Irrational Despair in the Housing Market

By Norm Miller[1] and Michael Sklarz[2]
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Introduction

Does a 55% decline in reported "median price" over the past year mean that homeowners in Santa Barbara really lost over half the value of their homes?

Does a 23% annual decline for San Francisco in the popular S&P Case Shiller Index mean that all homes in San Francisco are worth on average 23% less?[3]

Should we believe REALTORs when they say "now is a good time to buy"?

Can constant doom and gloom forecasts and media sensationalizing lead to lower prices?[4]

There seems to be a market for doom and gloom writing and reporting.[5] Extreme views grab attention and this will never change, but our concern is that we are entering a period of contagion effects where psychology impacts the downward housing slide as much as fundamentals. And this raises a more important problem: Who is telling the truth? How accurate is the data that is being used to make these gloomy predictions? Unfortunately the consumer of real estate information is left to struggle with misinformation, exaggerations or even outright falsehoods. The housing market as discussed in the media is almost like the rhetoric of a President campaign where context is often lost.

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[3] On July 29th, S&P Case Shiller home price indices were released for May of 2008. Based on the prior twelve months reports suggested the following price declines:

- Las Vegas **-28.4%**
- Miami **-28.3%**
- Phoenix **-26.5%**

[4] On July 18, 2008 many national newspapers ran headlines similar to the San Francisco Chronicle: **"Bay Area home prices plunge 27% in last year"** Similar headlines ran in Boston and San Diego and all were based on the median home prices as reported by DataQuick or other vendors.

[5] The Independent in Britain reported in April "The Great Depression" referencing the American economy despite the fact that the US is not yet in a recession. During the great depression unemployment reached 25% compared to 5.5% today.

Some examples:

- ✓ The widely followed S&P Case Shiller Index exaggerates declines because it includes real estate owned (REO) foreclosure sales, which in 2008 includes some unusual transactions. Out of spite for being cajoled into signing mortgages which they can no longer afford, some households are stealing and damaging the house from which they are evicted. These sales are being combined with normal sales in the development of an index for price trends.[6]
- ✓ The National Association of REALTORs, NAR, which controls some of the most important local data on neighborhood trends, historically acts only as a positive cheerleader with optimistic forecasts that have lost credibility.
- ✓ The California Association of REALTORS, perhaps in an attempt to regain credibility lost in the past few years from association with NAR produced a report using median prices that had some of the following results based on changes from peak price months as noted in parenthesis through June of 2008[7]:
  - o Montery County, CA (Aug, 2007) -55.0%
  - o Santa Barbara County (June 2007) -54.8%
- ✓ The quality adjusted OFHEO Index is slow to report and does not cover the upper price markets.

What is at stake here is more than a debate among economists. There is no penalty for yelling "fire" in the housing market and we seem to be inundated with reports that indicate free falling housing prices without geographic, price level or other qualification. Reality is becoming harder to sort out for the typical home owner and if the public uses these general proxies for value changes on their own home without qualification or further understanding will they help induce the change reported?

Our media reporters and most analysts of the housing market are subject to the challenges of data quality. We use and often miss-use data that is available. Once we lived in a land of ignorance with slow information release and little national or regional information on which to judge our personal housing wealth. Now we are overwhelmed with data, but not local data that applies to our situation or data that has been qualified and filtered. It is just possible that for the first time in our history media disseminated information is influencing our housing markets leading to the danger of self-fulfilling prophecies. On July 31st of 2008, Bloomberg reported the influential words of Allen Greenspan, former Federal Reserve Board Chairman, who said "falling US Home prices are no where near the bottom"

So who profits from doom and gloom and who wants to fan the fires of hysteria? Perhaps the answer can be found in an advertisement on July 31, 2008 in the San Diego Union Tribune newspaper, p. A10, with photo of none other than Donald Trump and a seminar provided by "Trump University" touting a seminar on making money from the current housing market

[6] Case Shiller excludes sales with known improvements but as far as we know does not have a filter for unusual damage to a home vacated and sold.
[7] Report releases July 30th of 2008 to media.

turmoil. Among the tag lines ***"Foreclosure properties are sold way below market value. That means you can buy them for next to nothing and sell them for high-percentage profits."*** [8]

