Putting a Floor Under American Homes: How Low Do We Go?

Highlights

■ Current estimates of total deterioration in home prices run the gamut from "we're almost through this" to "we're only in the early innings." Westwood has concluded the nation is in the middle of the sixth inning of home repricing, with the ballgame having started later in some markets and earlier in others.

■ Westwood expects the drop in home prices to ultimately reflect the restoration of affordability and a roughly comparable value proposition relative to the alternative of renting.

■ Westwood has just completed a small-sample survey of single-family home prices in the 20 metropolitan statistical areas (MSAs), surveyed as components of the S&P Case-Shiller Index, to assess the gap between the after-tax carrying costs of owning and renting comparable homes.

■ Based on our research, which reflects the recently released Case-Shiller Index data (May 2008), Westwood has concluded **the logical sustainable floor for single-family values is approximately 10.8% below current home prices** as of July 2008, reflecting a total **peak-to-trough decline of 28.2%** in the value of single-family housing stock across the nation.

■ There are, however, substantial variations among the 20 MSAs. Our sample size at the MSA level is small and, unlike our conclusions at the national level, not scientific from a statistical point of view as to each individual MSA.

■ We therefore, on both the national and MSA levels, contrast our results with broader statistical data on historic measures of local home prices as a multiple of local rents–developing some interesting correlations.

■ Westwood is increasing its earlier estimate of the total cost to mortgage lenders from the housing crisis to $1.25 trillion from our estimate in Q1 of $1 trillion. We may still be shy of the mark; this figure excludes the "knock-on effects" of the housing and credit crises, discussed toward the end of this report.

Overview

Since we began to publicly release commentary and data on the housing and credit bubbles early last year, clients and the media have repeatedly asked us one question more often than any other: "How low do we go?"

After gathering data in July, we found that the likely floor for national housing values is 10.8% below prevailing home prices, reflecting a total peak-to-trough decline of 28.2% in the value single-family housing stock. There would be material economic resistance to permanent repricing below that level (although some markets may temporarily overshoot the mark). Across price points, however, we have discerned trends that reflect the possibility of stabilization at varying levels of decline, both regionally and between lower- and higher-priced homes.

We are voracious consumers of Case-Schiller and OFHEO monthly data releases on home prices, and have utilized and produced a variety of models to project the likely future reduction in home values. Some of the best-known models, however, are difficult for the average consumer to comprehend, and they produce conflicting conclusions. Many projections also use econometric inputs that commingle condominium, co-op, and two- or three-family residences with larger-ticket single-family homes—or, in the case of the OFHEO data, specifically reflect housing qualifying for GSE mortgages. This skews almost all major projections of price correction in the housing sector— and ours are no different. Accordingly, we regularly adjust our models to accommodate various informational needs.

This report focuses on the largest homeowner demographic: owners of single family (detached or attached), which account for more than 85% of all owner-occupied and 30% of all rented homes. Instead of relying on government data or Case-Shiller data, Westwood went (virtually) right into each of the 20 Case-Shiller MSAs and sourced our own data on home prices and rental levels. Our goal was fairly simple: to assess the gap between the after-tax carrying costs of home ownership and renting comparable homes. Our thesis is equally straightforward: On average, housing prices will decline to a level at which a consumer, in any given market or neighborhood, achieves similar economic returns (and bears equivalent carrying costs) in buying or renting ("rent parity"). Note that we say "on average," as renting is often a higher cost method of obtaining housing at lower income levels and housing prices (for no other reason than the demand for cheaper housing by those who lack the resources to buy a home).

The unprecedented bubble in home prices began, statistically, in 1997, but massively accelerated after 2000. For much of the period before the bubble, in many regions of the country, the carrying costs of owning a home were actually lower than those of renting one. Consequently, calculating a bottom by means of achieving rent parity, however logical, may understate the level of expected decline in some markets. We are also dealing with small sample sizes at the MSA level – too small, on their own, to draw precise conclusions on individual markets. In addition to rent parity, therefore, we also reviewed historic and bubble-period "price-to-rent ratios" in each Case-Shiller MSA. Price-to-rent ratios are home prices expressed as a multiple of equivalent rental cost. We did this on a historic basis dating back to 1986, based on data kindly provided by Moody's Economy.com, to identify the relatively static level of home prices to rental costs and to (i) test our hypothesis regarding rent parity as an appropriate objective for the bottoming out of the housing market, and (ii) detect and disclose anomalies among the 20 MSAs studied. Our review of both forms of data delivered relatively consistent results, indicating that our expectations of the repricing levels for

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single-family homes are both reasonable from a market perspective, on the national level, and consistent with history.

Finally, we present certain assumptions and calculations regarding the direct impact of the housing bubble's deflation on homeowners and mortgagees. In addition to the erosion of trillions of dollars of home equity, housing repricing will continue to result in the evaporation of more than $1 trillion of mortgage debt. Toward the end of this report, we present our rough calculation of the magnitude of these losses, together with several factors that may mitigate the exacerbation of the expected losses.

