Subcommittee on Insurance, Housing and Community Opportunity

House Financial Services Committee Hearing: Appraisal Oversight: The Regulatory Impact on Consumers and Businesses

Reengineering the Appraisal:

A Return to Market Fundamentals

Edward J. Pinto

Resident Fellow

American Enterprise Institute

6.28.12

The views expressed are those of the author alone and do not necessarily represent those of the American Enterprise Institute.

Part 1: Real Estate Cycles and Bubbles

Part 2: Government Interventions Are Almost Always Pro-cyclical and Exacerbate the Nature and Duration of the Real Estate Boom - Bust Cycle

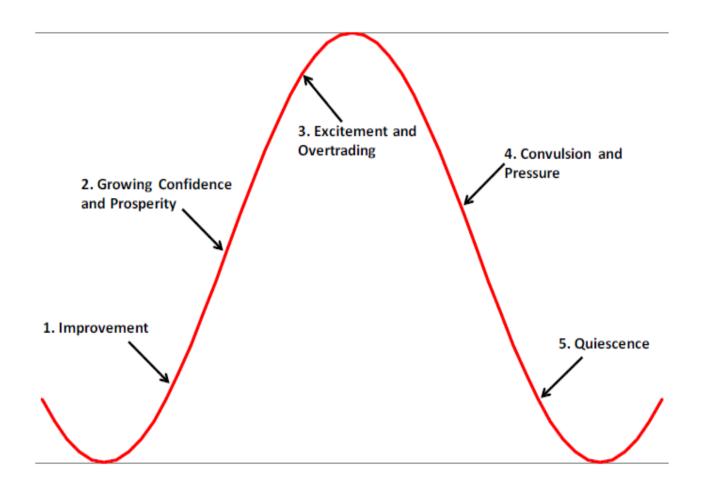
Part 3: In Property Valuation, Market Fundamentals Matter

Part 4: Property Valuation: A Return to Market Fundamentals

Part 5: Recommendations

Part 1: Real Estate Cycles and Bubbles

The real estate cycle in five stages:



Sources: S. J. Loyd (Lord Overstone), "Tracts and Other Publications on Metalic and Paper Currency,", 1858 Edward Chancellor, "Between Errors of Optimism and Pessimism", GMO White Paper, 2011

What is a bubble?

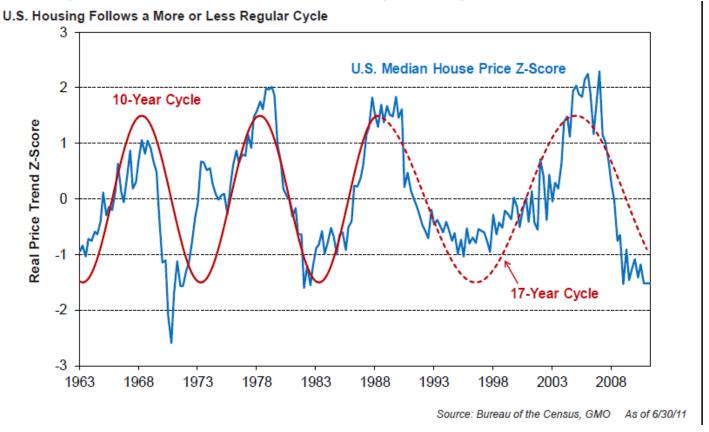
- "A bubble is when current home prices (or price of any asset) substantially deviates from its fundamental value."*
- "A sharp rise in the price of an asset or range of assets in a continuous process, with the initial rise generating expectations of further rises and attracting new buyers generally speculators interested in profits from trading rather than its use or earnings capacity. The risk is then followed by a reversal of expectations and sharp decline in price, often resulting in severe financial crisis—in short, the bubble bursts.**

^{*}FRB of San Francisco Economic Letter, October 1, 2004

^{**} Charles Kindleberger, "Bubbles," 1987

Observation: Real estate is cyclical

 Except for the Great Moderation, over the last 60 years real house prices have followed 10 year cycles:



The 17-year cycle's peak is at 2.3 standard deviations or the 98th percentile. Source: Edward Chancellor, "Between Errors of Optimism and Pessimism", GMO White Paper, 2011

Observations: Length of real estate upturns and downturns

Internationally upturns last an average of 6 years (U.S. 3.5 years) and downturns an average of 4.5 years (U.S. 5 years).

		Duration	(quarters)	Amplitude (%)		
	Sample	Mean	StDev	Mean	StDev	
Complete upturns	49	24.1	14.8	61.3	56.3	
Complete + ongoing upturns	55	28.0	20.6	66.7	60.1	
Complete downturns	49	18.2	8.7	30.7	28.4	
Complete + ongoing downturns	62	18.4	12.5	28.8	27.5	

• The U.S.' last upturn lasted 11.75 years. IMF Working Paper, How Long Do Housing Cycles Last?, October 2011

Part 2: Government Interventions Are Almost Always Pro-cyclical and Exacerbate the Nature and Duration of the Real Estate Boom - Bust Cycle

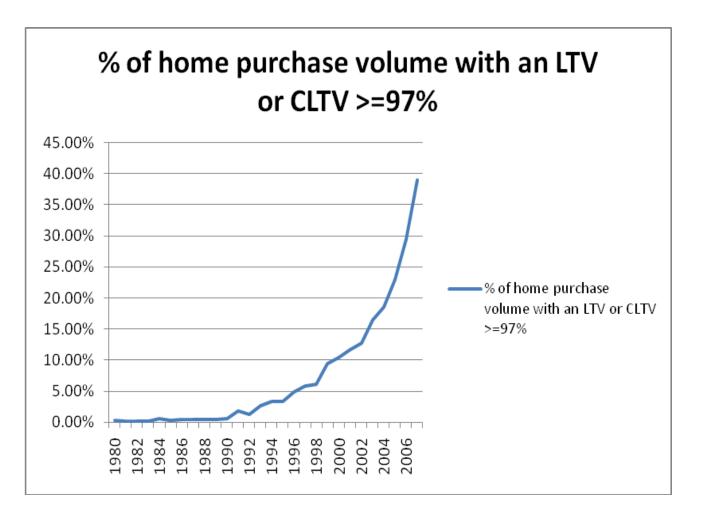
U.S. – the world leader in distortionary housing policy interventions