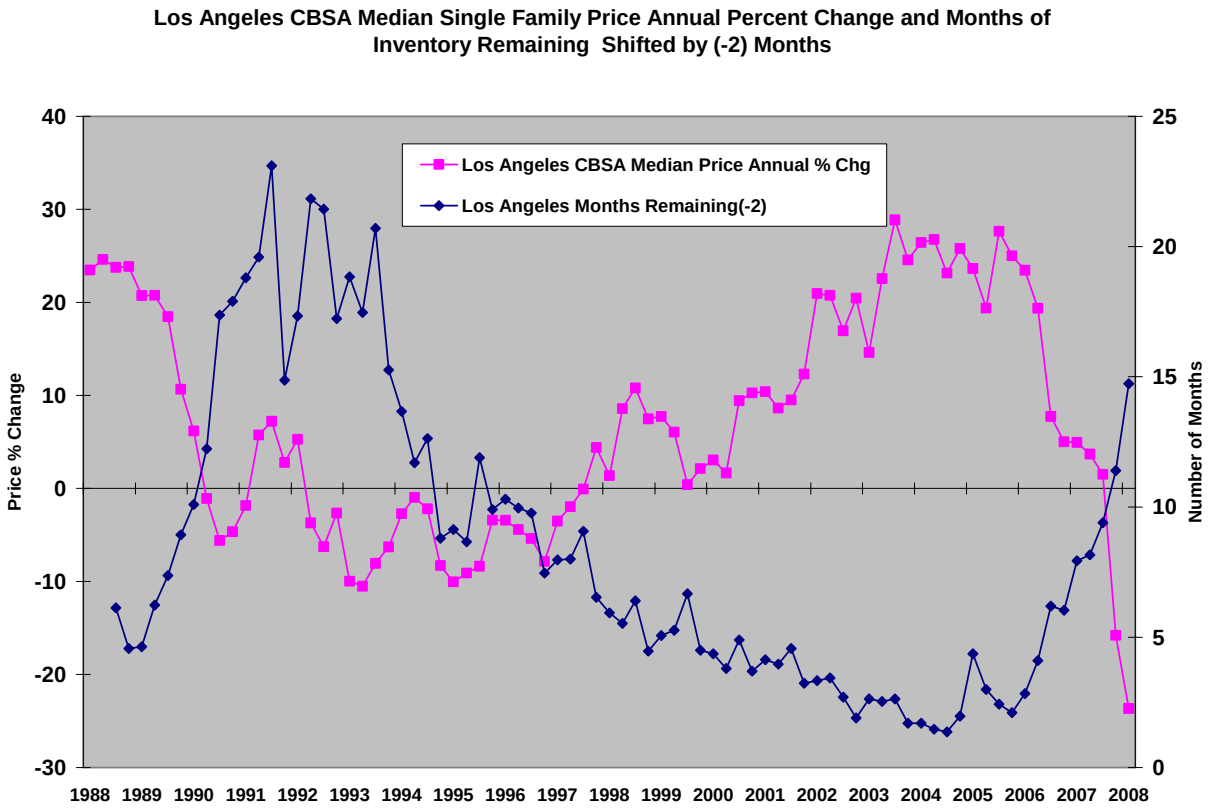
Other despair prognosticators sit on the side lines hoping for a housing crash two or three years after they predicted it so they can eventually claim to be right, get on more talk shows and profit from their "insights".

For example a Fortune Magazine article in 2003 suggested short selling your home while a book by John Talbottt called "The Coming Crash in the Housing Market" in April of 2003 made a great deal of money playing on people's fears, well before many markets softened. Those who quickly heeded such advice missed huge run ups in markets like San Diego or Seattle or Hawaii because historically local markets have not marched in sync with one another. We are not suggesting here that there are valid reasons for declining home prices. It is just that our preference is for the housing market to be driven by good information about fundamental economic, demographic and geo-spatial trends and not unqualified hype.

Housing markets are imperfect and yet, at the same time, somewhat predictable. We know if the months remaining inventory or the average sold market time is increasing then the housing market will continue to soften. See Exhibit 1 which shows the strong inverse correlation between months inventory remaining two months before the prices show any change using a sample of data for Los Angeles. Many other examples are possible. In a note on "Leading Indicators of the Housing Market" by Miller and Sklarz published in The Journal of Real Estate Research, Fall, 1986, we provided several examples where housing prices could be predictable. Then again in 2005 we published "The Impact of Interest Rates and Employment on Housing Prices" along with Tom Thibodeau in the International Real Estate Review, Vol.8, No. 1 where we suggested that using widely available employment and income data housing markets were somewhat predictable at least for several quarters out. The current market is different. Our models are not so good at internalizing the influences of constant media reports using data that few really understand.

[8] See TrumpUniversitySanDiego.com for seminars held August 12, 13, 14 of 2008 in local San Diego Hotels.

Exhibit 1: Months Remaining Inventory Leads Changes in Housing Market Prices



Still, some of our major conclusions remain constant that housing markets do not turn on a dime and they are not national or metropolitan in scope. Rather they are granular and localized. Housing within zip codes do not move in perfect correlation with the metro market, nor do housing prices in different neighborhoods within a single zip code necessarily move in lock step with the overall zip code. Local REALTORs know this and divide up MLS (multiple listing service) markets into neighborhoods that are subsets of zip codes or cross over zip codes. That is the level of market data analysis required for anyone to know what is really happening to the value of their home. No one owns the median house in America and most home owners that do not panic and sell will come out of the current market in fine shape, but we are not about to suggest now is a good time to buy everywhere, maybe in Cincinnati it is but some markets will continue to slide while others improve. At the neighborhood level some markets have already started climbing and may continue to do so if they can avoid the contamination of irrational despair.

What are the Sources of Bias in Reported Housing Data?

There are four or five commonly reported housing statistics including:

- NAR (National Association of REALTORS)
- Data Vendors (First American Core Logic, Lender Processing Services IDM, DataQuick)
- OFHEO

- S&P Case Shiller

These will be discussed in turn.

The National Association of REALTORs has generally been so optimistic about markets, where Now! is always a great time to buy that they have lost all credibility. They control local MLS data and as such have the best local information. Members of the REALTOR trade groups prefer only good news and keep the truth that is buried in their data kept close to the vest. In some cases agents (MLS members) manipulate the data. For example, Days on Market (DOM), a useful statistic, is often not reliable as agents take listings off the market for a day and then re-list as "new" listings simply to reduce the DOM statistic. So average DOM figures in a distressed market may actually be 200% higher than last year but we observe only a 50% increase.

NAR reports median sold prices for pre-owned property. Unlike DOM (the) data, median prices can not be so easily manipulated but are subject to composition bias. It represents for the local metro market the median price of those homes which actually sold, not those that were for sale and not necessarily the typical home. We observe a drift in the mix of the homes which sell, especially in markets like those in the present time. The Santa Barbara median price change statistic from June of 2007 to June of 2008 suggests nearly a 55% price decline. The reality is probably close to half this figure and much less for (several) mostly higher priced home markets. Home prices softened beginning around 2004 in many high priced markets. In the last year many of the owners of higher priced homes in Santa Barbara that thought about selling chose to simply sit on the side lines and wait. The properties which have sold are from the lower priced segments including those hit by the subprime fallout. There is no question that the composition of those homes which sold in Santa Barbara are biased towards lower priced homes. The actual price decline for the higher prices homes in Santa Barbara is closer to 10% then 55% although buyers seeing such media reports develop an attitude that feeds into a much tougher negotiating position. Whatever listing price they observe, they will offer substantially less money citing the validity of market research from CAR or Data Quick which are not adjusted for size or composition.

