

# US Daily Financial Market Comment

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FOR THOSE PERMITTED:

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## House Prices Look Even More Overvalued than We Thought

- Our working assumption has been that US home prices are about 15% overvalued. This relies on a simple “affordability” measure which essentially adjusts the home price/income ratio by the level of (nominal) mortgage rates. Depending on one’s assumption about income growth, the likelihood of overshooting on the downside, and the length of the adjustment process, this suggests cumulative nominal home price declines of 5-15% in the next few years.
- However, affordability is becoming an increasingly problematic concept because it ignores changes in credit availability and changes in nonconforming mortgage rates. Hence, it may be better to look at simpler price/income or price/rent ratios to get a sense of house price valuation. These paint a more dire picture. Even if we assume that the long-term trend for price/income and price/rent is higher now than the average of the 1975-2000 period (because interest rates are likely to stay lower), cumulative nominal price declines of 15%-30% are possible.

We have been expecting a meaningful decline in US home prices in 2007. On a Q4/Q4 basis, we currently forecast a 5% drop in the national S&P Case-Shiller index, our preferred measure of home prices. This prediction is based on a variety of indicators, including sequential house price dynamics, our estimates of excess supply, and the experience of past housing cycles such as the California downturn of the early 1990s. But one important input has been our estimate that the level of house prices is about 15% above “equilibrium.”

The 15% estimate is based on a housing “affordability” approach that involves the required mortgage payment on the median-priced home, assuming a 20% downpayment, a 30-year repayment schedule, and the average national (conforming) mortgage rate including both fixed-rate and adjustable-rate loans. This calculation currently shows that servicing such a mortgage costs about 23% of a median family’s income, compared with an average of about 20% since 1992. This implies that housing is about 15% overvalued relative to the longer-term norm. (Affordability calculations for the 1970s and 1980s are invalid because high inflation creates a much greater incentive for homebuyers to “stretch” in the early years of a mortgage, in the expectation that the real value of their debt will be inflated away quickly.)

If this estimate is correct, it suggests that nominal house prices might decline by between 5% and 15% cumulatively in coming years. The precise number depends on the length of the adjustment process, the growth pace of median income (which reduces the overvaluation “in the background”), changes in mortgage interest rates, and whether overshooting on the downside is a reasonable expectation after a big overshoot on the upside.

As problematic as this outlook already is for mortgage credit quality, we suspect that it probably still paints too optimistic a picture. In fact, a simple housing affordability calculation may be highly misleading in the current environment. The reason is that it is based on the assumption of a constant mortgage credit environment where the only thing that changes is the average conforming mortgage rate—no subprime, no “teaser rates,” and no changes in the required size of the downpayment. Given the fundamental changes in the mortgage credit environment, it is difficult to believe that this type of calculation still provides useful information.

This suggests that—in order to get a rough idea of housing valuation—it may be better to rely on simpler but perhaps more robust “absolute” measures that make no assumptions about the financing of a home purchase. To do this, it is obviously



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necessary to deflate nominal home prices by some type of price or income measure to adjust for inflation. Three approaches are common.

The first simply divides the preferred home price measure by the consumer price index or personal consumption deflator to calculate “real” home prices. We do not like this approach. Conceptually, the fact that land is a fixed factor suggests that real home prices should rise over time, at least with a growing population. Indeed, each of the major US home price measures shows a clear long-term upward trend when deflated by the CPI or PCE index. (Robert Shiller of Yale University has produced a spliced real home price series covering the period since 1890 that shows no long-term upward trend. However, the lack of an upward trend hinges on the inclusion of pre-1970 house price data that are of low quality. For example, the “CPI home purchase”—which Shiller uses to measure home prices for 1953-1975—contrasts with other measures such as the index implicit in the Fed’s flow of funds tables which rose much more quickly in 1953-1975.)

Instead, we prefer to rely on two other measures. The first is the ratio of house prices to rents on comparable properties. To calculate this ratio, we measure house prices as the national Case-Shiller repeat-sales index, spliced with the OFHEO index for years prior to 1987 when the Case-Shiller data begin. We measure rents as owners’ equivalent rent in the consumer price index, spliced with residential rent for years prior to 1983 when the OER data begin. We thus compare an approximately constant-quality measure of house prices with an approximately constant-quality measure of rents.

The second benchmark is the ratio of house prices to incomes. To calculate it, we use median home prices as measured by the National Association of Realtors and compare them to median family income as measured by the Census Bureau. Note that we do not want to use a repeat-sales or constant-quality measure of home prices in this case, since the emphasis is on the ability of the actual median family to afford the actual median-priced home. This is similar to the affordability calculation in the previous section, except without the mortgage rate adjustment.

From 1975 to 2000, both the price/rent and price/income ratio fluctuated around a roughly stable mean. However, from 2000 to 2005, the price/rent ratio surged by 65% and the price/income ratio by 45%. Since late 2005, both have been falling and currently stand 55% and 32%, respectively, above their long-term means.

It is probably too strong an assumption that the long-term trend for the price/rent ratio or the price/income ratio is unchanged from the 1975-2000 average. However imprecisely we can measure them, nominal and real mortgage rates are well below their 1975-2000 averages, and future mortgage credit availability—after the dislocations caused by the unwinding of the bubble have disappeared—is likely to be better than the average over that period as well. Nevertheless, using the 1975-2000 average as a possible trough for the price/rent or price/income ratio in this cycle may be quite reasonable. This would still allow for a higher future trend, but would also take account of the fact that an above-trend peak is typically followed by a below-trend trough.

If this is correct, we may be looking at significantly larger nominal home price declines than previously seemed likely. Depending on one’s assumptions about the length of the adjustment period and the growth pace of rents and median household income, these benchmark measures suggest cumulative nominal home price declines of 15%-30% over the next few years. This would have considerably more dire implications for mortgage credit quality than the 5%-15% drop suggested by the “affordability” approach. Moreover, it would raise the risk of an adverse spiral of deteriorating credit quality, lower access to credit, and reduced homeownership and net demand for housing that could weigh on US economic activity for an extended period of time.

Jan Hatzius

#### Goldman Sachs Financial Conditions Index<sup>SM\*</sup> (October 20, 2003=100)

\*Revised as described in our April 8, 2005, *US Economics Analyst*.

Wednesday 08/22 (prel.)	Tuesday 08/21	Monday 08/20	Wk ending Wed 08/15	3 mos. earlier	6 mos. earlier
99.70	99.78	99.82	99.92	99.35	99.69

## US Economic Research Group

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