- An alphabet soup of institutions -FHA, GNMA, Fannie, Freddie, and FHLBs
- Affordable housing mission FHA, Fannie/Freddie affordable housing goals,
 National Homeownership Strategy, CRA, and HUD's Best Practices Initiative
- Overleverage and excessive reliance on debt:
 - National Homeownership Strategy: eliminate downpayments, promote loosened credit
 - FHA's low down payment lending
 - HUD, a social welfare agency, as regulator of the GSE's affordable housing mission.
 - Fannie/Freddie's leverage, preferred stock advantages, and favorable risk based capital rules
 - Favorable rules for 2nd lien lending (as to capital and 1st mortgage lender can't prohibit)
 - Tax deductibility of interest
 - 30 year fixed rate mortgage/interest only loans/negatively amortizing loans
 - Over reliance by the Fed on lower rates as its weapon of choice

Miscellaneous

- Limited use of prepayment penalties
- De jure and de facto limits on recourse/deficiency judgments
- Liberal capital gains exemption
- Pro-cyclical loan loss reserving and FDIC premium policies
- Widespread use of the GSEs' automated underwriting systems
- Nationalization of the GSEs' emasculated appraisal principles
- Extensive use of ARMs as an affordability tool
- Extensive reliance on originate to distribute and securitization
- Freely pre-payable 30 year fixed rate loan promoted huge volatility in origination volume.
 - In 2000 originations totaled \$1 trillion versus \$4 trillion in 2003. About 50% of all mortgages outstanding on 12.31.03 were originated in 2003. Delinquency rates were suppressed by raising prices and refinances. Homes became ATMs.

An explicit policy to eliminate downpayments



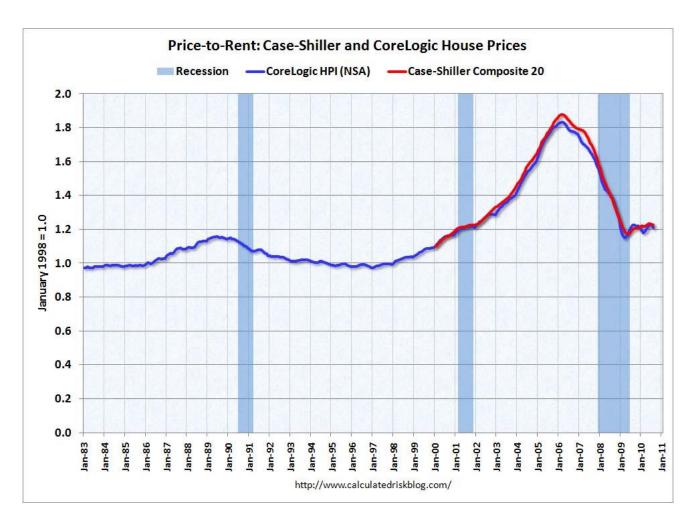
A loan's equity represents the margin provided by a borrower.
 Debt/equity = leverage

Part 3: In Property Valuation, Market Fundamentals Matter

A return to market fundamentals is needed precisely because real estate is cyclical

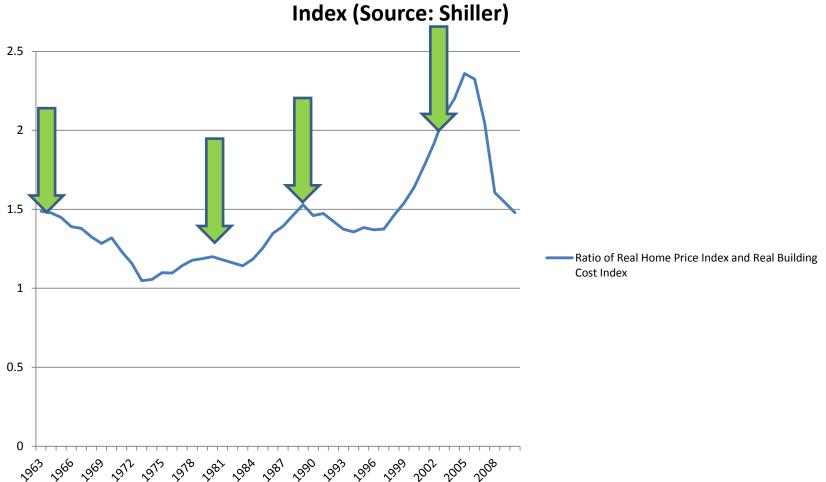
- Drivers of the real estate cycle:
 - Demand created by population growth and family formation
 - Growth in income and jobs:
 - Natural lags demand tends to grow faster than supply
- Problem areas
 - Accelerating growth and ease of credit
 - Pro-cyclical government policies
 - Human psychology and bubbles
 - A view of this time is different.
 - Current value practices have devolved; no longer adding value to the financial transaction
- Unique market events cause price bubbles
 - While policies promoting the elimination of downpayments and increased investor leverage, delinquencies were muted.
 - Homes as ATMs supported the Great Moderation
- While a bubble's deviation from fundamental value relationships is difficult to observe, benchmarks provide valuable insight:
 - Market value-to-rent ratio
 - Market value-to-replacement cost
 - Home price-to-median income ratio