OFHEO (Office of Federal Housing Enterprise Oversight) uses a weighted repeat sales index that is developed at the MSA, State and National level. Weighting is based upon the number of sales in each group of housing from the year 2000. The advantage of the repeat sales index approach is that there is an attempt to control for changes in the quality or quantity of the homes represented. Homes may age and wear out over time and so such an index is appropriate for those with a typical home who wish to gauge changes in price. There are two limitations of this index. First, only conforming loans from Fannie Mae or Freddie Mac transactions are included limiting the sample to those with mortgages under $417,000 as of 2007 and at far lower limits in earlier periods. This price limit is sufficient is areas with low density, cheap land and more affordable housing but severely limits the applicability to higher priced markets such as most of California or metro markets like Boston or New York. At the national level homes from expensive markets will be severely under represented. A second disadvantage of this approach is that repeat sales represent on average only about a fifth of all sales, so most of the sales data is tossed away. In cities with higher stability and low turnover, there will be very little data to use for index construction. The smaller the sample, the more noise contained within any price index. Noise can be viewed as the deviations or variance from uncontrolled influences. Larger samples

also have noise but the noise cancels out so it is less of a concern.[9] In any case the OFHEO index is a better gauge of actual price changes than NAR or vendor median price data, especially for the lower end market.

It is worth pointing out that on a national basis the OFHEO seasonally adjusted purchase home price index went down 4.2% in the second quarter of 2008, yet if you delete California, Nevada and Florida you get very little decline. In fact, of the 20 worst market declines in the USA by Metropolitan Statistical Area (MSA) all of them were in these three states and 12 were in California. Many in Texas, North Carolina, South Carolina, Georgia and elsewhere showed positive price increases.

The **S&P Case Shiller's** index approach is also a repeat sales index with the limitations of tossing away the majority of all transactions.[10] The weighting system attempts to hold year 2000 initial sale weights constant so more expensive homes have more weight. Several filters attempt to screen out non-arms length transactions and foreclosures but foreclosures that become sold later as REO (real estate owned) by banks are included as repeat sales. In markets with a lot of foreclosures that become REO we will get an unusual and likely negatively biased (price) impact on the price index. In markets with a lot of new homes the index will be biased towards older homes which have sold twice and so the index is less representative of the typical home.

One advantage of the Case Shiller index is that they utilize more than simply the conforming loan limit property. When market trading slows, either seasonally or because of higher mortgage rates and weaker economic conditions, the index becomes very thin which is why it can not easily be applied to smaller geographic markets. Over short periods of time it is difficult to use a repeat sales based index since there will be fewer recent transactions. Over lapping samples are used to interpolate changes in any given period but these are only approximation techniques.[11] Another disadvantage in the S&P CS index is that changes in the home which influence value including remodeling and additions are often missed. If the changes to a physical structure are performed legally, that is, with building permits for modifications, then such modified properties are tossed out. But we know that many home improvements are done without building permits and so distortions in values will no doubt occur. When markets slow down repeat sales techniques using a fraction of the available sales will be subject to greater noise issues and it is not clear how well they hold quality constant, especially in markets with high property taxes where every legal change in the property will result in a higher tax bill.

Last, the S&P CS index is not fully transparent. A number of filters are used to try and purify the sample. The weighting systems and criteria, such as significant deviations in price from a CS automated valuation model (AVM) estimate of value are inherently black box and difficult to

[9] Stated another way, with large samples the noise represents residual error which cancels out so that the mean residual error or bias is zero. With small samples the noise creates distortion and bias.

[10] See "The Efficiency of the Market for Single-Family Homes" by Karl E. Case and Robert J. Shiller The American Economic Review, Vol. 79, No. 1 (Mar., 1989), pp. 125-137 and "Arithemetic Repeat Sales Price Estimators" Journal of Housing Economics, 1, 110-126, 1991 by Robert J. Shiller.

[11] See "Housing Price Indices Based on All Transactions Compared to Repeat Subsamples" with C. Giaccotto and D. Tirtiroglu, *AREUEA Journal*, 19(3), Fall 1991, 270-285 or "Revisions in Repeat Sales Price Indices: Here Today, Gone Tomorrow," with Carmelo Giaccotto, *Real Estate Economics*, 1998, 27 (1) 79-104.

replicate without the assistance of Case Shiller. The market needs transparency and the ability to independently replicate results.

Is there a better indication of value?

