CME Research & Product Development

Introduction to CME CSI® Housing Futures and Options [1]

John W. Labuszewski, Managing Director
Research & Product Development
312-466-7469, jlab@cme.com

The significance of a real estate futures contract stems from the sheer size of real estate as an asset class. Federal Reserve Flow of Funds data suggests that the value of residential real estate held by households and nonprofit organizations totaled $18.6 trillion[2] by the conclusion of 2004, essentially on par with the $15 trillion held in domestic equities[3] and $23.6 trillion in fixed income assets.[4]

Domestic residential real estate was valued at $18.6 trillion at the end of 2004 and comparable to the $15 trillion in stocks and $23.6 in fixed income securities.

As such, residential real estate represents perhaps one-third of the total value of these highly significant and visible asset classes. Unlike the markets for stocks and bonds, however, there is no liquid market or facile means of hedging the attendant real estate risk.

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[2] See Federal Reserve Statistical Release Z.1, Table B.100, Balance Sheet of Households and Nonprofit Organizations. This figure represents the market value of "[a]ll types of owner-occupied housing including farm houses and mobile homes, as well as second homes that are not rented, vacant homes for sale, and vacant land."

[3] See New York Stock Exchange (NYSE) Fact Book, "Global comparison of market capitalization of domestic listed companies."

[4] Estimates of The Bond Market Association.

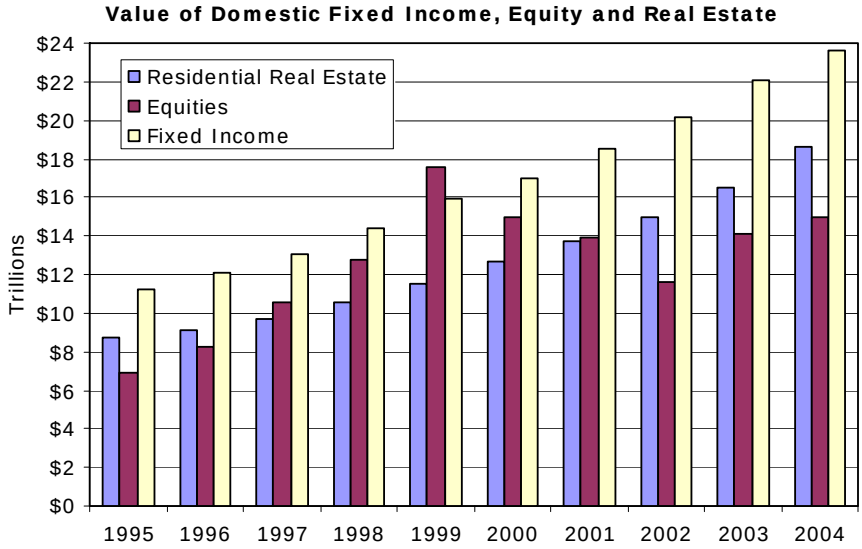
Case, Shiller and Weiss explained the need, and established the model for, real estate futures in 1992.

Thus, Case, Shiller and Weiss articulated the concept of real estate futures in 1992 … "[f]utures and options markets should be established that are cash settled based on indexes of real estate prices, and there should be separate markets for each of the major geographic regions … at present no real estate futures contract exists in the world; nor are there good substitutes for such markets." [5]

The introduction of futures and options based on the Case-Shiller Indexes® (CSIs) of home prices on Chicago Mercantile Exchange (CME CSI Housing futures & options) represents the fulfillment of that vision and an historic financial event, forging the creation of a novel derivatives asset class.

CME is launching futures on the Case-Shiller Indexes (CSI) to fill address the need for a hedging vehicle.

CME CSI Housing futures and options are designed to provide to provide a facile way for institutional and individual investors to gain exposure to real estate risk and effectively diversity their portfolios. Commercial and private asset holders are afforded an efficient hedging mechanism. In the process, this novel market may have the effect of reducing transaction costs for trading real estate.



This document discusses current economic circumstances that lend impetus to this initiative; a discussion of the Case-Shiller Indexes as published by Fiserv CSW Inc. (CSW) which serve as the subject of CME CSI Housing futures and options; and, concludes with a review of the use and characteristics of CME CSI Housing futures and options.

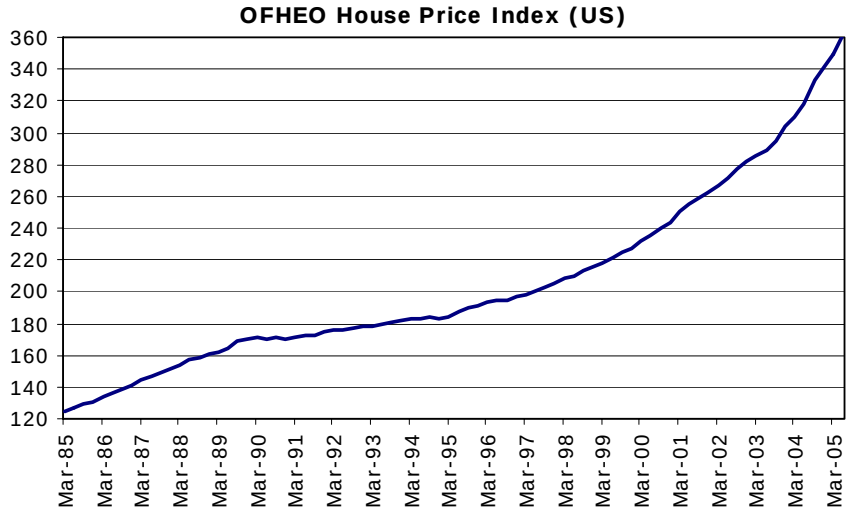
[5] Case, Karl E., Shiller, Robert J., Weiss, Allan N. (1992), "Index-Based Futures and Options Markets in Real Estate," Cowles Foundation Discussion Paper 1006.