Westwood's Assumptions and Methods

To make real-time assessments of conditions in the 20 Case-Shiller MSAs in July, Westwood conducted a survey of homes available for sale and rental in each. Using brokerage listings, we chose four homes, all in suburban locations, from each MSA central business district. (For example, in the New York metropolitan area, homes were selected in Nassau and Westchester Counties; in New Jersey, we used Bergen and Somerset Counties). One home at or below the median price for the MSA was selected. Median prices include non-single-family residences (i.e., condos or multiple-family homes; so often, there is little to choose from in the way of single-family homes at or below the median). The second, third and fourth homes were selected at price points approximately 200%, 300% and 400% of the price of the first home. We weren't orthodox in keeping to an exact degree of separation between price points, inasmuch as we attempted to secure a reasonable variety of regional and price-point differentiation in an admittedly small pool. Naturally, some selection bias is inherent in our readings of the markets by virtue of our having selected homes only within a core band of the markets, and homes that presented us with good rental comparables. At the MSA level (as opposed to our national results) Westwood's limited samples are not, statistically speaking, relevant – but we believe them to be a fair illustration of the "facts on the ground" as we observed them.

Because we were using brokerage listings, we concluded it would be reasonable to assume that asking prices were still materially higher than the prices at which houses were actually selling (despite there having been substantial price readjustments to date). In addition, we felt we needed to reflect the continued anticipated decline in the Case-Shiller numbers as of May (the latest data available) in bringing the index forward to our comparison period of July. Thus, to be conservative, when selecting homes at each price point, we knocked 12.5% off of the asking prices across the board. Had we not done this, the degree of expected continued decline in home prices that resulted from our study would have been substantially greater when comparing the carrying costs of the selected residences with the rental cost of like-kind properties. We tested several variables in this regard and concluded that a 12.5% adjustment was most realistic, giving effect to the recent 1.46% pace of the last three months' declines in the Case-Shiller 20 MSA index (for the two-month differential) and the expected gap between asking and closing prices in today's inventory-rich market.

The next step was to find rental residences most similar to the for-sale residences we had selected. This proved easier than we had expected, given the large number of rental residences available. (One of the issues that may put further downward pressure on home prices is an increasing inventory of rentals, in addition to the hugely increased inventory of for-sale housing, a factor we concluded to be too complicated to include in our calculations). In all cases, we made certain the rental residences were in the same neighborhoods and school districts as the companion, for-sale homes. Each rental home was also selected based in it being relatively the same size and having similar amenities and other features as the home with which it was matched. In many cases, we were able to identify

identical home models in the same developments as the for-sale residence. We did not adjust the asking rent downward—again, to make the most conservative assumption with regard to the comparison that follows.

To arrive at the carrying costs of the for-sale homes, for purposes of comparing that carrying cost to the rental cost, we used the following assumptions:

- Mortgage Financing: 80% of purchase price, 30-year amortization, 6.5% interest[1]
- Down payment: 20% of purchase price
- Real Estate Taxes: Actual per-broker listing or municipal data
- Annual Maintenance: 1% of sales price (expenses borne by landlords, if rentals)
- Cost of Equity: 5% of down payment (foregone return on cash otherwise invested)
- Tax Rate: 32% (used in computing tax benefits of homeownership)

The calculation of the carrying cost of a sample home used in our analysis, located in Spring Valley, CA, in the San Diego MSA, compared to the cost of an equivalent rental home, is set forth below:

Adjustment Calculation Sample	
San Diego, CA - Spring Valley	
Home Asking Price	$415,000
Mark to Market Reduction (12.5%)	(51,875)
Adjusted Sales Price	363,125
Down Payment (20%)	(72,625)
Mortgage Amount	$290,500
Mortgage Payment (per month)	$1,830
Interest Component (initial)	1,566
Principal Component (initial)	264
Real Estate Taxes (per month)	523
Maintenance Costs (per month)	303
After Tax Return on Down Pmt.	206
Total Carrying Costs (pre tax)	2,862
Tax Benefit	669
After Tax Cost per Month	$2,193
Companion Home Monthly Rent	$1,995
Excess of Ownership Cost over Rent	198
Required Reduction in Home Price to Achieve Rent Parity	39,172
Percentage Reduction (% of Adjusted Sales Price)	**10.8%**
Reduced Home Price as Multiple of Rent	13.5

Appendix A contains all of the above data, as well as rental comparisons for the universe of 80 for-sale homes and 80 rental homes we studied. In each case, we computed the decline in home prices necessary to arrive at rental parity, using the above methodology.

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[1] Average interest on a self-amortizing, 30-year mortgage per Bloomberg as of July 22, 2008

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Finally, we evaluated historical levels of home price to rent ratios ("P/R Ratio") from 1986 to date, with data provided to us by Moody's Economy.com. We calculated the average P/R Ratios for each MSA during the period from 1988 through 2000. Although this period included the mini-bubble of the late 1980's, when prices rose to a P/R Ratio of just over 15x nationally, and the late 1990's tech bubble when P/R Ratios rose to nearly 16x, the period average P/R Ratio of 14.4x was reasonably consistent with data from earlier periods. We then compared the pre-bubble average P/R Ratio for each MSA, and on a weighted average basis across the 20 MSA's, with the P/R Ratios that would be consistent with rent parity in those markets and across the pool and calculated any variance.

Again, while we can be statistically confident, at the MSA level, of the P/R Ratio data at the peak of the bubble and the average P/R Ratios from 1988 through 2000 as shown below (and the national average data for all the columns below), the rent parity calculations at the MSA level are based on our limited samples and statistically less reliable.