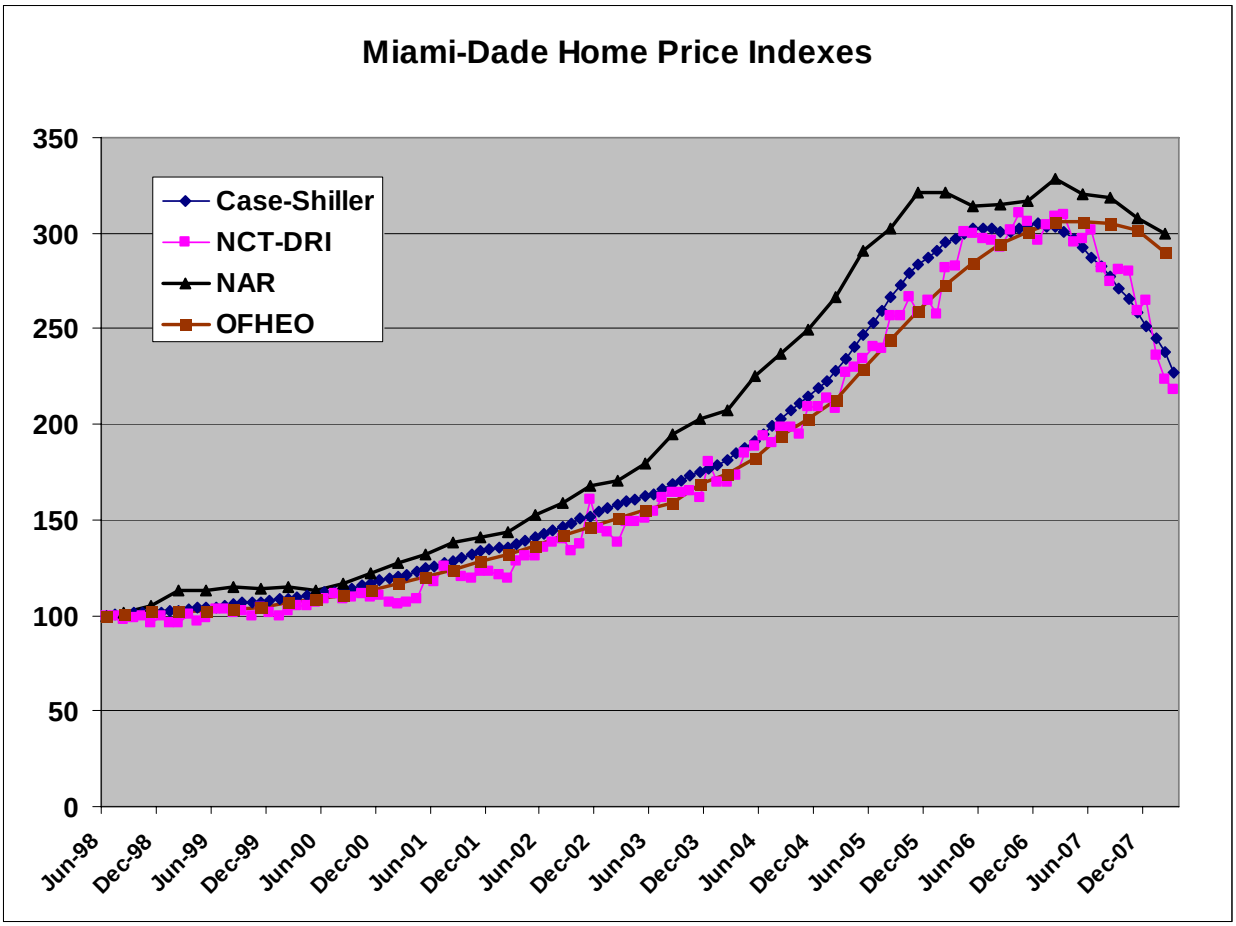
Hedonic pricing models based on multiple regression techniques have the advantage of being able to use several times as much data since all sales may be included, repeat or otherwise. Attempts to adjust for quality and quantity changes are based upon regression models that inherently control for these influences. The very best regression models will control for a variety of quantity and quality influences. Yet we find that square feet and age do well to control for quantity and quality, respectively, and often explain more than 80% of the variation in price within local markets.

The hedonic models have many advantages. They can be constructed for a specific property type, i.e. only condominiums, or by home size or for a given city, zip code, or even neighborhood. They can be developed for only foreclosed properties or normal sales, with age held constant or aged in parallel with the local housing stock. No one yet in the U.S. produces hedonic indices for the housing market on widespread basis but this methodology is used in the U.K. to create the Nationwide and Halifax House Price Indices.

Hedonic models can be run on whatever sales data are available to date and do not require the recent sales to have prior sales as is the case with CS and OFHEO. This enables the hedonic models to be able to be produced more quickly and over both broad (state, CBSA, county) and granular (city, zip, neighborhood) geographical areas. In addition, hedonic models can easily be set up to create price indexes or the corresponding trends for regular versus foreclosure (REO) sales, which is obviously of great interest in today's real estate market.

What about repeat sales versus hedonic models? If we are primarily interested in the typical home in the largest markets then a repeat sales index model works quite well, except perhaps during times of unusual foreclosure activity. As we move to smaller markets or those less transient markets or special types of properties hedonic models are the only approach that can utilize more market information and produce a somewhat reliable index. We can see below in Exhibit 2 as applied to Miami-Dade County how hedonic models track the S&P Case Shiller model, but we have the advantage of being able to split up the index into specialized sizes and types. Here we apply a simple Hedonic model, which uses both regular and REO sales**,** from New City Technology denoted as NCT-DRI and explained more fully below. Note how the NAR index does a poor job of catching the market turn. OFHEO lags more than Case Shiller and the NCT-DRI Hedonic tracks fairly well using more than repeat sales data. In this case the Case Shiller and NCT-DRI Indexs are affected by foreclosures which end up as REO sales and this may explain why they turn down quicker. This begs the question of what types of values are we estimating and do we want to separate out the influence of foreclosures?

Exhibit 2



Market Value and Time to Sell

The typical definition of market value is as follows: "The most probable price which a property should bring in an open and competitive market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably and assuming the price is not affected by undue stimulus". Implicit in this definition is a reasonable time on the market.[12]

Key questions which arise are: 1) Are buyers affected by undue stimulus when they hear prices have declined by 55% in a local market? 2) If the current time on market is several months or even a year and a seller wants to sell quickly, say within 60 days, and lowers the asking price accordingly, is this indicative of market value? Normally a 60 day sale is indicative of market value but is this true when the average time on market is 365 days?