The Housing Boom

Certainly a driving force behind the development of CME CSI Housing futures and options has been the "housing boom" of recent years. By the conclusion of 2004, the median value for a home across the United States was $190,000, representing an advance of 65.1% over the past five year period, according to date from the National Association of Realtors (NAR).

The impetus for the development of Housing futures has been the housing boom of the 21st century in which housing has rallied 65.1% over the past five years.

The charge has been lead by housing prices on the west and east coasts. The median value of residential real estate in San Diego is at $556,000, up 138.3% in the past five years; median home values in Santa Barbara are at $445,000, up 147.9%; median home values in Jersey City are at $300,000, up 114.2%; median values in Miami at $240,000, up 106.1%. Even prices in the stolid Midwest are appreciating nicely with a median Minneapolis home priced at $225,000, up 63.2%.



This has inspired much talk in the media and amongst the public that the U.S. housing market is experiencing a "bubble." Accordingly, many express concern that this bubble may burst resulting in homeowner distress and financial uncertainties. Sharp and unanticipated declines in housing values are not unprecedented, noting that Los Angeles home prices fell 41% in real terms from 1989 to 1997, while on the opposite coast, Boston home values declined 29% between 1987 and 1994.

Many housing investors fear that the "bubble will burst," with widespread financial distress.

Housing Affordability - The current price surge reflects growing affordability driven by low long-term rates and income growth. Thirty-year fixed rate mortgages have fallen below 6%, the lowest rates seen at any time reaching back to the 1960s. Offsetting the decline in mortgage rates to a degree has been the continual advance in housing prices with the median single family home value in the United States breaking about the $200,000 barrier in April 2005. According to statistics from the National Association of Realtors (NAR), the median single family home value was $217,900 in July 2005.

The housing boom is driven by low mortgage rates and high income growth.

Domestic Housing Price Activity

Metro Area	2004 Median Home Price	Change over Past Five Years	Forecast Growth to Jun-06
United States	$190,000	65.1%	7.1%
New York/ Northern New Jersey/ Long Island/Conn			
New York City	$435,000	91.2%	12.6%
Nassau/Suffolk, N.Y.	$440,000	92.1%	11.6%
Newark	$330,000	79.0%	11.4%
Bergen/Passaic, N.J.	$390,000	81.9%	11.3%
Middlesex/ Somerset/ Hunterdon, N.J.	$318,000	87.4%	11.1%
Monmouth/Ocean, N.J.	$328,000	97.0%	11.3%
Jersey City	$300,000	114.2%	N.A.
New Haven/ Bridgeport/ Stamford/ Waterbury/ Danbury	$335,000	69.7%	9.0%
Trenton	$230,000	83.4%	11.0%
LA/Riverside/Orange Co			
Los Angeles/ Long Beach	$442,000	122.3%	5.0%
Riverside/ San Bernardino, CA	$329,000	137.3%	4.5%
Orange County, CA	$610,000	126.3%	6.8%
Ventura, CA.	$550,000	122.6%	5.8%
Chicago	$254,000	49.6%	8.6%
Washington/Baltimore			
Washington	$385,000	107.4%	13.9%
Baltimore	$140,000	85.3%	14.2%
SF/ Oakland/ San Jose			
Oakland	$535,000	96.3%	13.3%
San Francisco	$750,000	67.7%	13.6%
San Jose	$619,000	63.0%	13.9%
Vallejo/ Fairfield/Napa, Calif.	$449,000	125.1%	13.8%
Santa Rosa, Calif.	$500,000	107.8%	13.2%
Santa Cruz/ Watsonville, Calif.	$599,000	86.2%	13.0%
Boston/ Worcester/ Lawrence/ Lowell/ Brockton	$339,000	73.6%	8.0%
Dallas/Fort Worth			
Dallas	$137,000	23.1%	N.A.
Fort Worth/Arlington	N.A.	23.5%	N.A.
Philadelphia/ Wilmington/ Atlantic City			
Philadelphia	$180,000	71.0%	11.7%
Atlantic/Cape May, NJ	$249,000	112.6%	9.4%
Detroit/Ann Arbor/Flint			
Detroit	$160,000	24.3%	4.3%
Ann Arbor	$225,000	28.1%	1.2%

Domestic Housing Price Activity, cont.

Metro Area	2004 Median Home Price	Change over Past Five Years	Forecast Growth to Jun-06
Houston	$136,000	25.2%	N.A.
Atlanta	$188,000	25.2%	6.4%
Miami/Fort Lauderdale			
Miami	$240,000	106.1%	15.3%
Fort Lauderdale	$257,000	105.8%	16.3%
Phoenix/Mesa	$190,000	53.1%	17.7%
Seattle/Tacoma/Bremerton			
Seattle/Bellevue/Everett	$315,000	38.1%	9.1%
Tacoma, Wash.	$212,000	36.9%	4.2%
Minneapolis/St. Paul	$225,000	63.2%	7.4%
Cleveland/Akron			
Cleveland/Lorain/Elyria	$153,000	20.0%	4.3%
Akron	$148,000	17.5%	0.7%
San Diego	$554,000	138.3%	5.9%
St. Louis	$129,000	38.1%	N.A.
Tampa/St. Petersburg/Clearwater	$172,000	70.8%	14.7%
Pittsburgh	$108,000	31.1%	N.A.
Denver	$250,000	33.3%	6.0%
Cincinnati/Hamilton			
Cincinnati	$172,000	18.9%	4.0%
Hamilton/Middletown, OH	$182,000	20.5%	3.2%
Portland, Ore./Vancouver	$226,000	36.6%	9.8%
Sacramento/Yolo			
Sacramento	$376,000	131.1%	17.1%
Yolo, CA	$379,000	140.9%	17.4%
Kansas City, MO	$149,000	30.8%	N.A.
Orlando	$195,000	60.6%	14.3%
Indianapolis	$113,000	18.8%	N.A.
San Antonio	$123,000	24.8%	N.A.
Norfolk/Virginia Beach/Newport News	$168,000	60.9%	N.A.
Las Vegas	$285,000	107.0%	N.A.
Columbus, OH	$172,000	22.7%	3.7%
Milwaukee/ Waukesha	$199,000	40.5%	N.A.
Charlotte/Gastonia/Rock Hill	N.A.	19.1%	N.A.
Salt Lake City/Ogden	$155,000	-0.2%	0.0%
Austin/San Marcos	$151,000	24.9%	N.A.
Nashville	$139,000	19.3%	6.4%
Providence/Warwick/Pawtucket	$257,000	111.7%	17.7%
Raleigh/Durham	$186,000	18.9%	N.A.
Hartford	$228,000	54.1%	8.9%
Buffalo/Niagara Falls	$95,000	27.00%	N.A.
Memphis	$126,000	11.5%	3.2%
West Palm Beach/ Boca Raton	$282,000	98.0%	21.0%