Market-value-to-rent ratio: deviation from fundamental value

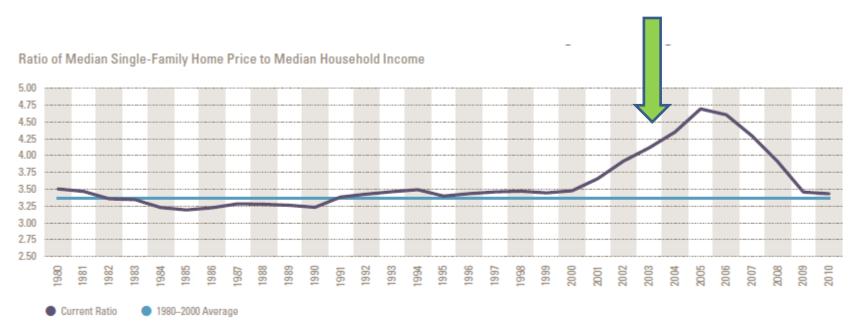


Market value-to-replacement cost ratio: deviation from fundamental value

Ratio of National Real Home Price Index and Real Building Cost

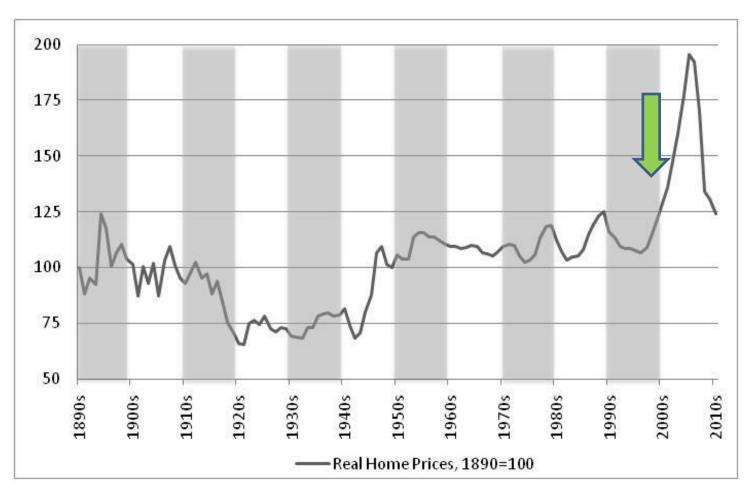


Media home price-to-median income: deviation from the mean



Source: JCHS tabulations of National Association of Realtors®, Existing Home Sales Prices; and Moody's Economy.com, Median Household Income.

Market value: deviation from the mean

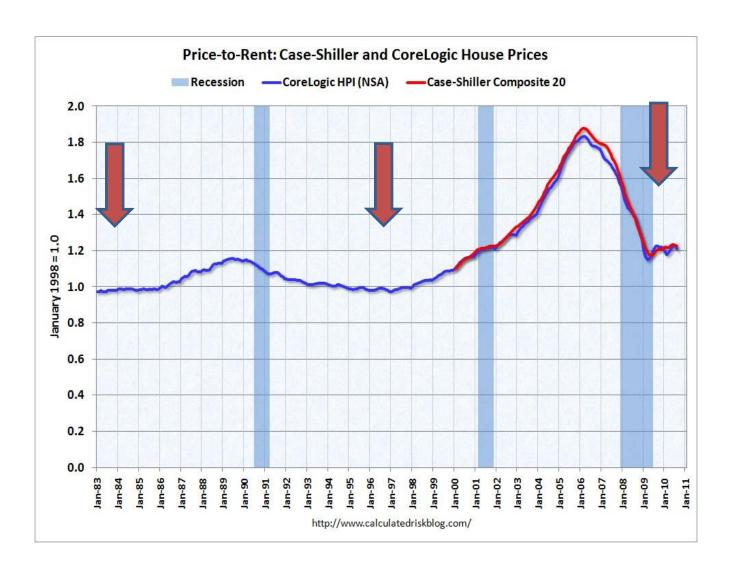


Compiled from Robert Shiller's updated historical housing market data used in his book,
 Irrational Exuberance (Princeton University Press, 2000; Broadway Books, 2001; 2nd edition,
 2005). Data available at www.econ.yale.edu/~shiller/data.htm.

Booms and busts: reversion to the mean

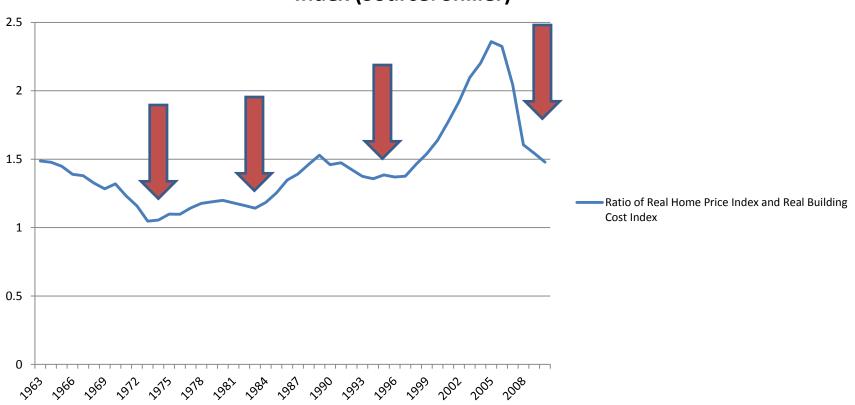
- It impossible to predict when a real estate peak will be reached with certainty, only that a reversion to mean will likely occur.
- Common characteristics include:
 - Real estate valuations two standard deviations above the long-term trend
 - Market value-to-rent and market value-to-replacement cost deviations from mean are indicators
 - Median home sales price-to-median household income is also an indicator.
 - Above trend credit growth
 - This serves to perpetuate growth
 - Appearance or reappearance of new or more leveraged forms of lending
 - High levels of construction
 - Speculative purchases that ignore fundamentals like rents vs. expenses
 - Increasing levels of fraud
 - Rising early payment defaults this can be late in the game

Market value-to-rent ratio: reversion to the mean



Market value-to-replacement cost: reversion to the mean

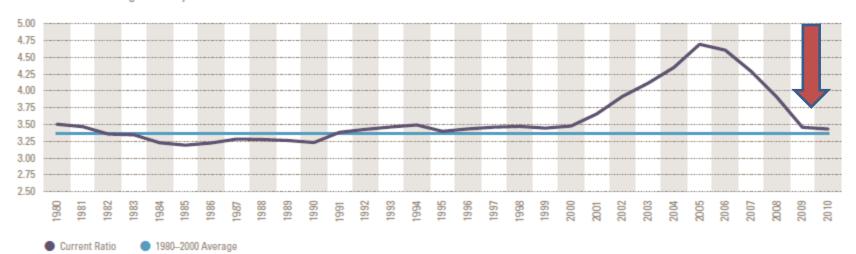
Ratio of National Real Home Price Index and Real Building Cost Index (Source: Shiller)



