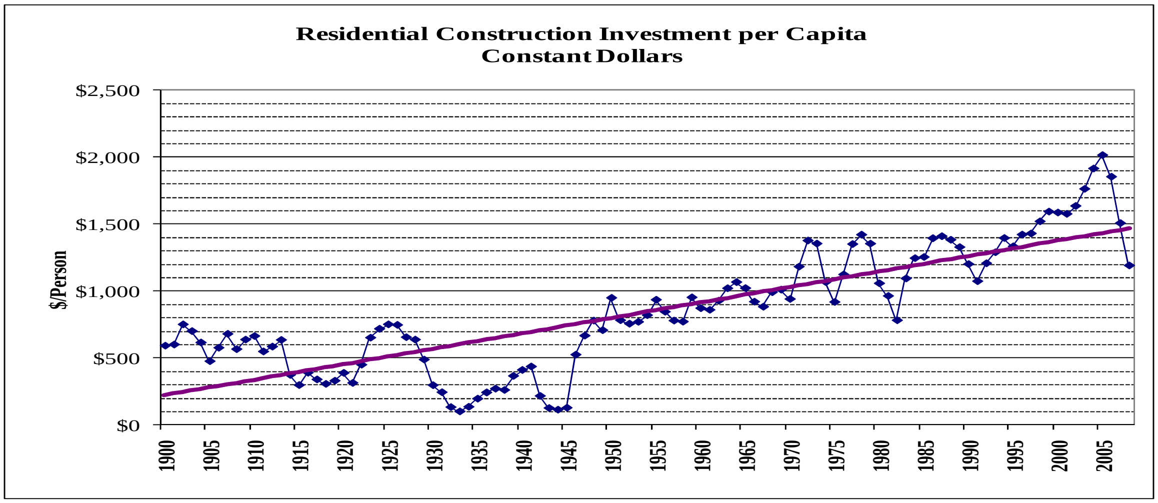
We expect housing investment to be lower than 2008 as late as 2011. If the Federal Reserve and Treasury persist in twisting and contorting interest rates to levels dramatically below free market, they could turn this into a 10 year or longer economic debacle.

***PLEASE NOTE: OUR USE OF "RESIDENTIAL (or HOUSING) INVESTMENT" MEANS PER CAPITA CONSTANT DOLLAR HOUSING INVESTMENT IN THIS PAPER.**

Level of Housing Investment

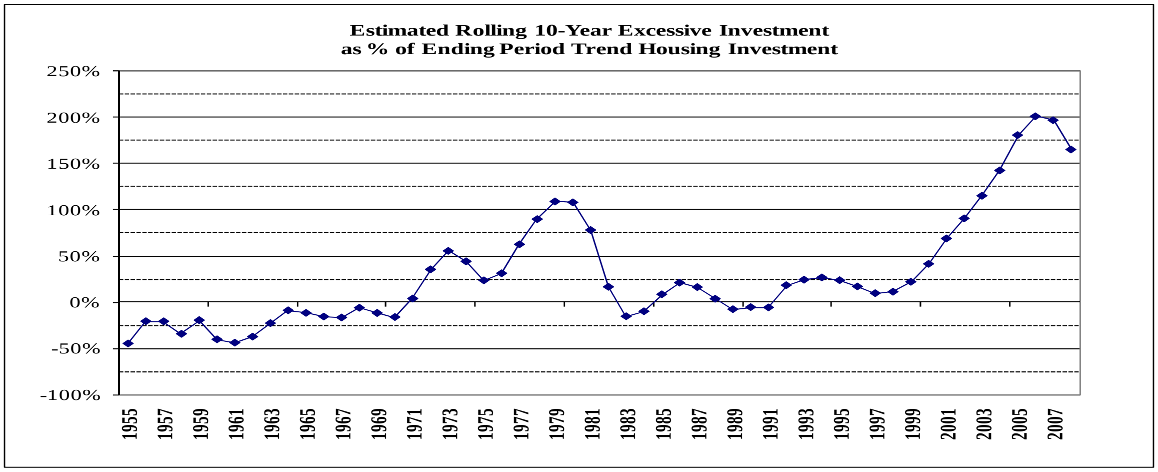
This section will update the material from our November, 2007 paper, "The Housing Bubble – 2007 Update." That update demonstrated that, as of 2007, we were in a residential investment "bubble". The investment "bubble" continued into 2006; declined in 2007; and finally went below the long-term average in 2008: all as we had expected it would.