Domestic Housing Price Activity, cont.

Metro Area	2004 Median Home Price	Change over Past Five Years	Forecast Growth to Jun-06
Jacksonville FL	$154,000	57.4%	N.A.
Dayton/Springfield, OH	$135,000	15.1%	0.3%
Fresno	$243,000	129.1%	N.A.
Tucson	$179,000	46.6%	8.5%
Albuquerque	$146,000	13.3%	1.4%
Knoxville	$121,000	27.3%	7.0%
Bakersfield, CA	$195,000	114.1%	N.A.
Toledo	$124,000	19.7%	0.6%
Youngstown/Warren, OH	$90,000	15.0%	1.8%
Springfield, MA	$182,000	64.1%	10.5%
Sarasota/Bradenton	$229,000	83.5%	17.0%
Stockton/Lodi, CA	$370,000	126.9%	21.8%
Daytona Beach, FL	$153,000	79.9%	22.0%
Lakeland/Winter Haven, FL	$133,000	46.5%	9.8%
Johnson City/Kingsport/Bristol TN/VA	$90,000	16.2%	4.8%
Lansing/East Lansing	$134,000	33.0%	2.9%
Modesto, CA	$305,000	140.5%	15.2%
Fort Myers/Cape Coral, FL	$124,000	92.1%	15.1%
Canton/Massillon, OH	$129,000	16.7%	2.2%
Salinas, CA	$526,000	136.2%	N.A.
Santa Barbara/Santa Maria/ Lompoc	$445,000	147.9%	N.A.
Visalia/Tulare/Porterville, CA	$190,000	86.1%	N.A.
Fort Pierce/Port St. Lucie, FL	$280,000	99.8%	13.7%
New London/Norwich, CN	$226,000	71.9%	6.3%
Naples, FL	$300,000	109.3%	22.4%
San Luis Obispo/ Atascadero/ Paso Robles CA	$475,000	137.7%	11.3%
Merced, CA.	$270,000	126.2%	16.6%
Clarksville/Hopkinsville TN/KY	$95,000	15.3%	4.2%
Chico/Paradise, CA	$250,000	119.6%	15.2%
Burlington VT	$226,000	62.7%	7.8%
Barnstable/ Yarmouth MA	$369,000	115.7%	5.6%
Punta Gorda FL	$154,000	98.1%	17.5%
Pittsfield MA	$165,000	57.8%	11.1%

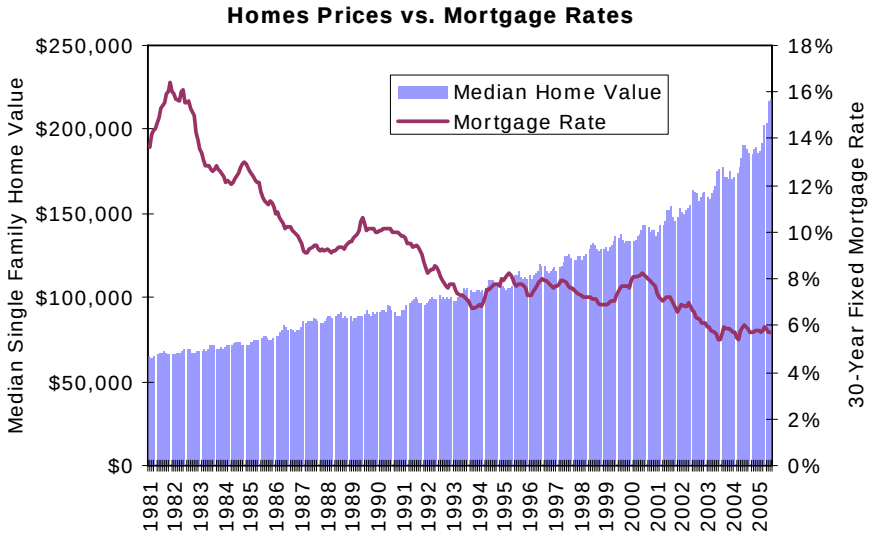
Sources: Fiserv CSW Inc., U.S. Census Bureau, U.S. Department of Housing and Development, National Association of Realtors

While home values have risen, and risen sharply in recent years, that has not been enough to offset the effect of falling mortgage rates and rising family incomes. Principal and interest payments (P&I) on a median single family home are reported at $1,015 per month or $12,180 annually by NAR. This represents just 21.3% of median family income of $57,313 as reported by NAR in July 2005.