Media home price-to-median income: reversion to the mean

The National Median Price-to-Income Ratio Has Returned to Its Long-Run Average

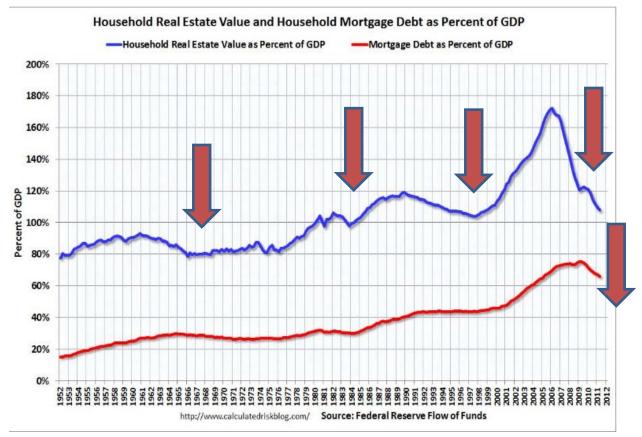
Ratio of Median Single-Family Home Price to Median Household Income



Source: JCHS tabulations of National Association of Realtors®, Existing Home Sales Prices; and Moody's Economy.com, Median Household Income.

Market value and mortgage debt: reversion to the mean

 Reversion to the mean: we are getting close on house prices but have a long way to go on mortgage debt:



 Will the losses be massive? Yes. The remaining questions are when will they be taken, in what form, and by whom?

Booms and busts: feedback loops and reversion to the mean

- The role of feedback loops:
 - Feedback loop definition: the return to the input of a part of the output.*
 - A self-reinforcing loop, that steadily grows in strength, supporting the up or down trend.
 - An event influenced by positive feedback will tend to deviate from a mean.
 - If only positive feedback mechanisms are governing a system, this positive loop is called "exploding".
 - Uncontrolled feedback a boiler without a thermostat
 - A self-correcting or limiting loop, that reduces in strength until the trend system comes to rest.
 - An event influenced by negative feedback will tend toward a mean.
 - All other things being equal, negative feedback loops are auto-regulating.
 - Needs to be self-correcting, not reliant on an ad hoc decision
 - Controlled feedback a boiler with a thermostat
- Policies need to be evaluated as to whether they are pro-cyclical (positive or self-reinforcing feedback)or counter-cyclical (negative or limiting feedback):
 - Pro-cyclical policies reinforce both a boom and a bust.
 - Counter-cyclical policies dampen both a boom and a bust.
 - During this bubble all policies were pro-cyclical.

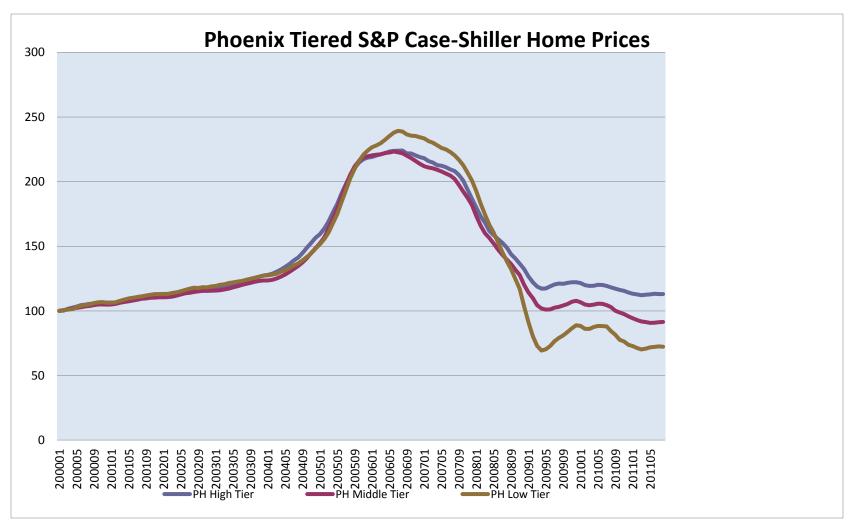
^{*} http://www.economicswebinstitute.org/glossary/feedback.htm

The role of pro-cyclical policies:

- Supports/reinforces the cycle
- Generally:
 - Underwriting standards and loan products
 - Loan loss reserve provisioning
 - Deposit insurance premiums
 - Fair value accounting rules marked-to-market of illiquid assets
 - Economic or intrinsic value
 - "An increase in house prices, whether driven by demand momentum or the effects of governmental policies or institutional changes, can have a collateral feedback effect: once collateral values increase, lenders are willing to lend even more to households, feeding the housing price boom."*
 - In the U.S. "relaxation in lending standards was higher in areas with faster rates of house price appreciation."*
- Appraisals
 - Market value if prices rising, values are rising, if prices are falling, values are falling
 - Between new sales and cash out refinances, a large portion of the market (including illiquid refinances)is constantly being "marked-to-market"
 - Stabilized or mortgage lending value based on price trends, fundamentals, and economic value (value as a rental and replacement cost)

^{*}IMF Research Bulletin March 2010

This policy had unintended consequences: it hurt those it was intended to help the most



Phoenix is representative of the 20 markets tracked by Case-Shiller

Part 4: Property Valuation: A Return to Market Fundamentals

Fundamentals of modern appraising:

- When modern appraisal practice was developed in the 1930s and 1940s, determining a property's value required the reconciliation of four valuation principles:
 - "The principle of replacement: The estimated cost of replacement fixes an upper limit of valuation.
 - The principle of substitution: the cost of acquiring an equivalent substitute [or comparable] property fixes the upper limit of valuation whether accomplished by (1) constructing identical or equivalent improvements on an equivalent site or (2) purchasing an already completed equivalent property at a price at which an effective supply of equivalent properties is available on terms assumed in the valuation [today this is called comparable value].
 - The principle of income capitalization: A properly made capitalization of expected income [rents] fixes an upper limit of valuation.
 - The principle of suitability or appropriateness: Unless proposed new building improvements will be appropriate to the site and neighborhood, valuation cannot be as high as replacement cost."