The following chart shows that the level of new housing investment has far exceeded the underlying 100 year trend since 2003.



The chart is astonishing. Since World War I, only 1924 through 1928 compares to 2002 through 2006. The 2007 and 2008 drop is ominously similar to the drop during 1929 and 1930.

The next chart compares the rolling excess housing investment to per capita constant dollar investment as a percent of the trend investment rate in the final year of the 10-year period. This chart shows a large over-investment: nearly 12 years of housing during the last 10 years.

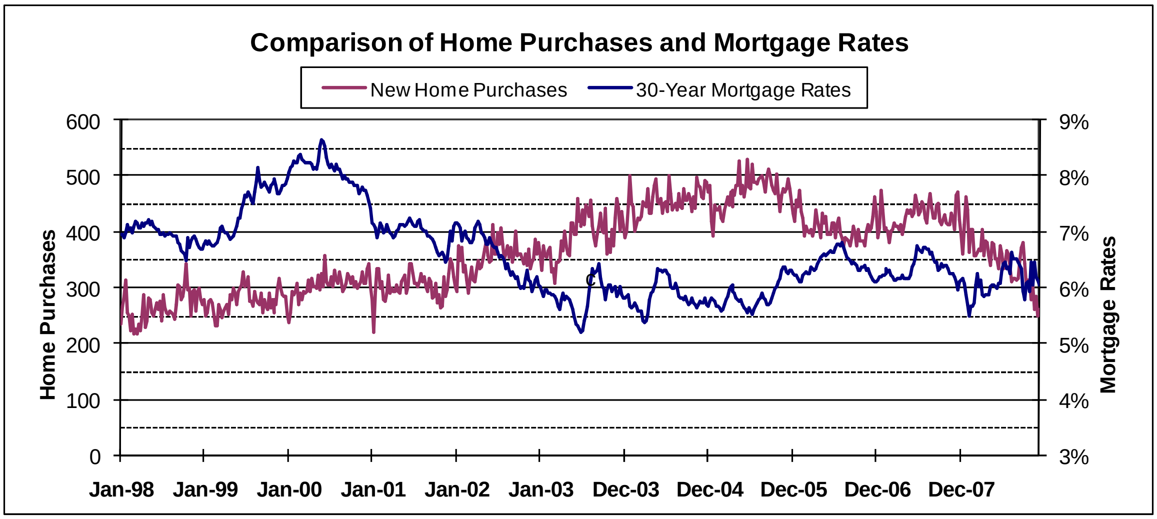


These charts support a straight-forward conclusion: the over-investment in housing is substantial. However, it is not unprecedented. The over-investment was similarly high in the 1920s. As you know from our other papers, we believe that the Federal Reserve has recreated, and is recreating, the monetary mistakes of the 1920s and 1930s. The results should be the same or worse.

Interest Rate Levels

This section demonstrates that available mortgage rates remain supportive of elevated levels of new residential investment. Until recently, they also provided a substantial explanation for the investment level. However, it is clear that the weight of over-investment is now offsetting the supportive interest rate levels.

Interest rate levels are a critical factor in the rationing of housing investment capital. The information in this chart is the weekly level of new purchase mortgages as calculated by the Mortgage Bankers Association and weekly 30-year mortgage rates from Freddie Mac.



The chart demonstrates the relationship between low interest rates and high home purchases. When 30 year mortgage rates were above 7%, home purchases remained near the 300 level but accelerated toward 500 as interest rates approached 5.5%. In spite of 6% interest rates, home purchase rates are now falling to levels previously associated with 7% and 8% interest rates.

Since interest rates remain primarily unchanged, it is impossible to assign lower home purchases to a "credit crisis". The excessive level of home investment correlates directly with the downward trend of home purchases. Based on this interpretation, unprecedented mortgage rates will be needed to re-inflate home purchases.

In the past, we believed that the Federal Reserve would use every tool to maintain low interest rates. We were correct. They have even participated in the Treasury's take-over of the U.S. financial industry.