That figure has been generally declining over the course of the past 25 years from a high of 39.1% in November 1981 (when mortgage rates

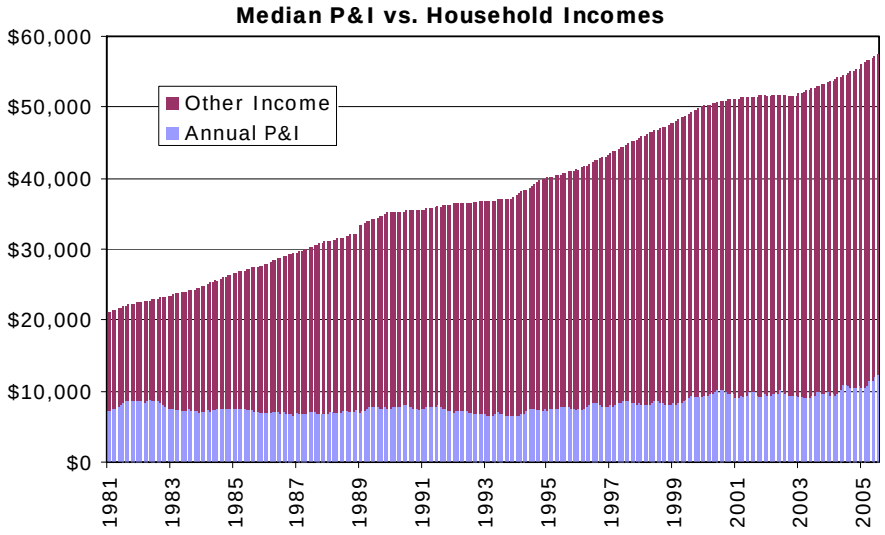
soared to 16.38%) to 17.0% in late 1998 (prior to the current "boom"), to 21.3% in July 2005.

Note that these figures have been rising recently as a function of rising home values coupled with some indications that mortgage rates may have bottomed out now that the Federal Open Market Committee (FOMC) has pushed the Fed Fund target from its 2002 low of 1% up to 3.5% by mid September 2005.



Housing had become very affordable by the turn of the century. Accordingly, home ownership rates have been rising nicely.

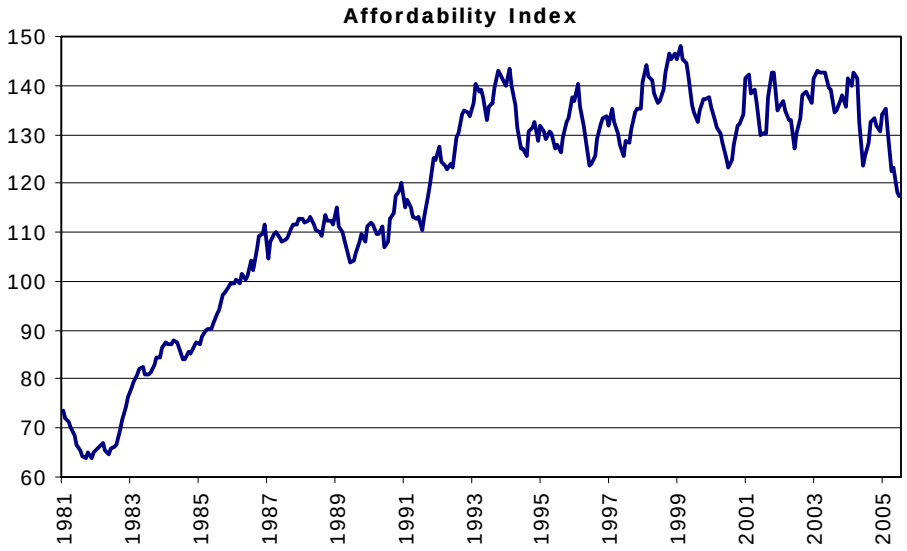
As such, the NAR's Housing Affordability Index has been hovering at historically high levels over the past ten years and was most recently reported at 117.6 in July 2005. Note that any figure in excess of 100 suggests that the median household (earning $57,313) can afford to purchase a median single family home (valued at $217,900).



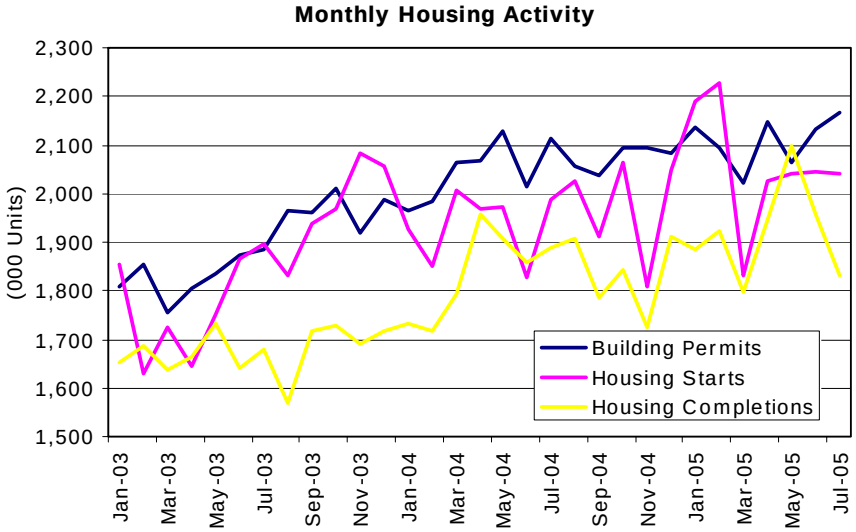
Homeownership rates have risen dramatically from a low of 63.8% in 1986 to a high of 69.0% in 2004. This figure is bolstered by the fact that many former renters have become empowered to purchase their own

homes as a result of the affordability discussed above. Longer term home owners have been moving up to higher priced housing.