Case-Shiller Surveyed Metropolitan Statistical Areas	Peak Price/Rent Ratio	Price/Rent Ratio at Projected Rent Parity	Average Price/Rent Ratio 1988 through 2000	Variance at Rent Parity
AZ-Phoenix	24.8	15.6	11.6	4.0
CA-Los Angeles	33.7	15.5	15.9	-0.5
CA-San Diego	37.4	14.1	15.8	-1.6
CA-San Francisco	44.4	14.0	25.1	-11.1
CO-Denver	25.5	15.0	15.0	0.0
DC-Washington	28.6	14.5	11.7	2.8
FL-Miami	32.0	14.2	11.7	2.5
FL-Tampa	23.5	12.9	11.7	1.2
GA-Atlanta	19.8	14.1	12.9	1.2
IL-Chicago	24.4	12.4	15.9	-3.5
MA-Boston	24.8	14.1	15.1	-1.0
MI-Detroit	12.9	13.9	9.1	4.9
MN-Minneapolis	21.4	14.8	12.6	2.2
NC-Charlotte	27.0	14.7	15.2	-0.5
NV-Las Vegas	31.9	15.0	14.0	0.9
NY-New York	19.2	13.5	11.8	1.8
OH-Cleveland	15.6	14.9	13.0	1.9
OR-Portland	32.1	15.1	15.7	-0.6
TX-Dallas	21.6	15.2	16.8	-1.6
WA-Seattle	37.9	14.2	17.0	-2.8
Average	26.9	14.4	14.4	0.0
Weighted by Population	26.1	14.2	14.2	0.1

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Heading Back to the Future

Our survey illustrates that in order to be reconciled with rental costs, home prices nationwide need to fall a total of 28.2% from their peak values. This equates to a decline of about 10.8% from home prices based on the last Case-Shiller Index data (May '08), which have already fallen nationally by 17.4%. In other words, we are about 17.4% through a total decline of 28.2%, or about 61.7% of the way toward stabilization—in baseball terms, the middle of the sixth inning. As to the foregoing analogy, note that we are talking about the repricing of single-family homes only, and are not including the additional knock-on effects of the crisis, such as impairments in commercial real estate, consumer credit and financial institutions—which will likely set back the game of getting to recovery.

Price-Rent Ratios
Average of Case-Shiller MSA's
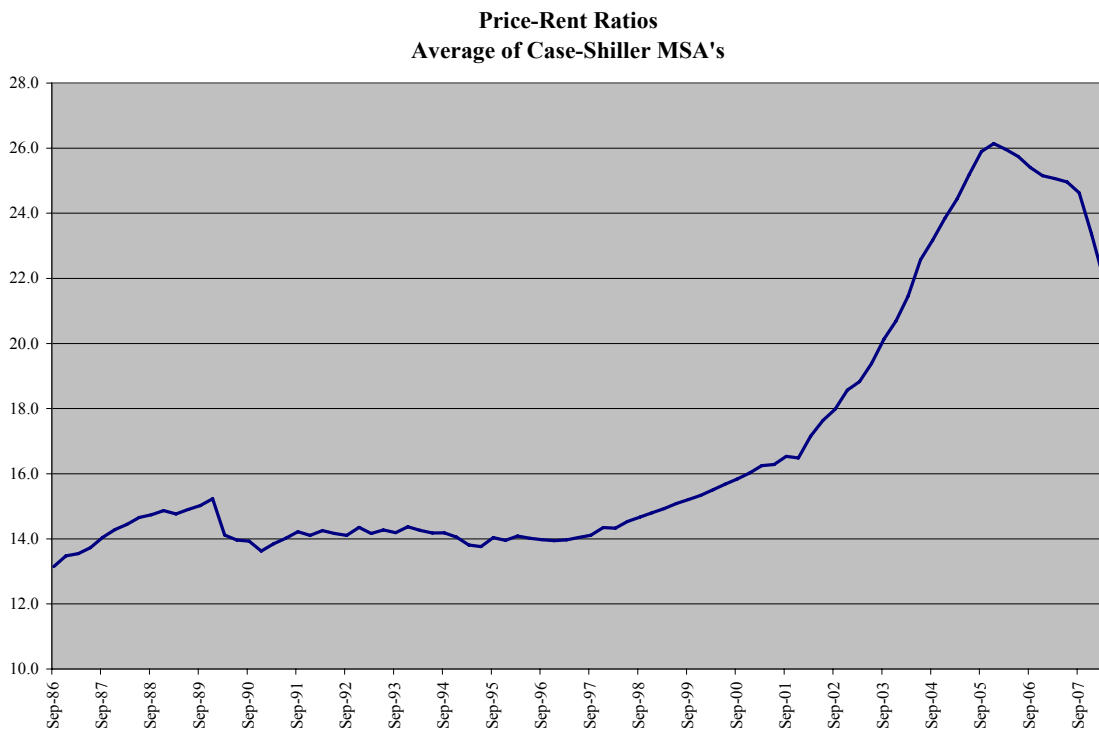
Home prices are inexorably heading "back to the future"—a return to the historic norms without regard to the era of irrational exuberance and easy money. Accordingly, our check on our rental-parity calculations required that they reasonably corresponded to the Price/Rent Ratio for the pre-bubble period. On a national level, the two calculations almost eerily corresponded—exactly. As set forth on the above graph, the P/R Ratio during this most recent housing bubble rose from the pre-bubble average of 14.4x to **as high as 26.1x at the end of 2005**. While the P/R Ratio for the 20 Case-Shiller MSAs has fallen to about 22x to March 2008, at rent parity we believe they would need to return to the 14.4x pre-bubble average level.