26

Leverage and valuation methodologies

- Property valuation is not unique in the challenges it faces and must learn from other disciplines and relearn from its past:
 - Margin requirements on stocks and other securities.
 - Common stock valuation
 - Current stock price vs. price to earnings vs. balance sheet/cost to replicate
 - Valuing securities holdings
 - Mark-to-market vs. stream of income

Appraisal methodology has morphed into a positive feedback loop divorced from fundamentals

- Over time the principles of replacement and income capitalization came to be relied on less and less until they were made optional and eventually ignored, leaving comparable sales as the sole determinant of value.
 - Even when used, they were largely derived from market value
- In the lead up to the mortgage meltdown, appraisal methodology had but one input leading to one inevitable output:
 - Boom induced comparable sales prices led to a predictable output: a boom induced value for the subject property.
 - The appraiser is left with determining "the price at which a property may be sold", not its value or more importantly, its value for lending purposes.
- Capacity to generate rental income and a property's replacement cost are fundamental determinants of stabilized value.
 - The long-term relationship of market value to key fundamentals should be tracked, evaluated, and stabilized.

Fundamentals of appraising: feedback loops, and reversion to the mean

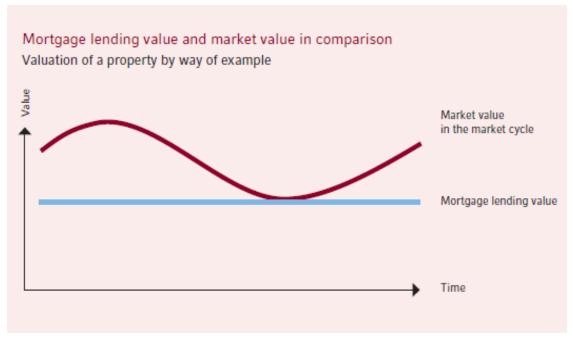
- Experience demonstrates that a high percentage of the correction needed to revert to the mean is the result of price drops, not increasing rents, rising incomes, or higher replacement costs.
- Alternatively, a stabilized value could also be provided.

"[t]he value of a property as determined by a prudent assessment of future marketability of a property taking into account long term sustainable aspects of a property, the normal and local market conditions, and the current use and alternative appropriate uses of a property. Speculative elements shall not be taken into account in the assessment of the mortgage lending value. The mortgage lending value shall be documented in a clear and transparent manner."*

- Unlike market value, stabilized value cannot be determined solely on the basis of comparable sales.
- Speculative elements tie directly to excessive speculation, market value-to-rent deviations, and market value-to-construction cost deviations.
- Tracking fundamental relationships over time is the key to determining a stabilized or non-speculative value.

^{*} Source: Definition of Mortgage Lending Value: International Valuation Standards Council, Implementation of Basel Standards in the EU, 2006

Mortgage Lending Value (MLV)

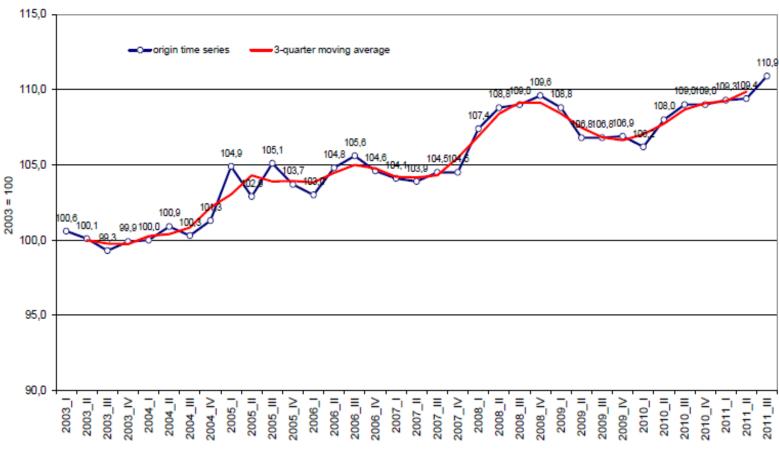


- Conservative valuation of real estate
 - Assessment of the MLV on the basis of detailed statutory and regulatory criteria
 - Based on long-term sustainable features of the property
 - Market value (comparable method) is the upper limit for the MLV
 - Considers normal regional and local market conditions and fundamentals
 - Does not take into account economically induced fluctuations in value or speculative elements
 - Takes into account long-term nature of property loan
 - MLV applies throughout the entire life of the loan.
 - Market value relates to a point in time
 - MLV and market value are two different value concepts and are calculated independently. Grateful thanks to Reiner Lux, Managing Director, HypZert GmbH, Berlin for MLV background material

Mortgage Lending Value (MLV)

vdp Price Index for Single Family Houses in Germany





Source: vdp transaction database, evaluation by vdpResearch, November 2011

- Practical basis the price of housing is determined by supply and demand:
 - All things being equal a rising population, income growth, supply limitations,
 and geographic desirability affect rents and home prices in a similar manner
 - "The fundamental value of a house is the present value of the future housing service cash flows [in lieu of rents] that it provides to the marginal buyer. In a wellfunctioning market, the value of the housing service flow should be approximated by the rental value of the house." FRB of San Francisco, October 1, 2004
 - The direct substitution for owning a home is renting
 - The price to rent ratio measures this relationship. As standards loosen during a boom, marginal households switch from renting to owning, driving up home prices & reducing rental demand.
 - When a deviation in the ratio occurs: "The majority of the movement of the price-rent ratio come from future returns, not rental growth rates. This [is not comforting], as it implies that price-rent ratios change because prices are expected to change in the future, and seemingly out of proportion to changes in rental values.... If the ratio is to return to its average level, it will probably do so through slower house price appreciation." FRB of San Francisco, October 1, 2004