Prices are a function of time on the market and highly motivated sellers who need instant liquidity must sell for lower prices to buyers who exploit this knowledge. Normally the discount

[12] From the Appraisal Institute's book the Appraisal of Real Estate, 11th Edition, p. 23 referencing the Federal financial institutions required definition.

to move a property faster is rather modest, but when the market is thin and buyers are nervous and uncertain about future values they require substantial discounts to jump into the market. Today a discount of 35% may be necessary to sell within a month in an otherwise distressed market from the expected selling price based on a 12 month selling horizon, while a discount of less than 10% would normally accelerate a fairly priced property from a 60 to 90 day sale to one under 30 days.

The point is that we normally think of market value within the context of a normal selling period but not all sellers can accept the normal selling period in 2008, so the discount necessary to sell quickly is larger than normal and these sales which occur within 60 to 90 days are unusual and may not be indicative of our normal definition of market value. We are currently in a situation when we need to take into serious consideration expected time to sell and factor this into our estimation of what is your home worth? It is not enough to state a market value estimate without qualifying the expected time on market. What is more realistic in distressed markets is something more like this:

Market Value of Home with typical time on market (currently 6 months) =	$200,000
Market Value of Home with a 90 day expected time on the market =	$190,000
Market Value of Home with a 60 day expected time on the market =	$165,000
Market Value of Home with a 30 day expected time on the market =	$150,000

But we have no public indicators that control for time on the market and at the same time we can not trust the REALTOR data as an indication of time on market. If foreclosed property is sold quickly is it indicative of the value of your home?

Foreclosed Property Sales and Market Value

We have witnessed some contagion effects from foreclosures already, but not everyone lives in a neighborhood where foreclosures are setting the prices. The widely reported S&P Case Shiller indices are supposed to filter out non-arms length sales (between family members based on the same last names which may result is a bias against Smith, Johnson, William, Jones and Browns not to mention Miller) and down weights sales with extreme price changes, especially if they deviate from the filter guidelines within the CS methodology[13], but real estate owned (REO) sales are generally included. Do foreclosure sales represent market value for a non-distressed owner?

When the percentage of foreclosure driven sales is a significant proportion of the market these can not be ignored. In California and parts of Florida or Arizona during the spring of 2008 many local markets had foreclosure numbers equal to the number of listings. Such market conditions are historically rare but if we are estimating current market values they must be considered. The same property will typically sell for 22% or so less if sold under the label of a foreclosure.[14] In the hyper media sensitive environment of 2008 our research has shown much higher than normal discounts, perhaps as high as 25% to 50% in some markets. Perhaps this is because buyers know

[13] For example, sales of less than six months apart are excluded.

[14] See, Anthony N. Pennington-Cross, "The Value of Foreclosed Property" . Journal of Real Estate Research, Vol. 28, No. 2, 2006

the sellers are anxious to liquidate the property, but the label alone will induce a price discount. Vacant homes often show neglect with dried up lawns and dead landscaping. Worse than neglect; some disgruntled and displaced owners ransack the house, pulling out appliances, carpets, wires and lights and reducing the value far below normally maintained homes in the same neighborhood.[15] So, if you are in the same neighborhood where a few foreclosures occurred and are selling your home but are not a foreclosure, should the foreclosure sale be treated as a comparable property or only the non-foreclosure sales? If the foreclosure effect is considered a shorter to intermediate effect on value and the value estimate we seek is the longer term equilibrium value (normal time on market whatever it is and normal property condition) then foreclosed property sales may not be indicative of the value of your property, yet they do influence the S&P Case Shiller index when REO property become the second sale in a repeat sale calculation. This impact on the Case Shiller index has never been shown, but we can estimate it in various markets using the hedonic indices that include or exclude such sales.

In Exhibit 3 below we can observe the impact of foreclosed properties on a market like Los Angeles. From June of 2006 through June of 2008 we observe a price decline per square foot of residential housing overall of -24.7%. The REO sold property declined by 33.0% over this same period while the non REO sample declined by only 15.8%. The relative impact on any overall LA index (S&P Case Shiller) during this time period will result in a price index approximately 50% worse than if foreclosed (REO) sales were excluded. We find a similar result in San Diego, shown in Exhibit 4. A property in a market dominated by foreclosures certainly competes against normal sales. But a property where a few foreclosures nearby have been deeply discounted may not suffer the same price decline as buyers know whether it is a distressed sale or not. For many neighborhoods in these large cities where S&P CS indexes are utilized there are few foreclosures. For example, La Jolla and Del Mar have few foreclosures compared to southern San Diego, yet if they used an S&P CS index to judge value trends in these local markets they would be unfairly tainted by effects not appropriate for their neighborhoods.

[15] Perhaps because of what have often been unfair lending practices (think unscrupulous subprime mortgage brokers) the evicted owners feel the right to steal appliances but the extent of revengeful damage has been unprecedented.