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The table below is a summary of our findings and projections, listed by MSA and averages for the 20 MSAs[2]:
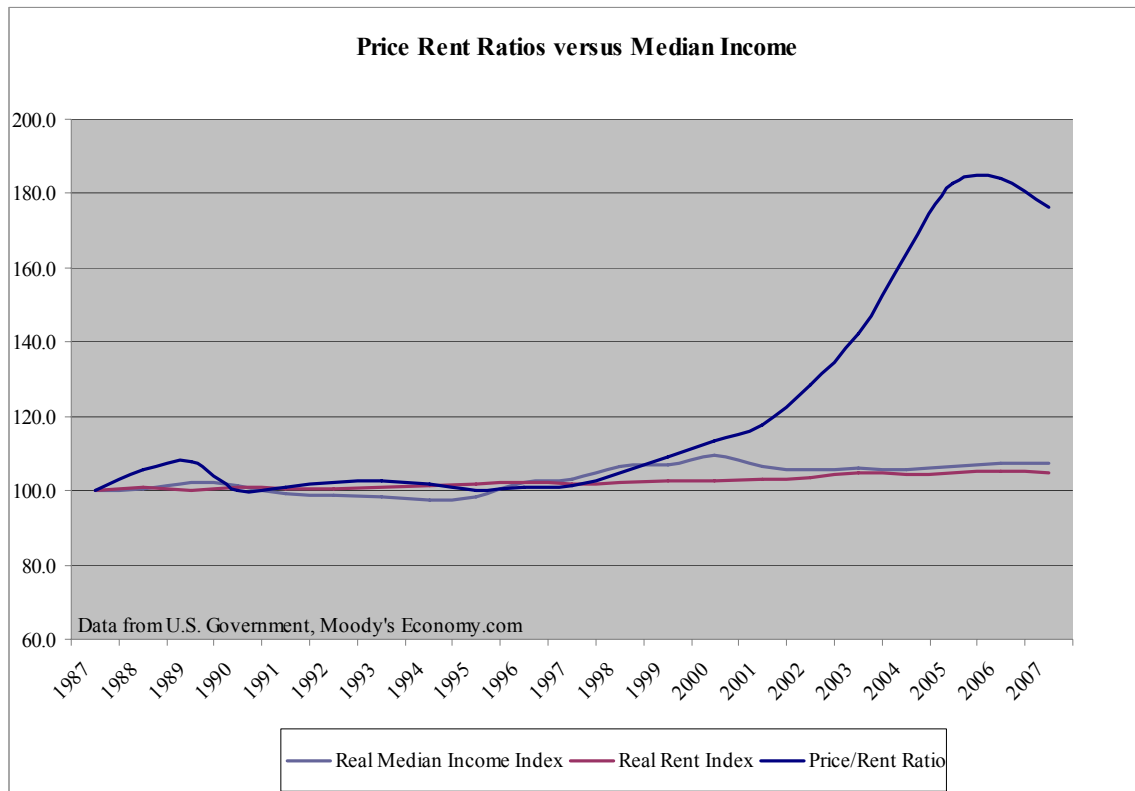
Case-Shiller Surveyed Metropolitan Statistical Areas	Case-Shiller Actual Decline from Peak Through May '08	Westwood Projected Additional Decline to Rent Parity	Total Projected Decline - Peak to Trough
AZ-Phoenix	30.8%	5.7%	36.5%
CA-Los Angeles	27.5%	-1.6%	25.9%
CA-San Diego	28.9%	11.7%	40.5%
CA-San Francisco	25.5%	19.4%	44.9%
CO-Denver	7.5%	5.1%	12.6%
DC-Washington	20.6%	16.8%	37.5%
FL-Miami	31.2%	16.4%	47.6%
FL-Tampa	25.6%	25.7%	51.3%
GA-Atlanta	8.8%	16.9%	25.7%
IL-Chicago	11.0%	18.2%	29.2%
MA-Boston	12.1%	3.4%	15.5%
MI-Detroit	27.1%	-9.6%	17.5%
MN-Minneapolis	18.1%	11.0%	29.1%
NC-Charlotte	2.0%	5.4%	7.4%
NV-Las Vegas	31.4%	10.4%	41.8%
NY-New York	10.2%	18.1%	28.3%
OH-Cleveland	11.8%	3.4%	15.2%
OR-Portland	5.9%	24.2%	30.1%
TX-Dallas	3.9%	-2.4%	1.4%
WA-Seattle	7.1%	18.8%	25.9%
Average	17.4%	10.8%	28.2%
Weighted by Population	17.1%	10.9%	28.0%

In any statistical survey, the devil is in the details. As the above table illustrates, each of the 20 MSAs has its own story to tell (both to date and on an anticipated decline basis, going forward). Clearly, some of the markets will fall substantially more than our expected average national decline, and others are not going to see much in the way of additional deterioration. As with everything in real estate, local issues are more relevant than national trends, although the bubble was experienced nearly universally.

For background, however, the graph in Appendix B illustrates the differing historic Price/Rent Ratio trajectories for each of the 20 Case-Shiller MSAs.

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[2] The MSA by MSA data for the additional declines be viewed as illustrative, given the limited samples involved.

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Some markets will undoubtedly overshoot our anticipated levels of stabilization; others may be bailed out sooner by unanticipated population, industrial and financial shifts. We are confident, however, that the forces of the market—absent the existence of price-escalating financing that disconnects price from fundamental value—will return housing prices to their historical norms in most markets. Ultimately, rents and personal incomes determine home value, over the long term, in any market. To complete this thought, we set forth below a graph of rents and median incomes, adjusted for inflation, from 1987 to the bubble's peak, as juxtaposed against real home prices. Nothing more need be said.