In 2007, we identified the Federal Reserve's ability to manipulate the yield curve. We stated: "If we are correct about that belief, then long-term interest rates are nearly certain to remain lower than would be expected during an inflationary environment even as they trend up over time."

Based on events in 2008, we are vindicated in our belief. We expect that the U.S. government will use every tool as it attempts to boost investment in the significantly over-invested stock of housing. We can now expect the Federal Reserve and Treasury to attempt to manufacture the lowest U.S. Treasury and U.S. mortgage rates on record.

Comparison of Price Levels

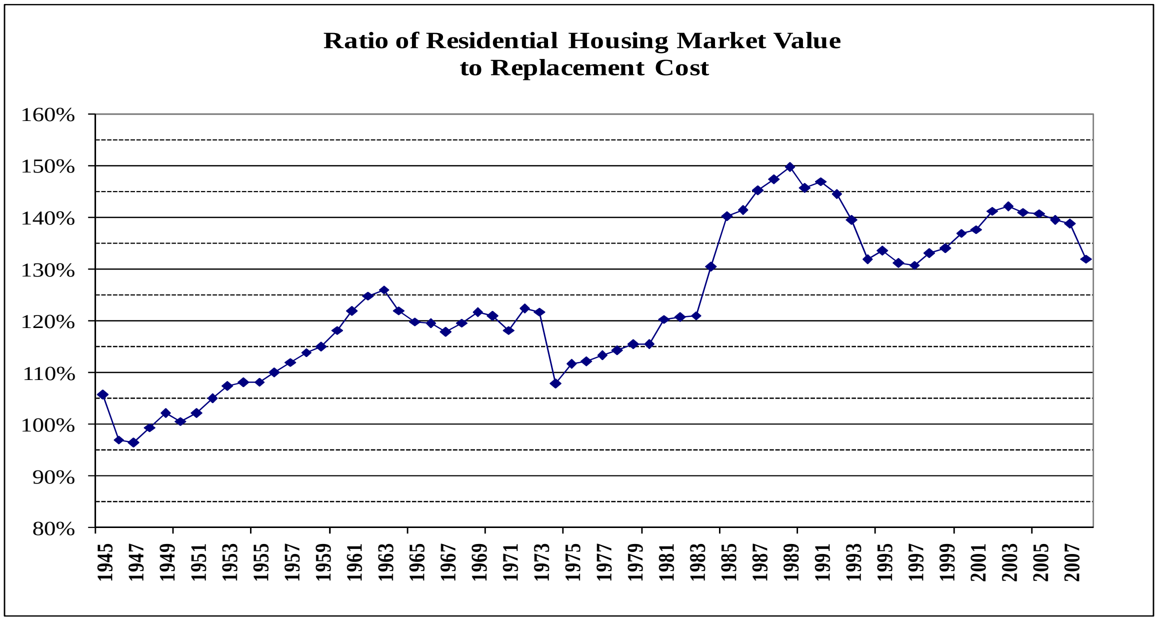
This section compares the level of existing home values to the cost of replacement. The analysis uses information as updated on September 18, 2008 by the Federal Reserve in the quarterly Flow of Funds statement.

From 2001 into 2006, the market value of existing housing elevated to the point where it made little sense to buy existing homes when comparable new homes were available for much lower prices. The spread was also supportive of in-fill and demolish-and-rebuild construction.

In 2007, we wrote: "…significant profit margin declines on new homes during 2007 kept this relationship high. The margin declines have probably prevented an even more catastrophic decline in new home building during 2007."

We also wrote: "A declining spread has important implications for future new home construction. When the pricing spread began to decline in 1990, it signaled the end of the 1980s housing boom. …Now that profitable home building is a thing of the past, we expect that this relationship will decline noticeably during 2008." In 2008, the spread declined dramatically. It, too, signaled the end of the housing boom.

The chart documents the history of this relationship. The market value of existing residential real estate is now 130% of the replacement cost of that real estate.



Finally, we wrote: "This relationship is no longer supportive of a high level of new residential construction. It is clear that the economics have shifted and existing homes will become increasingly attractive in comparison to new homes during 2008. Until the inventory levels of existing homes begin to clear, we expect low levels of new home construction."