Real estate speculation has likewise become a factor. Fannie Mae reports that investors are currently accounting for 12.2% of purchases in the conventional mortgage market compared to an average of 6.9% in 2002. These proportions are much higher in other venues, including Miami, where investors may be behind upwards to 70% of home purchases.



Housing Stock - Thus, house prices rose 12.5% while consumer prices rose 3.1% in 2004. House volume figures, whether measured by building permits, housing starts or housing completions have recently stabilized over the past year from mid 2004 to mid 2005 after rising to all-time highs.



House prices have concurrently surged to historic highs with Arizona, Nevada, Hawaii and California leading the way. Florida, District of Columbia, Maryland and Virginia likewise witnessed strong

appreciation. Colorado, Ohio, Oklahoma, Indiana, and Texas showed the least appreciation. This also reflects a restricted supply of build-able land on U.S. coasts. In particular, and spurred on by the tech boom, coastal California housing took off as early as 1995 along with demand in other favorable climes.

Home Finance Trends - Rising prices means that (eventually) home finance must become more difficult. Thus, buyers are seeking out ways to hold down monthly payments with the use of interest-only or adjustable rate mortgages. Lenders, faced with increased competition because of excess capacity, accommodate. Some buyers opt for the most lenient loan terms to acquire a larger home, and hope to profit more from further appreciation. Others leverage financial positions to acquire multiple homes.

Some investors fear that mortgage rates may rise which could imply a downturn in housing prices.

Recent banking practices have shifted price risk in inflated markets onto buyers and mortgage insurance companies. Where appreciation leads, lenders may require down payments of 20% or more for a margin of safety. Larger down payments may restrict first-time buyers as well. In San Diego, $110,000 matches an average 20% down payment. In Chicago (aligned with the U.S. average) or Cincinnati (below average), with a lower 10% down payment threshold, deposits become $26,000 or $23,000, respectively.

Home industry forecasters predict 6% 30-year fixed mortgage rates by the conclusion of 2005 and 6-3/4% at the end of 2006. At 6%, national appreciation could slow. Rates of 8% and a regional industry contraction imply sharp coastal downturns while reduced rates in the 5% range imply more sustained price advances.

The housing bubble has become a common topic of discussion and source of concern for Federal Reserve Chairman Alan Greenspan.

Fed Concerns - Alan Greenspan, addressing a joint Congressional committee on June 9, 2005, stated, "…exceptionally low interest rates on ten-year Treasury notes, and hence on home mortgages, have been a major factor in the recent surge of homebuilding and home turnover, and especially in the steep climb in home prices. Although a 'bubble' in home prices for the nation as a whole does not appear likely, there do appear to be, at a minimum, signs of froth in some local markets."

Similarly, Fed Governor Don Kohn has recently discussed imbalances in the U.S. economy with a specific focus on the housing market … "people should now be aware of risks in the real estate market … there is a role that monetary policy plays in reacting to these imbalances and this inevitable unwinding … By increasing the return to saving and dampening upward momentum in house prices, rising rates should induce an increase in the personal savings rate and thereby lessen one of the significant imbalances we have noted." It appears that Mr. Kohn is advocating the use of monetary policy to induce a housing downturn and

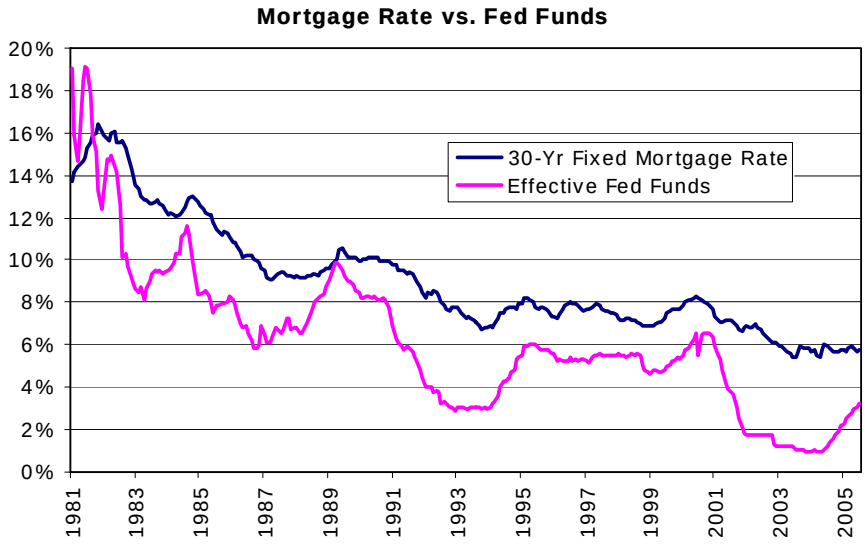
Federal Reserve monetary policy has been influenced by the housing bubble.

presumably encouraging less spending and more personal savings thereby.

Certainly, the Fed's focus on the housing sector is not unjustified. Indeed, it is estimated that the housing boom has generated over 800,000 new jobs in the homebuilding, real estate marketing and durable consumer goods sectors over the past three years.

While the Fed has been on a course of measured tightening, the long-end of the yield curve and mortgage rates have generally not responded.

Still, the Fed's tightening over the past year or two has done little to affect long-term fixed rate mortgages. While Fed Funds have risen from 1% to 3-½%, the long end of the yield curve has remained stable or even declined in terms of yield. Some even speak about the prospect of an inverting yield curve if the Fed should push short rates another 1 to 1-½% higher.