Price Rent Ratios versus Median Income

Data from U.S. Government, Moody's Economy.com

Legend: Real Median Income Index — Real Rent Index — Price/Rent Ratio

Converting Home Price Declines to Mortgage Loan Losses

As a matter of mathematics, it is pretty simple to offer up a calculation of the total wealth eliminated by the ongoing deflation of the housing bubble. At the peak of the bubble, the value of all U.S. homes was approximately $20 trillion. A decline of 28.2% from the peak therefore would eliminate $5.6 trillion (a big number, to be sure) from home values. Most of this amount represents homeowner equity, which will have been reduced, on average, by 62.7% (a very big slice) based on the $11 trillion of mortgage debt outstanding at the end of 2006—up from $5.1 trillion outstanding at the beginning of the decade. (Yes, we added nearly $1 trillion of new mortgage debt each year during the bubble.) But unfortunate as that is, and as damaging as it is to our consumer economy and the now-long-gone wealth effect, it does not begin to tell the story with regard to mortgage losses.

The mortgage story, and its impact on our financial institutions, is far more troubling to economic and market observers. The most important issue to consider is that only 67% of U.S. homes have mortgages (51.75 million of the total of 77.7 million owned homes). Assuming the homes with

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mortgages are worth proportionately the same as homes without them, this indicates the collateral for the $11 trillion of outstanding mortgages at the peak was worth $13.4 trillion. Take the same 28.2% decline in value on that pool of collateral, and the collateral will be worth only $9.6 trillion. And that leaves mortgage lenders short by some $1.4 trillion in collateral support for their mortgage loans, or 12.7% of mortgages outstanding, on average (the "Collateral Deficiency"). See the calculation below:

Aggregate Collateral Deficiency	
Peak Collateral Value (millions)	$13,400
Outstanding Mortgages at Peak	11,000
Collateral Value Post Decline	9,600
Aggregate Deficit	(1,400)

The above calculation of the amount by which mortgagors will be underwater, on average, requires three adjustments to arrive at expected losses to mortgagees (banks and other financial institutions). The first adjustment is to appreciate that mortgages are not spread evenly over all mortgaged homes; some homes are mortgaged for well below the average loan-to-value ratio. Homes belonging to our older or retired citizens generally have little or no outstanding debt, while other homes, after the 28.5% reduction in value from the peak, would be mortgaged for amounts well in excess of 100% of their value. Common sense indicates that homes purchased and financed during the bubble are more leveraged than homes with mortgages dating back to before the price rise (mitigated, to some extent perhaps, by the enormous number of refinancings and HELOC mortgage loan withdrawals during the bubble years). Accordingly, the amount by which the pool of mortgaged homes is actually "underwater" needs to be skewed upward by a factor reflecting the degree to which a large number of mortgaged homes are underwater by more than the average amount of Collateral Deficiency.

The second adjustment requires consideration of the costs of collection on a defaulted mortgage. These costs include legal expenses related to foreclosure and sale, as well as the cost of property maintenance, insurance, real estate taxes and other expenses, for the period between default and ultimate liquidation. The sheer number of foreclosures completed and pending since the collapse of the residential real estate market, together with court backlogs in many jurisdictions, has substantially escalated such collection costs.

The final factor is a bit of good news. Not everyone who is underwater against the value of their home will default or eventually be forced to sell for less than their mortgage balance. Some—a good number, one hopes—will accept their fate, hope for better times ahead, and have the resources (like jobs and savings) to go on paying their large debts. After all, they will want to remain in their homes, neighborhoods and communities, however unsound a financial proposition this may be.

We believe these offsetting factors will mitigate slightly in favor of lenders, in that as skewed as mortgage lending was toward high loan-to-value lending in the first several years of this decade, a substantial number of even highly "underwater" homeowners won't default, die, or need to move from their homes in the short term. That said, it's important to note that the losses incurred in the repricing of homes to a stabilized floor are not likely to be recovered (as in a run-of-the-mill cyclical downturn), other than through the normal inflation of home prices over the *very* long term. Taking all

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of these factors into consideration, our view is that primary losses from bubble-period mortgage lending will total approximately $1.25 trillion, up from our estimate in Q1 of $1 trillion.

"Knock-on" Effects

We have identified an aggregate loss of value of American homes, at projected stabilization, of $5.6 trillion. Of that, we expect homeowners to lose $4+ trillion in net worth, and lenders will experience losses of approximately $1.25 trillion. While we won't attempt to quantify the impact of this gargantuan loss of value on the economy as a whole, we list the following as areas almost certain to add to the damage caused by the tidal wave of postmillennium debt:

Consumer Spending: We conservatively estimate that at least 15% of consumers' non-shelter spending during much of the bubble era was funded through mortgage equity withdrawals from homes. The overall wealth effect of the housing bubble likely drove additional consumer credit-financed purchases. After the rush from Federal Income Tax rebates fades this quarter, the full effect of spending retrenchment will create additional challenges to corporate employment, spending and investment.

Consumer Credit: Consumer credit increased by approximately 75%, or $1 trillion, during the current decade, to $2.6 trillion of revolving, auto loan, student loan and other debt. We expect losses in this sector to be material—perhaps as high as 10% of outstanding balances.

Commercial Property: Retail shopping centers, office buildings, hotels and other income-producing real estate will experience slowing space demands and a consequent fall in rents and room rates. Currently, the total balance of U.S. commercial/multifamily mortgage debt stands at approximately $3.4 trillion. While commercial real estate is not as highly leveraged as it was (on a percentage basis) during the crisis of the early 1990s, there have already been significant write-downs by financial institutions, and there are certain to be more.

Leveraged Loans: A smaller, but still sizable, headache for financial institutions remains in the form of the resolution of loans that financed the corporate acquisition boom of the latter part of the bubble. Many of the companies acquired by both public and private investors are now worth a fraction of the value ascribed to them at the time of their acquisition.