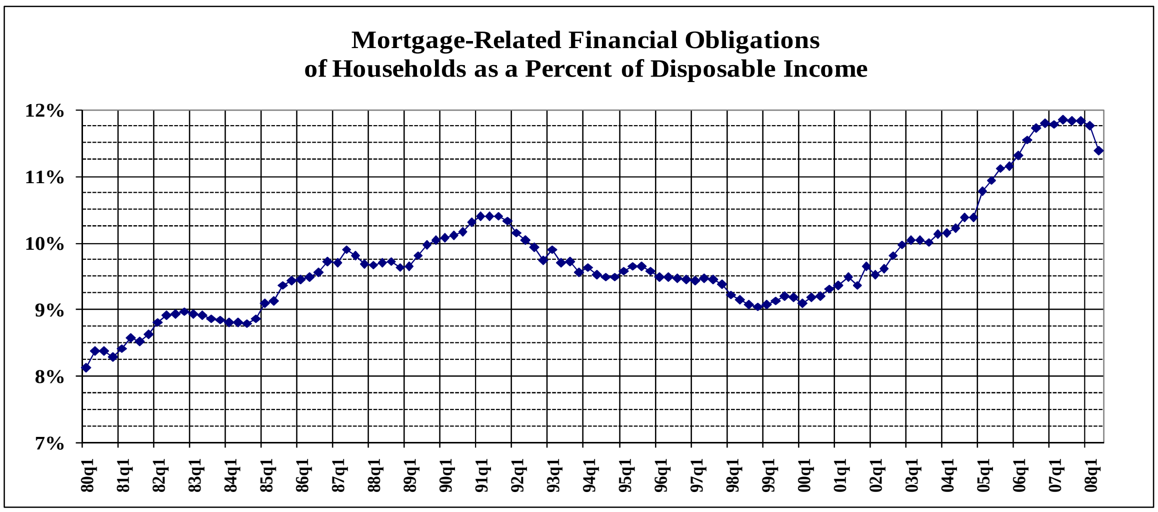
It appears that our analysis was as close to 100% correct as we could get. Interestingly, we now expect a further decline in this ratio that could keep new home construction low for many years. It could be 5 years or more before we have a noticeable increase in new home construction.

Debt Service Levels

Since our last update, we have continued to learn about debt service levels and how different long-term interest rate levels interact with the consumer. As we expected in 2005 through 2007, debt service levels continued to rise.

We expected they would decline marginally in 2008. The Federal Reserve's and Treasury's intervention in debt markets during the second half of 2008; the take-over of the mortgage finance system; and the actions of the FDIC and banks to renegotiate and, even encourage intentional delinquency, are leading to lower debt service levels on existing debt.

According to the Federal Reserve, mortgage-related financial obligation levels as a percent of personal income sky-rocketed from 2003 to levels never before documented. The next chart shows the household mortgage-related financial obligation ratio as a percent of disposable personal income as computed by the Federal Reserve.



This chart shows that the financial burden of housing, at about 11.5%, has risen to the highest level ever recorded in the 28 years of published Federal Reserve statistics. These calculations show an extraordinary increase in the mortgage burden for homeowners.

This chart indicates that income might have to rise by over 20% before households could afford normal mortgage generation. Just as in our 2007 paper, a 20% increase could mean up to 5 years before U.S. households have the buying power for substantial new residential real estate.

During 2008, the federal government made a concerted effort to lower the average interest rate on outstanding mortgage debt. However, it has been unable to preserve economic investment levels even as it has managed to prevent a disastrous decline in debt flow levels.