It is unclear how far the Fed may have to hike rates before an appreciable effect may be observed with respect to long-term interest rates and by implication, housing affordability and housing prices. In the wake of Hurricane Katrina, economists are estimating 4th quarter 2005 Gross Domestic Product (GDP) in the vicinity of 2-3%. Unless GDP should advance much more dramatically than that, or the dollar should decline to the point where domestic capacity utilization should advance to 85%+, the new Fed Chairman may be unlikely to put a serious dent in the housing boom.

Case-Shiller Indexes

The Case-Shiller Indexes (CSI) published by Fiserv CSW Inc. (CSW) are the most authoritative measures of housing prices available.

The Case-Shiller Indexes (CSIs) as published by Fiserv CSW Inc. (CSW) are widely recognized as the most reliable and authoritative measures of residential housing price movements for a variety of purposes, including loan portfolio due diligence, customer retention, loss reserve reviews, market surveillance, mortgage default, loss and prepayment analyses. The CSIs represent market-specific time series designed accurately to track residential home values.

Historical Overview – The development of the CSIs was pioneered in the 1980s by CSW's research principals, Karl E. Case and Robert J. Shiller. In particular, Case and Shiller developed the repeat sales pricing technique, a methodology that is recognized as the most reliable means to measure housing price movement and a technique that has been applied by other most modern home price index publishers notably the Office of Federal Housing Enterprise Oversight (OFHEO).
Case and Shiller were initially motivated by the sheer size and value of home equity in the United States and the impact it exerts on consumer behavior patterns. As suggested above, the value of residential real estate held by households and nonprofit organizations totaled $18.6 trillion at the end of 2004, rivaling the value of the domestic equity and fixed income markets. While the significance of the marketplace cannot be disputed, there simply were no truly accurate measures of home value movements available at the time.

Accordingly, Case, Shiller Weiss, Inc. was founded in 1991 to provide a practical outlet for this work. The firm was subsequently acquired by Fiserv, Inc. in 2002 and now operates as Fiserv CSW, Inc. (CSW).

CSW is built upon a firm foundation of leading edge data collection, filtering, analysis, and modeling of home values. In the process of researching home values, the firm has accumulated an extensive nationwide database of residential real estate information. This data comprises the REdex Library™ of home pricing indexes and related metrics, and CASA®, an automated property valuation service.

Index Construction – CSIs are fundamentally based on observed changes in home values. In particular, CSW collects data regarding transactions on all residential properties during the time period in question. Next, CSW conducts a search of its accumulated database to find information regarding any previous sales for the same home. If this search is successful, this data point is examined in order to eliminate from consideration data points that might distort the calculations. Specifically, these transactions would include … non-arm's length transactions (e.g., the surnames of the seller and buyer match); foreclosure sales by mortgage lenders; transactions where the property type designation is changed (*e.g.*, properties originally recorded as single family homes are subsequently recorded as condominiums); suspected data errors where the order of magnitude in values change dramatically.

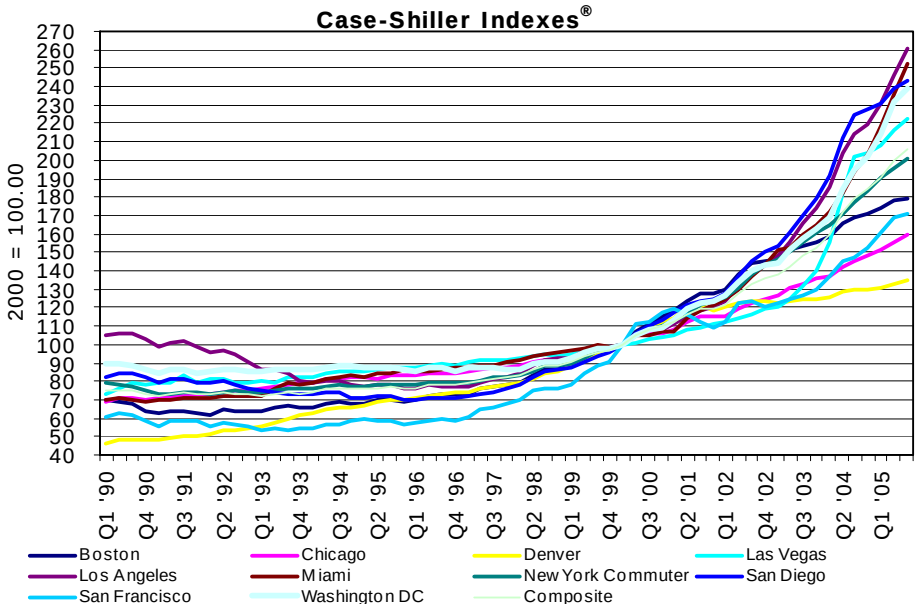
The Case-Shiller Indexes (CSI) are created using the "repeat sale" or "same home resale" method of mining data.

The sale pair is thereupon aggregated along with all other sales pairs found in a particular region to create the index. CSW utilizes both published and unpublished index calculation techniques created by Case, Shiller, and CSW's research staff to arrive at the index value.[6] The

[6] Sales pairs within a particular geographic area are statistically combined, creating a "price path" of all single-family homes in that area using an M-Index-Robust Interval- and Value-Weighted Arithmetic Repeat Sales Chain-After Base model to create a

Indexes are established with a base value of 100.00 in the quarter ending March 2000 (the "base year").

CSIs are generated for geographic areas located across the entire United States and categorized on the basis of property type and price level. These geographic areas include U.S. Census Divisions, state, Metropolitan Statistical Area (MSA), counties and ZIP codes. The figures are produced on a quarterly basis and released near the conclusion of the second month of each calendar quarter representing activity in the previous calendar quarter.