Exhibit 3: The Impact of Foreclosed Sales on the Los Angeles Index

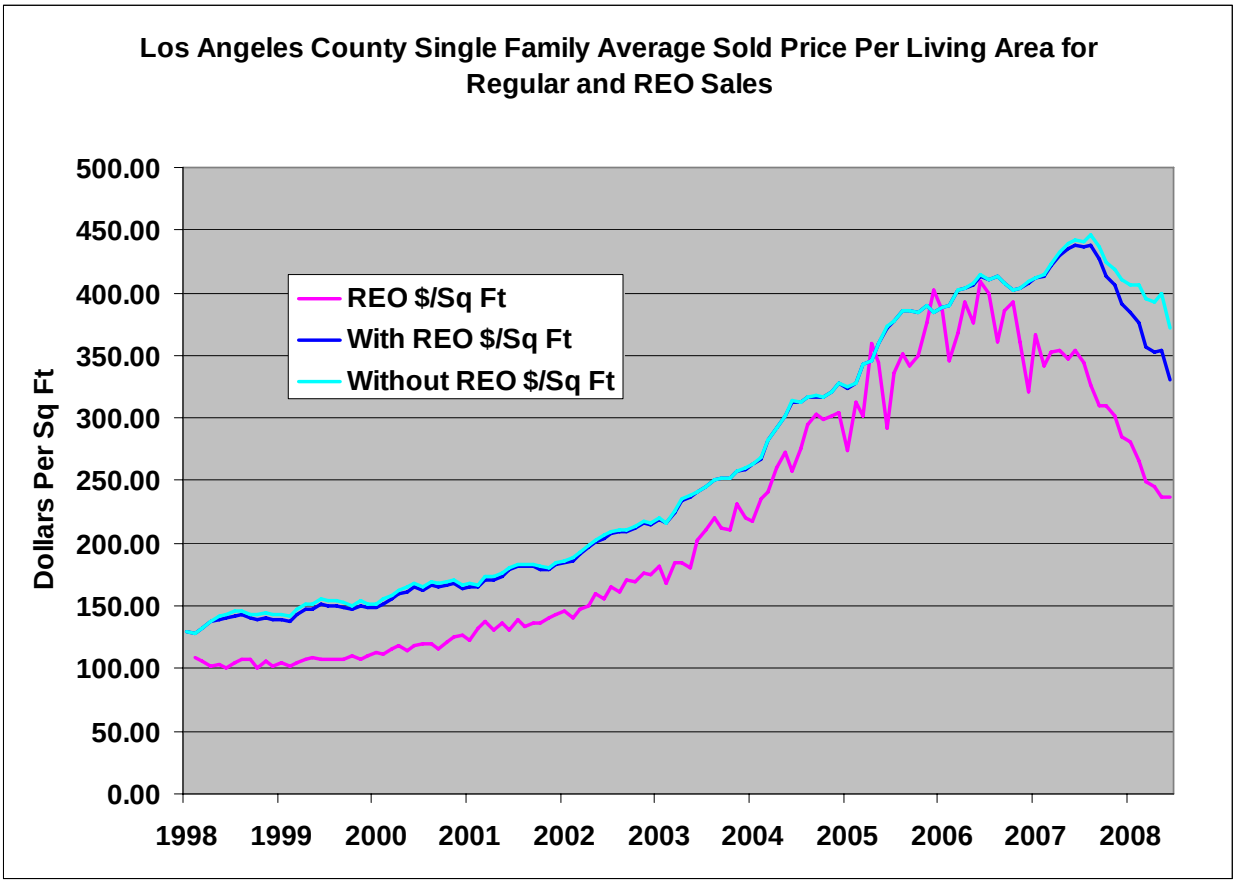
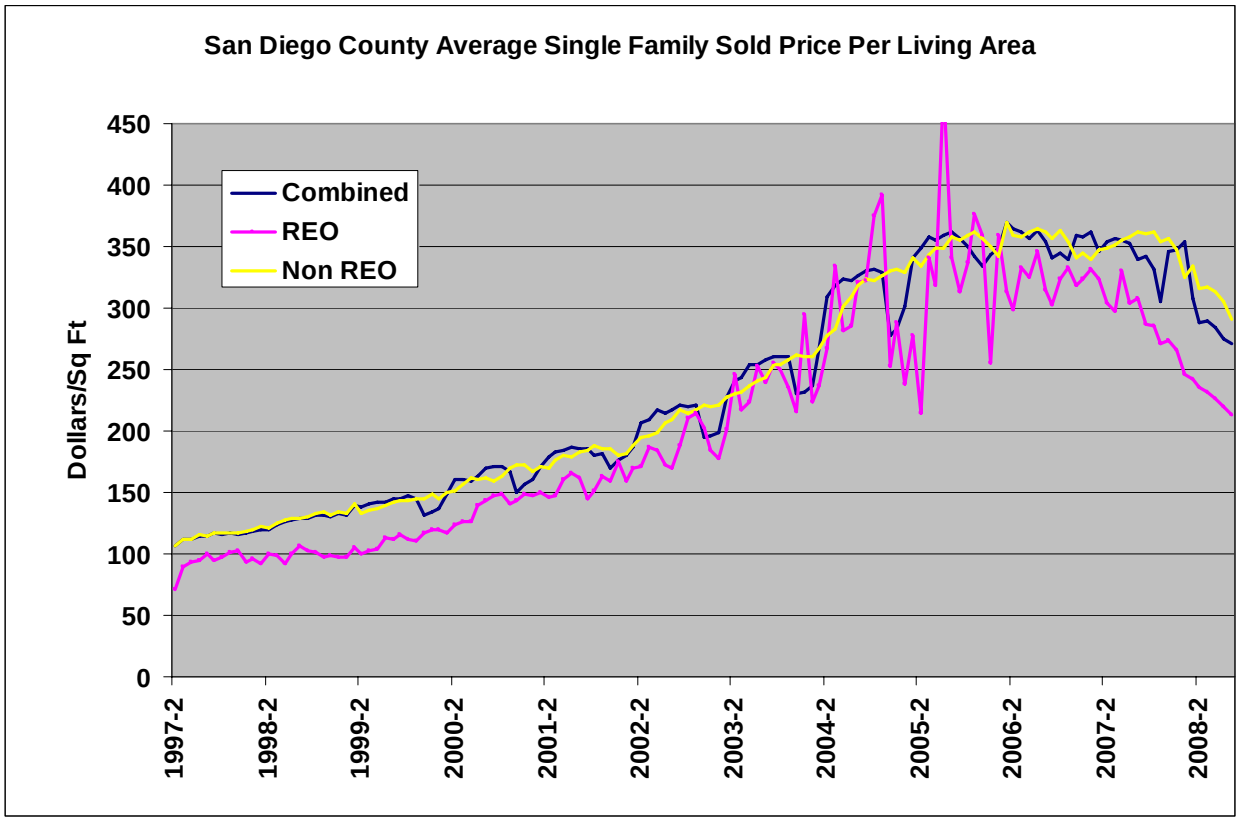