Together with the housing and mortgage crises, the foregoing knock-on effects will result in additional losses to the value of financial assets in the neighborhood of hundreds of billions of dollars. They will also likely put additional pressure on the essential process of credit formation in the economy. Together with increasing housing inventory and the inability of many potential homebuyers to qualify for credit under stricter underwriting criteria, the foregoing factors may place additional downward pressure on home prices, which could have the effect of prices slipping lower than the level we have suggested as being a stabilized price level—before readjusting to that level upon a recovery.

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Conclusion

What were we thinking? In hindsight, did all of us really believe a sudden realignment of home prices, which defied all other metrics, was sustainable—or, for that matter, real?

Apparently so.

Our regulators, lenders, investment bankers and homeowners were willing participants in yet another, and this time more damaging, classic bout of speculative asset inflation. The hallmarks of asset bubbles and resulting financial crises over the past quarter century have been substantially similar: (a) a failure to observe basic economic and financial fundamentals regarding value, capital and the markets; combined with (b) a uniquely American tendency to believe that almost any new economic phenomenon ushers in a new era to be governed by a completely new set of measures of value and economic performance. This time, unfortunately, we were speculating with Americans' largest asset and repository of wealth, which has already set in stone the outcomes that will make this crisis the most debilitating since the Great Depression.

Westwood believes the two principal drivers of the housing bubble were easy money (negative real rates of interest as a result of overly accommodative monetary policy) and an unwillingness, or inability, on the part of both industry and government regulatory bodies to blow the whistle and stop the music while the party roared on. Other drivers include a "look-the-other-way" attitude on the part of investment banks and mortgage bankers, a conflict of interest on the part of banks that made loans almost instantaneously sold to others, and an outsourcing of credit analysis to parties (read, rating agencies) that were conflicted and had no better skill sets than other market participants.

We are often asked how these two drivers conspired to create the bubble. To answer this question, we continue to offer a simple explanation we initially penned last summer. Let's say, in 2000, you had $100,000 to put down on a home purchase. In the same year, with adjustable-rate residential mortgages at 6%, you were offered a mortgage for 80% of the purchase price of your prospective home. The $100,000 you had available meant that you could afford a $500,000 home (80% of $500,000 = $400,000 in mortgage) and, interest only, your monthly payment would have been approximately $2,000 per month. Now, zoom ahead to 2006. With the same $100,000 in your pocket, and an adjustable teaser interest rate of 3%, mortgage companies nationwide were knocking down your door to offer mortgages at 90% of your purchase price (and almost 100%, in some cases). With your same $100,000 and $2,000-per-month interest payment, you could now afford to pay $1 million for the same house. Does this mean the homes themselves were actually worth more? As this report demonstrates, of course not.

The author thanks Andrew Mezei for assistance with research and preparation of this report.

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Appendix A
For-Sale Homes and Rental Property Carrying Cost Analysis