- Practical basis the market value of housing is determined by supply and demand:
 - When things are not equal:
 - Low rates, readily available credit and loosened credit standards (higher leverage) can increase home purchase demand
 - Increased leverage causes a greater effect on home prices than rents
 - » The same amount of savings can by a more expensive house
 - » The same income can buy a more expensive house
 - » These stimuli do not increase the ability to pay higher rents
 - » By moving demand from rentals to purchase, rents can be kept low
 - Owner occupied homes have an "ownership premium"
 - This premium goes up when owning or investing in a home is viewed favorably compared to renting. This psychological change can help promote a bubble.
 - High levels of speculative investing either by disclosed investors or through fraud
 - An investment based on fundamentals or speculation based on departure from fundamentals.
 - If the back up plan is renting out, does it cash flow or require a subsidy?
 - Ultimately rents determine value "rush to the exits"

- Theoretical basis:
 - Asset valuation (such as a security): two fundamental measures of value
 - Economic or intrinsic value
 - Challenges: estimating future cash flows and calculation of a discount rate
 - Current market value
 - Challenges: may not be fungible or liquid, subject to "artificial" supply/demand imbalances, and liquidity squeeze
 - Normally these give substantially similar results, but they can and do diverge, sometimes by substantial amounts
 - Valuation of "opaque" securities during illiquid distressed markets:
 Fair value accounting (FVA or mark-to –market) rules force the liquidation at fire sale prices, creating a vicious cycle. Cash flow was initially ignored, causing market prices to fall below long-term realizable economic value.
 - During bubbles credit spreads tighten and higher risk assets gain value, allowing FVA to feed the expansion of bubbles. More leverage increases demand for risky assets and can further narrow spreads. All of these effects are highly pro-cyclical.
 - By decoupling market values from rents, a similar result occurred during the bubble. Market values greatly exceeded economic value.

Theoretical basis:

- Over time, the value of an asset is determined by the income it can generate
 - While the relationship between price and rent can deviate, overtime this relationship is fairly consistent, meaning it reverts to the mean
 - Automatically corrects for normal inflationary distortions
 - When a deviation in the ratio occurs: "The majority of the movement of the price-rent ratio come from future returns, not rental growth rates. This [is not comforting], as it implies that price-rent ratios change because prices are expected to change in the future, and seemingly out of proportion to changes in rental values.... If the ratio is to return to its average level, it will probably do so through slower house price appreciation." FRB of San Francisco, October 1, 2004
- The ratio of market values to rents has reverted to its long-run average four times between 1970 and the mid-1990s [1970, 1975, 1983, and 1995]. Between 2000 and 2006, the ratio rose dramatically above the long-run average and has been moving back toward it ever since then. IMF Research Bulletin, March 2010

Market value-to-rent relationship: empirical evidence

MSA	San Mateo (San Fran)	Orange Co. (Santa Anna)	LA	Boston	San Bern CA	Chic IL	NO, LA	Dallas	Atl., GA	Ind., IN
Annual Rent/ Sales Price (2005)*	3.1%	4.1%	4.6%	4.9%	5%	6.1%	7.6%	9.3%	9.5%	10.4%
HPI Change **	-21%	-31%	-32%	-14%	-47%	-22%	-5%	+1%	-18%	-3%
Nat City (2005) ***	+35	+44	+54	+18	+65	+21	+12	-16	+2	-5

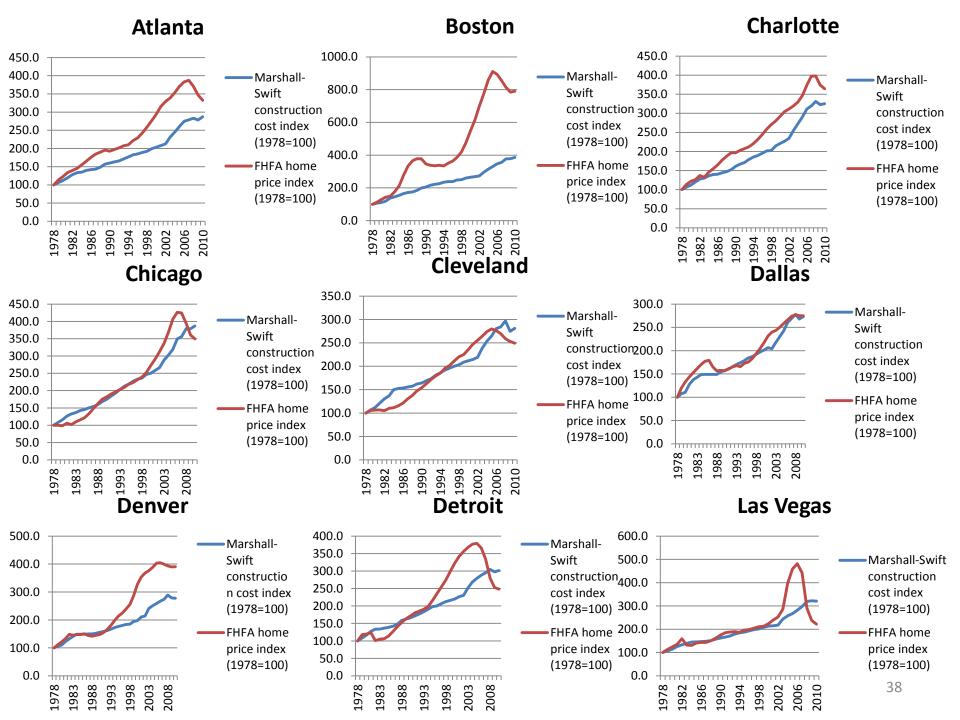
^{*}Smith & Smith, 2006, "Bubble, Bubble, Where's the Housing Bubble?" Comparable properties with sales price and rent info.