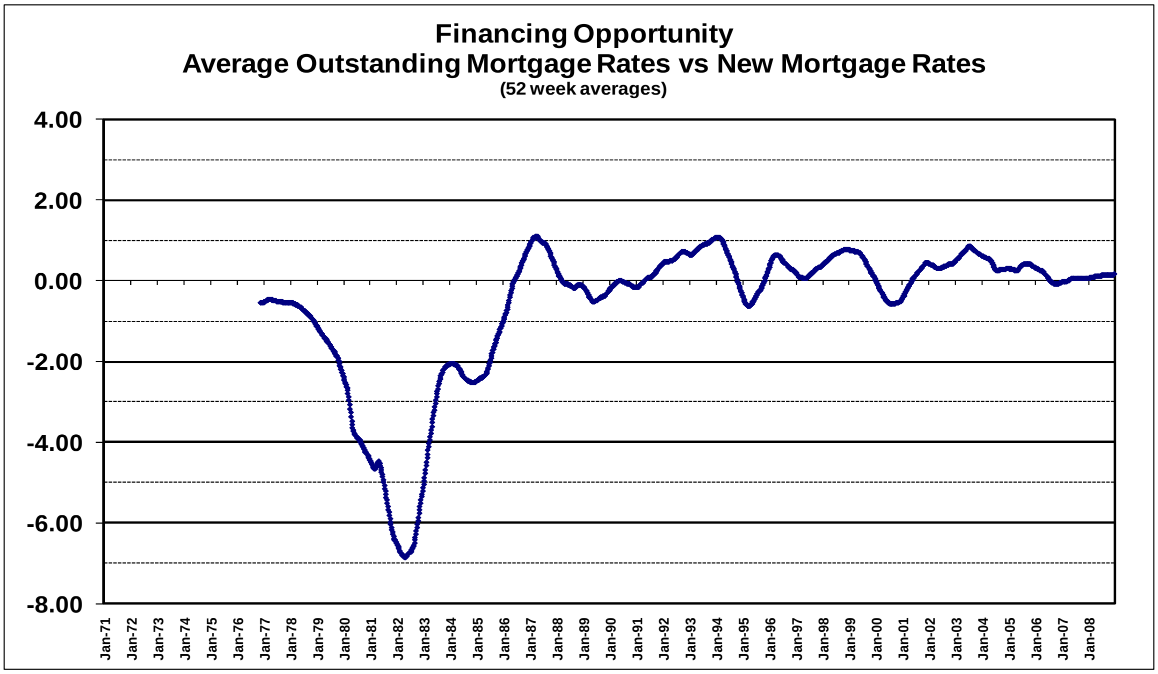
In 2009, it should become more difficult to maintain either debt flow or economic investment. Only driving average existing mortgage interest rates to a new low should make it possible for households to remain in the housing game.

New vs. Existing Mortgage Rates – The Financing Opportunity

This section of our analysis of the housing boom was new in 2006. We discuss the interaction between new and existing mortgage rates and how they affect the demand for new housing.

For those who already own a home, the decision to buy a new house is also influenced by the financing gain or loss that will occur when an old mortgage is replaced by a new mortgage. When new mortgage rates are less than existing mortgage rates, we expect higher demand for new housing everything else being equal.

This chart shows the "financing" opportunity in real estate calculated by the difference between average existing mortgage rates as reported by the Bureau of Economic Analysis and new mortgage rates as calculated by Freddie Mac.



This chart shows that the period from 2001 through the middle of 2006 was a favorable financing environment for the purchase of homes. It is also clear that the most favorable period of financing opportunity for those with existing homes was from 2002 to 2005.

Since the middle of 2006, the financing opportunity has been effectively 0. It is no surprise that a drop in housing purchases would occur when a large financing incentive to make a purchase turns into a $0 incentive to make a purchase. This drop in financing incentive explains a significant portion of the drop in housing purchases in 2007 and 2008.

We can also compare this chart to the chart at the top of page 2. It shows us exactly what we would expect: a high level of residential investment during the period when there is a high financial incentive to purchase housing.

With current efforts to lower the average outstanding mortgage rate to support existing mortgage debt, this relationship will continue to pressure housing demand. A lower average outstanding rate will lower the incentive to purchase new housing for those with existing homes.

Over-Investment in Housing

In 2007, we wrote: "The housing industry and the federal government churn out reports and analyses that show that there is no fundamental over-investment in housing. Under this hypothesis, the housing boom of the last 10 years becomes totally predictable and understandable. Consequently, the solution to the current crisis would be to fix the mortgage market. We see it differently."

Since our government has spent 2008 trying to fix the current crisis by "fixing" the mortgage market, we reiterate that we see it differently. At this point, our government has been able to prevent a catastrophic drop in mortgage flow, but it has not been able to prevent falling economic housing investment and major financial losses from over-building. Our government's approach will not work as documented by the important statistics that govern housing demand.