MSA	May '08 MSA Median per Case-Shiller	City or Town	Adjusted Asking Price	Down Payment	Mortgage Amount	Monthly Mortgage Payment	Monthy Real Estate Taxes	Monthly Maintenance Costs	Monthly After-Tax Return of Invested Equity	Monthly Tax Benefit	Total After-Tax Carrying Cost	Monthly Rental Cost of "Companion" Rental Property	Variance	Required Adjusted Home Price Decline to Rent Parity	Decline from Current (%)	Price/Rent Multiple at Rent Parity
Phoenix, AZ	285.06	Maricopa	161,788	32,358	129,430	816	24	135	92	231	835	995	(160)	(31,653.04)	-20%	16.2
	285.06	Surprise	328,125	65,625	262,500	1,654	164	273	186	505	1,772	1,495	277	54,714.83	17%	15.2
	285.06	Mesa	490,000	98,000	392,000	2,470	163	408	278	729	2,591	2,500	91	17,914.63	4%	15.7
	285.06	Fountains Hills	651,875	130,375	521,500	3,286	252	543	369	980	3,470	3,000	470	92,866.15	14%	15.5
Los Angeles, CA	487.28	Anaheim	196,788	39,358	157,430	992	97	164	112	303	1,062	1,250	(188)	(37,164.77)	-19%	15.6
	487.28	Lakewood	402,413	80,483	321,930	2,028	205	335	228	621	2,176	2,500	(324)	(64,096.35)	-16%	15.6
	487.28	Carson	542,500	108,500	434,000	2,735	526	452	307	917	3,103	2,700	403	79,681.83	15%	14.3
	487.28	Fullerton	752,413	150,483	601,930	3,793	119	627	426	1,077	3,888	3,995	(107)	(21,083.21)	-3%	16.1
San Diego, CA	427.67	National City	192,413	38,483	153,930	970	174	160	109	321	1,092	1,195	(103)	(20,326.51)	-11%	14.8
	427.67	Spring Valley	363,125	72,625	290,500	1,830	523	303	206	669	2,193	1,995	198	39,172.42	11%	13.5
	427.67	El Cajon	533,750	106,750	427,000	2,691	347	445	302	848	2,937	2,850	87	17,242.95	3%	15.1
	427.67	Poway	743,313	148,663	594,650	3,747	848	619	421	1,297	4,338	3,000	1,338	264,424.12	36%	13.3
San Francisco, CA	650.24	Richmond	328,125	65,625	262,500	1,654	382	273	186	575	1,920	1,500	420	82,986.71	25%	13.6
	650.24	Hayward	490,000	98,000	392,000	2,470	595	408	278	867	2,884	2,300	584	115,452.34	24%	13.6
	650.24	San Mateo	644,875	128,975	515,900	3,251	537	537	365	1,062	3,629	3,000	629	124,225.66	19%	14.5
	650.24	Oakland	873,250	174,650	698,600	4,402	1,151	728	495	1,574	5,202	3,750	1,452	286,862.07	33%	13.0
Denver, CO	226.56	Arvada	126,788	25,358	101,430	639	97	106	72	206	708	895	(187)	(37,049.27)	-29%	15.3
	226.56	Castle Rock	262,413	52,483	209,930	1,323	188	219	149	422	1,456	1,450	6	1,198.08	0%	15.0
	226.56	Aurora	385,000	77,000	308,000	1,941	324	321	218	635	2,169	2,000	169	33,330.83	9%	14.7
	226.56	Littleton	516,163	103,233	412,930	2,602	311	430	292	812	2,824	2,450	374	73,822.52	14%	15.0
Washington, D.C.	355.86	Fredericksburg	201,163	40,233	160,930	1,014	119	168	114	316	1,099	1,550	(451)	(89,114.38)	-44%	15.6
	355.86	Fairfax	402,413	80,483	321,930	2,028	348	335	228	667	2,273	2,200	73	14,422.70	4%	14.7
	355.86	Accokeek	595,000	119,000	476,000	2,999	455	496	337	967	3,321	2,450	871	172,036.41	29%	14.4
	355.86	Leesburg	809,375	161,875	647,500	4,080	684	674	459	1,336	4,561	2,900	1,661	328,243.76	41%	13.8
Miami, FL	283.03	Royal Palm Beach	187,250	37,450	149,800	944	397	156	106	385	1,217	1,600	(383)	(75,599.96)	-40%	13.7
	283.03	Boynton Beach	375,375	75,075	300,300	1,892	297	313	213	613	2,102	1,800	302	59,599.48	16%	14.6
	283.03	Hollywood	595,000	119,000	476,000	2,999	436	496	337	961	3,307	2,450	857	169,423.17	28%	14.5
	283.03	Weston	818,125	163,625	654,500	4,124	678	682	464	1,346	4,601	3,000	1,601	316,404.25	39%	13.9
Tampa, FL	173.57	Lutz	153,125	30,625	122,500	772	187	128	87	271	902	1,095	(193)	(38,195.86)	-25%	14.6
	173.57	Apollo Beach	363,125	72,625	290,500	1,830	608	303	206	696	2,251	1,750	501	99,053.82	27%	12.6
	173.57	Wesley Chapel	529,375	105,875	423,500	2,668	754	441	300	972	3,192	2,100	1,092	215,714.56	41%	12.4
	173.57	Largo	699,999	140,000	559,999	3,529	742	583	397	1,204	4,047	2,400	1,647	325,398.77	46%	13.0
Atlanta, GA	151.92	Kennesaw	126,875	25,375	101,500	640	100	106	72	207	710	950	(240)	(47,415.93)	-37%	15.3
	151.92	Lawrenceville	253,663	50,733	202,930	1,279	285	211	144	441	1,477	1,450	27	5,403.97	2%	14.3
	151.92	Hampton	376,163	75,233	300,930	1,896	489	313	213	676	2,236	1,550	686	135,510.59	36%	12.9
	151.92	Newnan	498,663	99,733	398,930	2,514	414	416	283	821	2,805	2,100	705	139,292.51	28%	14.3
Chicago, IL	244.20	Rockdale	148,750	29,750	119,000	750	186	124	84	265	879	900	(21)	(4,114.41)	-3%	14.2
	244.20	Bloomingdale	297,413	59,483	237,930	1,499	616	248	169	608	1,924	1,650	274	54,188.38	18%	12.3
	244.20	Woodridge	455,000	91,000	364,000	2,294	848	379	258	899	2,879	2,500	379	74,971.99	16%	12.7
	244.20	Orland Park	608,125	121,625	486,500	3,065	1,248	507	345	1,239	3,926	3,000	926	182,967.39	30%	11.8
Boston, MA	356.81	Brockton	157,413	31,483	125,930	793	190	131	89	278	926	900	26	5,126.01	3%	14.1
	356.81	Bedford	319,288	63,858	255,430	1,609	347	266	181	552	1,852	2,000	(148)	(29,341.12)	-9%	14.5
	356.81	Middleton	472,413	94,483	377,930	2,381	457	394	268	798	2,701	2,400	301	59,522.96	13%	14.3
	356.81	Norfolk	603,750	120,750	483,000	3,043	842	503	342	1,103	3,628	3,500	128	25,262.19	4%	13.8
Detroit, MI	126.25	Sterling Heights	88,200	17,640	70,560	445	198	74	50	185	581	875	(294)	(58,157.62)	-66%	13.9
	126.25	Oakland	188,125	37,625	150,500	948	272	157	107	347	1,137	1,500	(363)	(71,704.84)	-38%	14.4
	126.25	Waterford	278,250	55,650	222,600	1,403	306	232	158	482	1,616	1,800	(184)	(36,349.74)	-13%	14.6
	126.25	Dearborn	358,663	71,733	286,930	1,808	613	299	203	691	2,232	2,000	232	45,872.19	13%	13.0
Minneapolis, MN	191.23	Anoka	137,288	27,458	109,830	692	130	114	78	231	783	1,050	(267)	(52,777.88)	-38%	15.1
	191.23	Oak Grove	279,913	55,983	223,930	1,411	285	233	159	478	1,610	1,295	315	62,294.53	22%	14.0
	191.23	Edina	393,750	78,750	315,000	1,985	230	328	223	617	2,149	1,895	254	50,165.00	13%	15.1
	191.23	Afton	546,788	109,358	437,430	2,756	369	456	310	873	3,018	2,400	618	122,099.25	22%	14.7
Charlotte, NC	195.16	Gastonia	131,250	26,250	105,000	662	150	109	74	229	766	725	41	8,139.74	6%	14.2
	195.16	Concord	266,613	53,323	213,290	1,344	228	222	151	441	1,504	1,700	(196)	(38,685.14)	-15%	15.0
	195.16	Monroe	402,413	80,483	321,930	2,028	417	335	228	689	2,320	2,195	125	24,650.41	6%	14.3
	195.16	Huntersville	525,000	105,000	420,000	2,646	350	438	298	837	2,895	2,495	400	78,997.01	15%	14.9