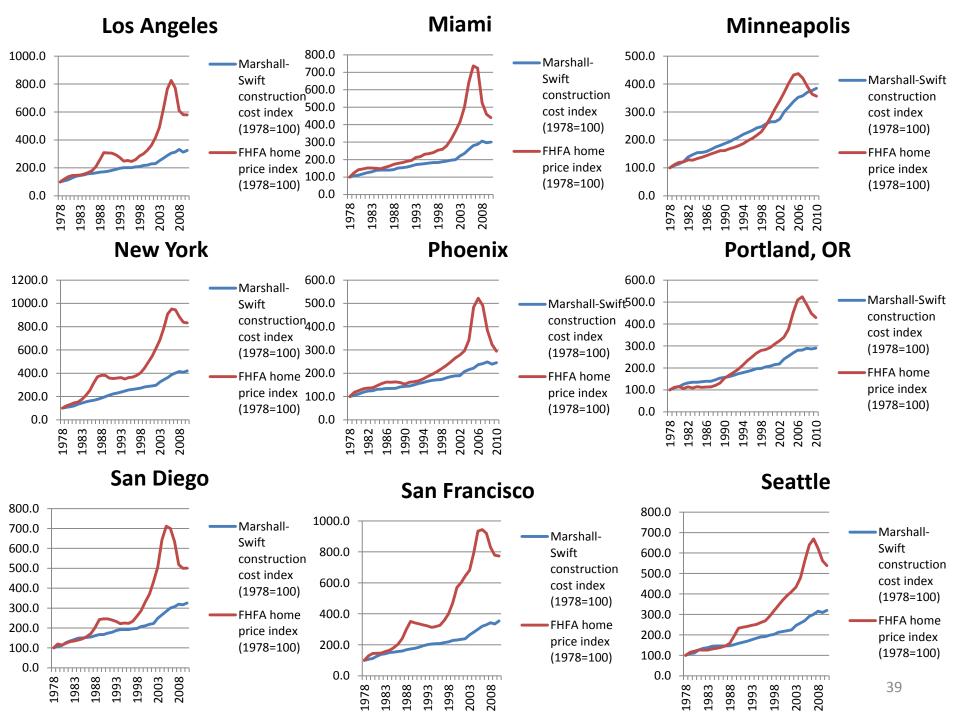
^{**} OFHEO/FHFA MSA HPIs Q2:2006-Q2:2011, http://www.fhfa.gov/Default.aspx?Page=216&Type=summary

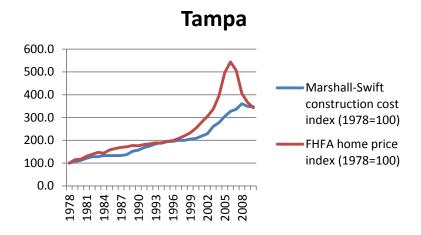
^{***} National City"s over value/under value index based on a regression analysis of house prices, income, density, and interest rates as reported in "Bubble, Bubble, Where's the Housing Bubble?"

Role played by market value-to-replacement cost relationship

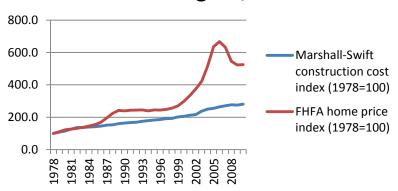
- "The principle of replacement: The estimated cost of replacement fixes an upper limit of valuation.
 - While the relationship between sales price and construction replacement cost (excluding land) can deviate, overtime this relationship is fairly consistent, meaning it reverts to the mean.
 - When a boom induced deviation in the market value-to-replacement cost ratio occurs, it is followed by reversion to the mean.
 - After a boom induced deviation, the majority of a reversion comes from house price declines, not replacement cost declines (unless the boom is followed by a broad based deflationary period)."
- On a national indexed basis the ratio of house prices to replacement costs reverted to its long-run average three times between the early 1970s and the mid-1990s [1973-74, 1983, and 1994]. In the early- to mid-2000s, the ratio rose dramatically above the long-run average and since 2005-2006 has been reverting to this average.







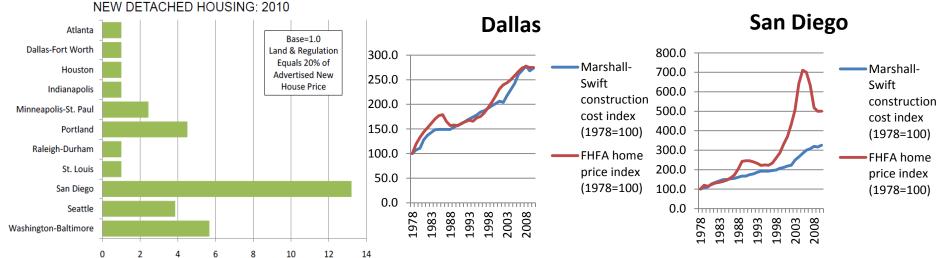
Washington, DC



Source for construction cost data: Marshall & Swift/Boeckh's Residential Construction Cost Index provided to author by Marshall & Swift

Land use restrictions may keep HPI/Cost relationship above the norm





Demographia Land & Regulation Cost Index



Estimated Land & Regulation Costs



Using fundamentals to estimate overvaluation

- IHS Global Insight's Over/Under Valuation Index (formerly Nat City Index) demonstrates the correlation between fundamentals and home prices at the MSA level using:
 - House prices, interest rates, household incomes, population densities, and any historical premiums or discounts over time.

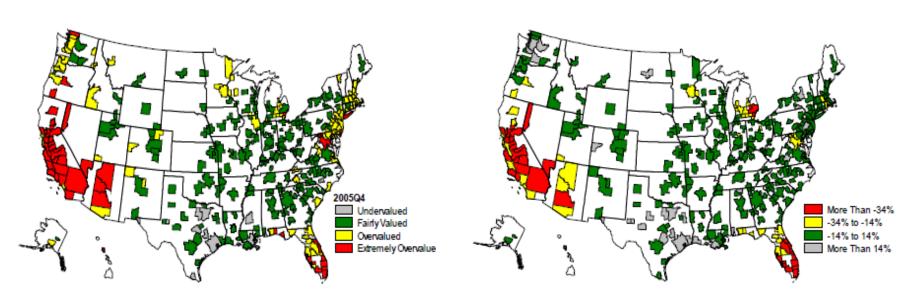
	Over Valuation	Price Change (%)				
	2005Q4	2005 to 2009				
Los Angeles, CA	55.9	-29.8				
Sacramento, CA	54.5	-44.9				
Miami, FL	49.4	-35.8				
Oakland, CA	46.7	-39.9				
San Jose, CA	41.6	-29.0				
Phoenix, AZ	38.9	-39.5				
Washington, DC	38.3	-18.1				
San Diego, CA	36.8	-31.5				
Las Vegas, NV	35.3	-57.1				
Detroit, MI	34.2	-36.6				

42

Using fundamentals to estimate overvaluation

 For 330 tracked MSA, overvaluation and price change was highly negatively correlated at -0.82, with higher valuations closely associated with larger price declines.