Our analysis on page 2 shows that there has been a huge amount of excess investment during the last 10 years. Most of the excess investment occurred between 2003 and 2006. The excess investment is directly associated with extraordinarily aggressive interest rates as demonstrated in the charts on pages 3 and 6.

Finally, the effects of over-investment surround us from extended household finances to major construction declines caused by only small changes in the underlying economics. The desperation was quite apparent at all levels of government as they unsuccessfully tried to prevent economic reality from intruding during an election year.

To us, the mess is obvious and the resulting effects are exactly as a rational person would expect. The housing market is over-invested. The government is trying to fix the over-investment by giving out lower cost financing which will only create incentives for more over-investment. The only way to fix over-investment is to eliminate over-investment.

Our first demonstration of over-investment is discussed on page 2. Our analysis on page 2 has proved powerful. It has been the basis of our macro-economic analysis for three years. It has worked. In this paper, we will also discuss another approach to calculating over-investment: an analysis of the ratio of population to housing units.

In our 2005 and 2006 analyses, we showed that micro-economic considerations tend to be more powerful in the short-term than the macro-economic considerations. In 2007, most of the micro-economic factors turned against residential investment co-incidentally with a dramatic decline in investment. In 2008, the micro-economic factors are still weighted against residential investment.

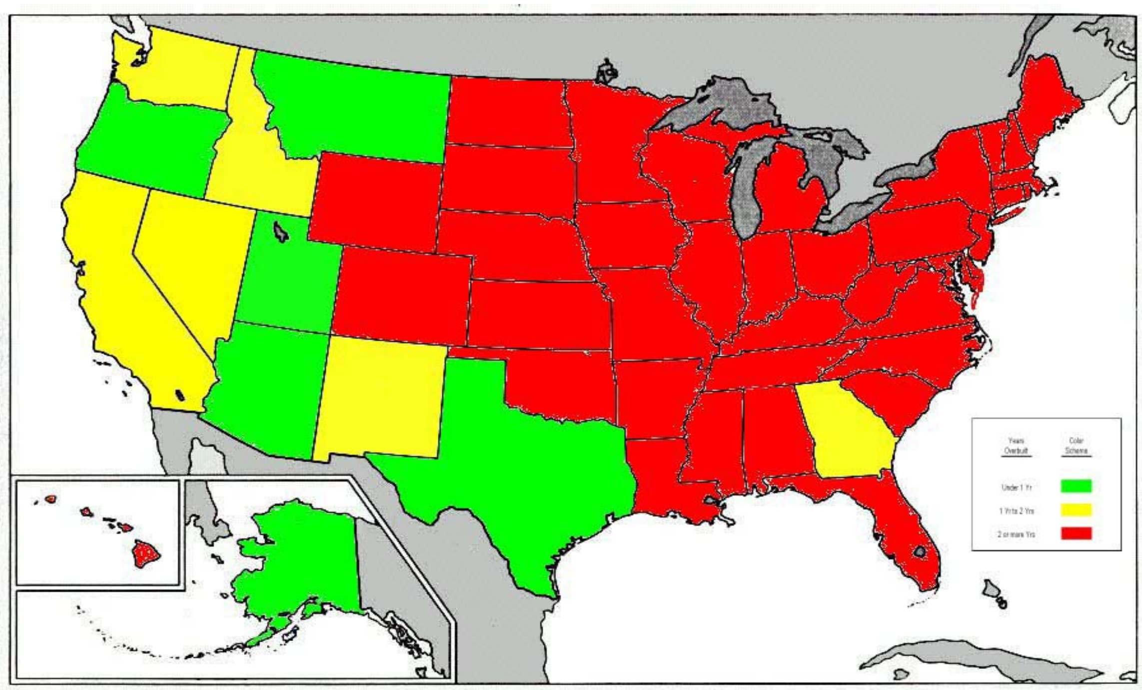
Our analysis of the ratio of population to housing units provides supporting and surprising information. It again demonstrates a 2 to 3 year over-investment in new residential investment. However, it shows that the level of over-investment expanded during 2007 from 2006.

The national ratio of population to housing units was unchanged from 1990 to 2000 at 2.43 persons per housing unit. From 2000 to 2007, the national ratio dropped from 2.43 to 2.36 persons per population unit.