Appendix A
For-Sale Homes and Rental Property Carrying Cost Analysis

MSA	May '08 MSA Median per Case-Shiller	City or Town	Adjusted Asking Price	Down Payment	Mortgage Amount	Monthly Mortgage Payment	Monthy Real Estate Taxes	Monthly Maintenance Costs	Monthly After-Tax Return of Invested Equity	Monthly Tax Benefit	Total After-Tax Carrying Cost	Monthly Rental Cost of "Companion" Rental Property	Variance	Required Adjusted Home Price Decline to Rent Parity	Decline from Current (%)	Price/Rent Multiple at Rent Parity
Las Vegas, NV	224.62	Henderson	140,000	28,000	112,000	706	79	117	79	218	762	1,050	(288)	(56,918.45)	-41%	15.6
	224.62	Boulder City	284,375	56,875	227,500	1,433	117	237	161	430	1,519	1,300	219	43,182.96	15%	15.5
	224.62	Henderson	424,288	84,858	339,430	2,139	251	354	240	666	2,318	1,850	468	92,439.15	22%	14.9
	224.62	Boulder City	568,750	113,750	455,000	2,867	457	474	322	931	3,189	2,500	689	136,122.43	24%	14.4
New York, NY	394.67	Yonkers	197,663	39,533	158,130	996	181	165	112	331	1,123	1,395	(272)	(53,657.65)	-27%	15.0
	394.67	Teaneck	358,750	71,750	287,000	1,808	695	299	203	718	2,288	2,100	188	37,161.49	10%	12.8
	394.67	Poughkeepsie	546,875	109,375	437,500	2,757	862	456	310	1,031	3,353	2,400	953	188,388.33	34%	12.4
	394.67	Warren Twp.	765,538	153,108	612,430	3,859	677	638	434	1,273	4,334	3,300	1,034	204,377.35	27%	14.2
Cleveland, OH	103.66	Chardon	87,413	17,483	69,930	441	13	73	50	125	451	800	(349)	(68,905.26)	-79%	16.3
	103.66	Lorain	109,375	21,875	87,500	551	61	91	62	170	595	675	(80)	(15,836.50)	-14%	15.5
	103.66	Willoughby	280,000	56,000	224,000	1,411	179	233	159	444	1,538	1,500	38	7,583.80	3%	15.1
	103.66	Strongsville	411,163	82,233	328,930	2,073	417	343	233	701	2,364	1,800	564	111,455.87	27%	13.9
Portland, OR	285.06	Wilsonville	183,750	36,750	147,000	926	117	153	104	291	1,010	1,000	10	1,882.47	1%	15.2
	285.06	Sandy	349,913	69,983	279,930	1,764	190	292	198	544	1,900	1,350	550	108,709.23	31%	14.9
	285.06	Tualatin	533,706	106,741	426,965	2,690	0	445	302	737	2,701	2,395	306	60,433.25	11%	16.5
	285.06	Lake Oswego	704,375	140,875	563,500	3,551	554	587	399	1,149	3,941	2,500	1,441	284,745.42	40%	14.0
Dallas, TX	146.22	Plano	113,749	22,750	90,999	573	209	95	64	224	718	995	(277)	(54,723.61)	-48%	14.1
	146.22	Rockwall	240,625	48,125	192,500	1,213	66	201	136	353	1,263	1,350	(87)	(17,214.44)	-7%	15.9
	146.22	Burleson	363,038	72,608	290,430	1,830	71	303	206	524	1,885	1,695	190	37,567.48	10%	16.0
	146.22	Keller	481,250	96,250	385,000	2,426	418	401	273	798	2,720	2,700	20	3,936.68	1%	14.7
Seattle, WA	369.71	Tacoma	175,000	35,000	140,000	882	163	146	99	294	997	1,150	(153)	(30,313.53)	-17%	14.9
	369.71	Kent	358,706	71,741	286,965	1,808	426	299	203	632	2,105	2,000	105	20,765.62	6%	14.1
	369.71	Edmonds	542,413	108,483	433,930	2,734	459	452	307	895	3,057	2,300	757	149,522.80	28%	14.2
	369.71	Issaquah	717,456	143,491	573,965	3,617	657	598	407	1,200	4,077	2,950	1,127	222,738.09	31%	14.0

Appendix B

Price-Rent Ratios - Case-Shiller MSA's
(Data courtesy of Moody's Economy.com)

Legend:
Atlanta, Boston, Charlotte, Chicago, Cleveland, Dallas, Denver, Detroit, Los Angeles, Las Vegas, Miami, Minneapolis, New York, Phoenix, Portland, San Diego, San Francisco, Seattle, Tampa, Washington D.C.