Map 1: House Price Valuation, Fourth Quarter 2005 Map 2: Change in Median Price, 2005Q4 to 2009Q4



Source: IHS Global Insight, House Prices in America: 4th Quarter 2009 Update

Comparing fundamentals

	A T L A N T A	B O S T O N	C H A R L O T T E	C H I C A C O	C L E V E L A N D	D A L L A S	D E N V E R	D E T R O I T	L S V E G A S	L O S A N G E L E S	M I A M I	M I N E A P O L I S	N E W Y O R K	P H O E N I X	P O T R L A N D	S A N D I E G O	S A N F R A N	S E A T T L E	T A M P A	W A S H D C
Spread between FHFA HPI/ Marshall-Swift Cost Index	110	580	<u>56</u>	88	15	<u>16</u>	145	100	193	476	384	94	546	261	183	427	633	293	192	381
IHS Global Over Value	-3	25	<u>-11</u>	16	4	21	<u>8</u>	34	35	56	49	22	26	39	34	37	32	24	30	38
Annual rent/ sales price	9.5	4.9	n/a	6.1	n/a	9.3	n/a	n/a	n/a	4.6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
FHFA HPI Change	-13	-13	-8	-18	-11	-1	-3	-35	-54	-30	-40	-19	-13	-43	-18	-30	-18	-10	-37	-21

FHFA HPI/Marshall & Swift Cost Index: 14 positives for price drops>=10%, 2 positives for minor price drops, 3 misses. 1 false positive

IHS: 15 positives for price drops>=10%, 2 positives for minor price drops, 2 misses, 1 false positive

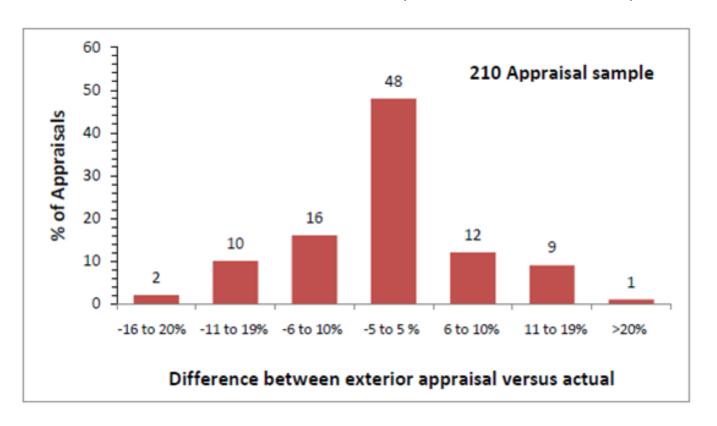
Rent/sales price: 4 positives, 1 miss

Part 5: Recommendations

Where and how to start: reporting a sales price range

 Conclusion: in order to not start with the answer (sales price) requires reporting a sales price range:

In a 1990 field test, 210 exterior valuations were conducted on recently sold homes. The evaluator was not provided with the sales price, but was given a broad range of reference sales with a similar bedroom count from the same subdivision. Eighty percent were performed by non-appraisers. The distribution was normal and 48% were within +/-5% & 76% were within +/-10%.



Where and how to start: comparable selection process

- Comparable (comp) selection process must be transparent to the users.
 - The current process starts with the sales price and uses it to narrow the selection of appropriate comps – generally ending up with 3 properties.
 - Under the best of circumstances, this process eliminates many of the most appropriate comps.
 - In unscrupulous hands, this allows the use of inappropriate comps to support an inflated value.
 - In a 1991 study of industry appraisal practices investigated whether selected comps were appropriate.
 - » In a review of 14 appraisals, a total of 48 comps were selected and used by the appraisers. After a thorough database search, 65 potential appropriate comps were found. Each appraisal was desk and field reviewed for appropriateness of the 48 appraiser selected comps. Only about half of the appraiser selected comps were found among the 65. The rest (23) were found to be clearly inappropriate (if in doubt it was rated appropriate).
 - Information was shared with Fannie Mae's credit policy department. They had just conducted a similar review and also found a high degree of inappropriate comps used
 - In 2002 Fannie Mae issued Guide Announcement 02-02 pointing out the most common appraisal deficiencies. Virtually all involved the selection or reporting of comps:
 - » Unsupported opinions of value;
 - » Improper selection (or creation) of comparable sales;
 - » Unsupported adjustments in the sales comparison approach;
 - » Inadequate reporting of the sales history for the subject property and comparable sales; and
 - » Misrepresentation of the physical characteristics of the subject property, improvements, and comparable sales.
 - In 2011 (CRN), Fannie states the biggest problem continues to be inappropriate comp selection.
- Use statistical techniques to help the appraiser select and reconcile all appropriate comps (and in the process eliminate inappropriate comps),17

Where and how to start

- Market value using comparable method sets the upper limit for mortgage lending value
 - Report a sales price range
 - More robust and transparent comparable selection process
- A stabilized value should also be provided:
 - Consider normal regional and local market conditions and fundamental relationships
 - Growing investor share would also be an indicator of increasing speculative activity – however this tends to be a symptom of a bubble, not a predictor.
- A collateral expert at the lender should determine loan terms based on a review and analysis of market and stabilized values.

Conclusion

- Only by taking steps such as these can property appraising be returned to its status as a profession and to its core function:
 - Assisting lenders in determining the maximum amount that may be prudently lent on a property.