The decrease in this ratio means that the number of housing units built from 2000 to 2007 included approximately **3.1 years** of excess housing investment! Wow!

In 2007, our page 2 approach and this approach were very similar. In 2008, this result is much worse. However, the ratio of population to housing units only shows the effect of the creation of new housing units and does not adjust for needed repair and renovation.

This chart provides additional insight into this question. We show three areas of the country: green areas show less than 1 year of over-investment; yellow areas show 1 to 2 years of over-investment; and 3) red areas show 2 or more years of over-investment. The distribution of over-investment is not uniform, but is increasing.



The updated 2007 information shows that the depth and breadth of housing over-investment expanded dramatically from 2006. Now, large sections of America have more housing than will be needed for years to come. We have wiped out most yellow areas east of the Mississippi. Many eastern areas are so deep into over-building that only ripping down homes will help.

Our analyses provide similar conclusions: the U.S. is about 3 years over-invested in housing units. Renovation and repair construction appears only about 1 year over-invested at this time. Overall, residential investment should decline again during 2009 and remain low during 2010 before renovation and repair construction begins to improve in late 2010.

In 2007, we estimated that: "By 2010, there should be a limited recovery of new home building in the south and southwest and improving renovation work on existing units." Our updated information indicates that we were likely optimistic in 2007.

We have serious concerns that housing investment may remain low for an extended period. We could reproduce the decade of the 1930s as shown by the chart on page 2. It is even possible that current U.S. government policies will make it virtually impossible to recover from depressed economic housing investment levels by encouraging continuing over-investment.

The time frames that we envision could be extended by a rising interest rate environment. Rising inflation would probably lead to a lost decade for housing investment.

Conclusion

The U.S. economy is currently finishing a housing investment "bubble". The "bubble" appears to have occurred since 2000 and is likely a direct result of aggressively low interest rates intentionally created by the Federal Reserve. To us, there is no doubt about that conclusion.

In 2007, the accumulation of macro-economic housing imbalances finally tipped the scales leading to a substantial decline in residential investment. The primary catalyst was the diminishing of the micro-economic incentives that boost individual residential investment decisions: financing incentives and price appreciation. 2008 proved no different.

In 2008, we show that the macro-economic incentives continued to depress residential investment. On the demand side, too many units have been built. Debt service remains at excessive levels. On the supply side, builders are building at low or no profit. With low demand for new homes and no profit in building new homes, the number of new homes declined again.

We also showed dissipation of the micro-economic incentives that caused a historic level of demand for new homes. In the second half of 2006, mortgage interest rates rose enough that there was no longer an incentive to replace an existing mortgage with a new mortgage. In 2008, falling house prices eliminated any investment incentive. Finally, existing home owners cannot sell their current homes except at a significant economic and financial cost.

All in all, 2008 was the year when the world discovered what we have known and documented for the last 4 years. The housing boom went kaboom. Our analyses show that the level of over-investment approaches three full years of residential investment! By 2008, the U.S. had achieved the very rare combination of dramatically over-built and dramatically over-indebted!

The good news in our analyses is that there are geographic areas where and underlying economic reasons why residential investment might start to trend up during 2010. In 2007, we thought that the two largest states (California and Texas) would develop a need for new housing within a short period of time. Our latest information indicates that we were probably wrong about that conclusion. Only Texas could potentially begin to emerge during 2010.

The bad news in our analyses is that residential investment will decline again during 2009 and could remain painfully low into 2011. In most places, there is already sufficient existing housing to support population growth for many years. Though we have not discussed it here, there are many areas that could experience a deteriorating and declining housing stock as further residential investment is economically unjustified.

In 2006, we wrote: "Our analysis is robust. It indicates a very difficult housing market for many years to come." In 2007, we wrote: "Our current analysis indicates that the earliest likely general improvement in residential investment will occur in 2010." We were right both years.

This year, our analysis documents substantial downside in housing investment over the next few years. 2008 is the first year when housing unit growth should not exceed population growth.

As 2008 has brought a major decline in financial wealth, it is possible that the level of total housing demand could actually fall. A decline in total housing demand would make the existing housing stock even more significantly over-built than our calculations would indicate! We now foresee no significant increase in economic residential investment until late 2010 or later.