Exhibit 4: The Impact of Foreclosed Sales on the San Diego Index

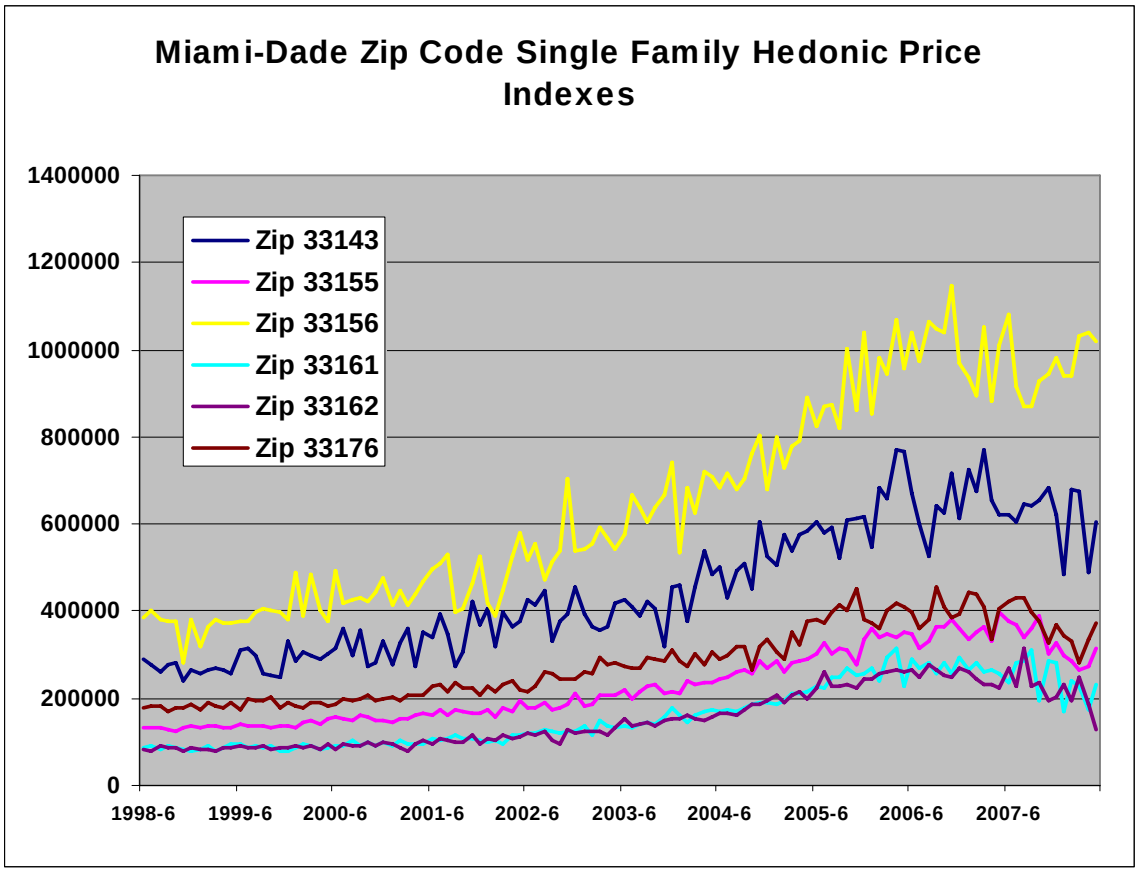


Remembering that Real Estate Markets are Local

Location, location, location was once the mantra in any analysis of the real estate market. This still holds true. Boston median prices may be down while local markets are actually up. For example, using the median price change for Boston MSA for one year ending February 15 of 2008 we see a -6% decline, while a closer look at individual neighborhoods reveals rich diversity. In Lawrence average prices over this period were down 19% and down 12% in Revere but in Wellesley average prices were up 12%.[16] We can observe that zip code defined markets do not move in exact concert. In Exhibit 5 focused on Miami-Dade we note not only the typical seasonal price variation present in most markets but also we see the highest priced zip code starting to move up while most others were declining. Aggregate metro indices will not hold very true for these individualized markets. The values shown are controlled for size and age so that composition bias in not present.

[16] Source: Collateral Intelligence focused on micro level housing market analysis and forward looking trends. See http://co-intel.com