Distinct indexes are published for both single-family homes and condominiums. Further distinctions may be made, as permitted by

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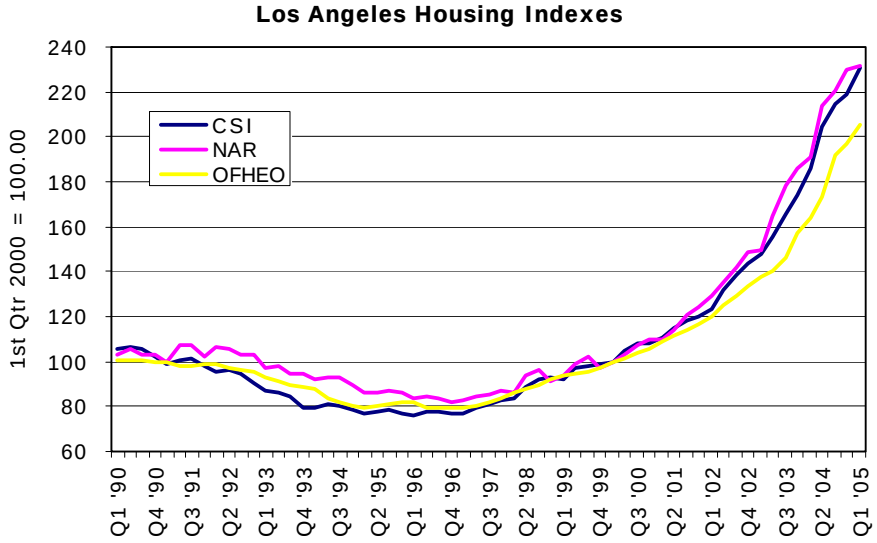
single home price index. The home need not be sold within one quarter to measure changing values in the current quarter. Rather, sales pairs spanning some time are referenced to estimate an index point for that period. Note that the value of individual homes may fluctuate for many reasons. For example, a home may be remodeled or abandoned and deteriorate with obvious implications with respect to value. These situations speak more to a change in the physical characteristics of the property than the change in market value. CSW addresses these concerns by weighting sales pairs utilizing proprietary software that weights changing home values based on their statistical distribution in that geographic region. Specifically, CSW employs an "M-Index-Robust Weighting" methodology where M is a reference to M-Estimate class. As a first cut, if a large change in the sales pair is observed relative to the statistical distribution of all area sales pairs, the suspect pair may be discounted or removed altogether from the sampling. Data related to homes that sell very frequently are excluded to the extent that historical and statistical data suggest that such sales are usually not at arms-length. Sales pairs are further weighted based on the period between the two sales dates ("Interval-Weighting"). When sales intervals are very long, it becomes more likely that a house may have experienced physical alteration and, therefore, longer interval pairs are discounted. Finally, each sales pair is assigned a weight equal to the first sale price ("Value-Weighting"). For more discussion regarding the repeat sales methodology, please refer to Shiller, Robert J. (1991) "Arithmetic Repeat Sales Price Estimators," Journal of Housing Economics, 1, 110-126.

specific market conditions, on the based of three price tiers: high-, moderate- and low-priced homes. Tiering is established at levels that represent approximately one-third of the housing stock within the geographic region being measured. CSIs may be accessed via CSW's index-based Portfolio Valuation Services.

Database Quality Control – Quality data is the cornerstone of any index and CSW approaches the tasks of accumulating and screening raw data rigorously. Long-term contracts are maintained with multiple redundant sources to ensure access to data in all geographic regions. In the process, CSW has vastly expanded its library of data without compromising quality. CSW further filters the raw data per proprietary methodologies to ensure accuracy, given the sometimes uneven quality of data from various public databases. CSW meticulously scans its database for possible errors and cross-checks data from its multiple data suppliers. CSW standardizes residential home addresses per U.S. Postal Service specifications.

Comparison to Other Housing Indexes – The Case-Shiller Indexes are not the only housing price indexes available. In addition, the National Association of REALTORS® (NAR) publish the NAR housing indexes. Similarly, housing indexes are published by the Office of Federal Enterprise Housing Oversight (OFHEO).



The NAR indexes are quoted in terms of median home values and, therefore, might not actually measure the potential investment return of homeowners. Median values may be deceptive and can be easily skewed if, for example, homes are remodeled or new luxury or low-cost housing is constructed in the area. Thus, there may be dramatic changes in the value of these indexes which have little to do with the actual price fluctuations of homes. The CSIs utilize a repeat sales methodology which is more robust and which speaks directly to homeowners' wealth.

CSIs are more representative than the NAR or the OFHEO indexes.

The OFHEO indexes utilize a repeat sales methodology applying the work of Case and Shiller. But they are based on a geometric, not an arithmetic average, which introduces certain biases to the data. Further, sampling is confined to Fannie and Freddie conforming mortgages and is therefore biased towards lower end rather than higher end housing. Note that only perhaps $1/6^{th}$ of all California home sales conform. The CSIs draw upon much larger sample sizes.