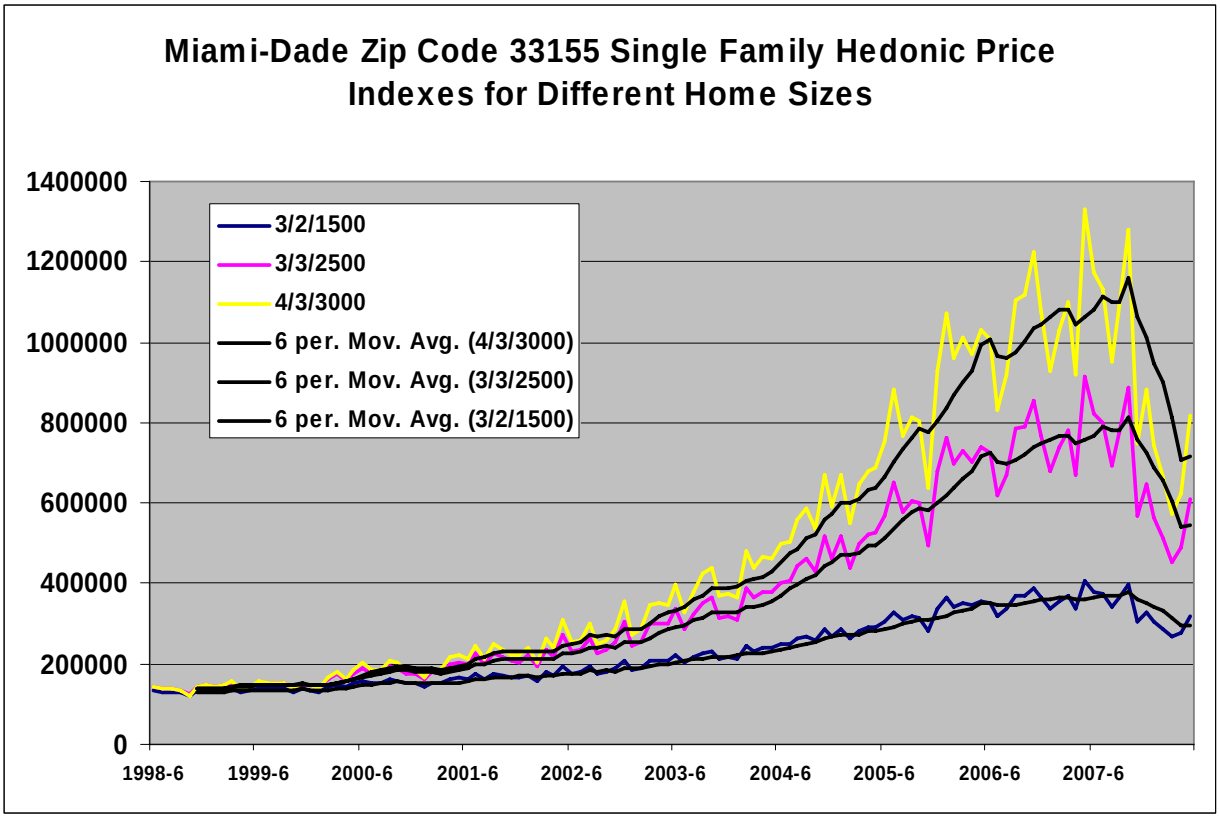
Exhibit 5



Neighborhoods versus Zip Codes

The MLS data used by REALTORS is generally defined by neighborhoods, not zip codes. These neighborhoods may cross over several adjacent zip codes or be much smaller than a given zip code. It is not uncommon to find a dozen different neighborhoods within any given zip code. Such neighborhoods are defined by geography, school districts, size and price range and just as few zip codes show perfect home price correlation with the metro market, so few neighborhoods march in sync with the zip code. In Exhibit 6 we have taken homes of various sizes within the same zip code and found that the largest homes, over 3000 square feet, shown by the top line of the chart have moved down in price faster than the smaller homes, at least in 2007 in this particular market.

Exhibit 6: Within Zip Code Price Trend Variation by Size



What is Reality for the Typical Home Owner?

This question is impossible to answer without localized examples. Let's go back to our example from Santa Barbara County where the CAR reported a median price decline of nearly 55% from June of 2007 to June of 2008. S&P Case Shiller does not cover Santa Barbara as a separate market but only the L.A. Metro so we have no other reported index. We should note up front that the volume of sales in Santa Barbara county is off significantly and down by at least 50%, so half the homes or more which "normally" sold are not in the market. This means that our median indicator is based on much less data and likely a sample with an extreme change in the composition of what has sold. When we control for size and look at the price per square foot for all sales in Santa Barbara we find that from June of 2007 through June of 2008 the average price paid per square foot went down by only 15.6%, not the 55% reported. When you go out one more month to July and compare July of 2008 to July of 2007 the price per square foot actually went up by a few percent, although we hasten to add that the sample was very small.

When you drill down to the zip code level we find that some areas of Santa Barbara has observed price declines, such as zip code 93111 where prices per square foot are off about 10%, while others like 93105 suggest price declines over 10% yet with so little activity as to be fairly meaningless. Other zip codes are flat and some showed price increases, such as 93109 where prices per square foot went up over 10% from June of 1007 through June of 2008. Still the activity was so light as to make any astute analyst cautious about claims of price increases. The point is that we can be fairly certain that almost no one in Santa Barbara lost 55% of their home value from 2007 through 2008 and the more likely scenario is that home value declined by no more than 10%. What has actually happened is that the higher priced home submarket are inactive and the lower priced home markets, while thin, are the only data showing up in the indices being compared.

Local Market Data Availability and Conclusions

Good market data is available at the local neighborhood level which provides a forward look at future price trends. It is multiple listing data which is controlled by the REALTORs. There are over 1000 MLS operations in the US and while some states like California are working on integrating the system, the MLS remains a fragmented, locally controlled and less than consistent database. Combining the MLS data with foreclosure data and other macro economic factors which lead the housing market would provide the kind of informed market required today for auditable mortgage underwriting, realistic pricing and more efficient housing markets. Historically many REALTOR affiliated groups, especially the National Association of REALTORs, provided biased housing reports always seeking short term business enhancement at the expense of long term credibility. This is why third parties without an incentive to promote or demote market activity are essential for credible housing market analysis.

Here we have made the case that median home price trends can be very misleading. OFHEO's index works a little better for providing an indication of general trends but not so well in high priced markets like California. S&P Case Shiller has made good progress on including a broader range of property locations but suffers excessive noise in smaller or thinly traded markets and currently suffers from foreclosed property influencing the index that may or may not

be appropriate indicators for well maintained non-distressed sales in localized neighborhoods that may differ greatly from the metropolitan trends. We need more localized reports that consider information contained in the MLS and more granularity. Until then the average homeowner may be better off not to rely on the typical media real estate reports for any information about home value trends.

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