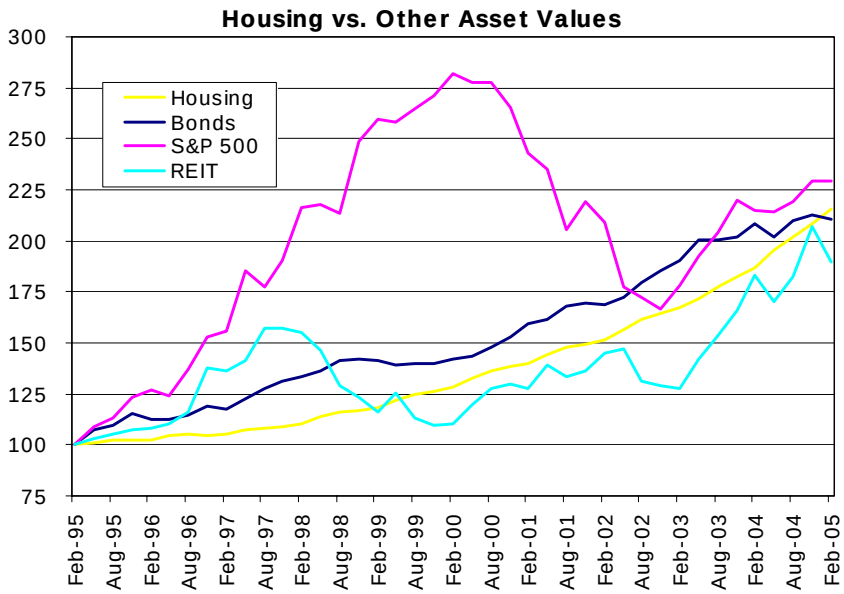
Correlation between CSIs vs. NAR and OFHEO Indexes

	1990-2000		2000-2004	
	NAR	**OFHEO**	**NAR**	**OFHEO**
Boston	0.771	0.922	0.627	0.680
Chicago	0.155	0.703	(0.106)	0.442
Denver	0.733	0.891	0.914	0.963
Las Vegas	0.525	0.414	0.990	0.974
Los Angeles	0.790	0.871	0.875	0.931
Miami	0.168	0.604	0.908	0.918
New York	0.834	0.757	0.165	0.372
San Diego	0.845	0.931	0.862	0.863
San Fran	0.806	0.871	0.955	0.851
Wash DC	0.081	0.490	0.702	0.944
United States	0.234	0.809	0.394	0.858
Average	**0.571**	**0.745**	**0.689**	**0.794**

Source: Macro Securities

Further, OFHEO references appraisal data to supplement actual transactions. Because the CSIs are not confined to conforming mortgages, they incorporate a wider sample and do not resort to use of appraisal data. Note that appraisal data is often biased on the high side. OFHEO indexes typically undergo multiple adjustments and restatements because they are released two months after the conclusion of the quarter. CSIs typically are not adjusted but are released approximately three months after the conclusion of the quarter.

A Unique Asset Class – Modern investment theory underscores the benefits of diversification. Residential real estate represents a rather unique asset class, the returns on which are distinguished from other major asset classes including stocks, bonds and even the value of Real Estate Investment Trusts (REITs).



Housing as an asset class provides some unique benefits. Volatility is generally low relative to stocks and bonds and correlation is negative. Thus, housing provides diversification benefits.

The graphic above depicts the performance of the Case-Shiller nationwide aggregate index vs. stock performance represented by the Standard & Poor's 500 (S&P 500); vs. the bond market represented by the Citigroup Total Return Corporate Bond Index; and, REITs represented by the Bloomberg REIT Index. (Note that these values were normalized at a value of 100.00 as of February 1995 for purposes of comparison.)

Performance of Asset Classes
(Feb 1995-Feb 2005)

	Return	Volatility
Housing	8.00%	1.44%
Bonds	7.74%	2.25%
Stocks	8.66%	7.13%
REITs	6.61%	6.99%

During the 10-year period from February 1995 through February 2005, the returns on these four assets were actually remarkably similar. But, the four different asset classes achieved those returns in very different ways. In particular, housing experienced the least volatility of returns as suggested by the following table that measures volatility as the standard deviation of quarterly returns.

Correlation of Various Asset Classes
(Feb 1995-Feb 2005)

	Housing	Bonds	Stocks	REITs
Housing	-			
Bonds	-0.169	-		
Stocks	-0.390	0.052	-	
REITs	-0.074	0.177	0.153	-

It is also interesting to note that housing displayed a negative correlation with the other three asset classes over the past ten years as depicted in the table below. Accordingly, housing as an asset would imply some important benefits in terms of diversification.

Housing Futures and Options

Chicago Mercantile Exchange (CME) is embarking on a bold new course by offering futures and option contracts based on the Case-Shiller Indexes of home prices as published by Fiserv CSW Inc. (CME CSI Housing futures and options).

Market Participants – The real estate asset class is different from the stock market asset class in that much of the real estate is held for use over very long intervals of time. Homeowners who expect to live in the same home for the rest of their lives, or businesses whose real estate holdings are very stable through time, may think that they do not need to hedge. In fact, however, there are substantial variations in the disposition of real estate assets through time that ought to generate hedging demand.

Likely users of CME CSI Housing futures and options include owners of real estate who wish to hedge against the possibility of price declines. Mortgage investors and insurers exposed to high loan-to-value ratios should find immediate application of futures and options.

Real estate futures are likely to hold immediate appeal to some home buyers to hedge their risks. Builders who have an inventory of homes to sell may want to hedge the inventory. Builders, who have a supply on the market, may also immediately want to offer some kind of value warranty to home buyers, who may be suddenly wary about buying in a market that appears possibly to be peaking, as an inducement to buy.

Other immediate users are holders of mortgage portfolios. Mortgage insurers currently hold a significant exposure to home prices since a sustained decline combined with high loan-to-value (LTV) ratios could result in dangerous levels of mortgage defaults. Government-sponsored entities (GSE's), agencies, and other issuers of mortgages also would benefit from these markets in order to address the risk inherent in their portfolios. Without a futures market, a period of rising rates combined with general home price declines could be catastrophic for the issuers. An event that impacts the agencies themselves could create a crisis that cuts through the entire U.S. economy.

Housing futures and options can provide convenient exposure to an important asset class without the difficulties attendant to an actual real estate transaction.

Finally, investors at large will find CME CSI Housing futures and options useful to provide exposure to a very important asset class without incurring the difficulties of actually executing real estate transactions.

Economic Benefits – On a macroeconomic level, futures based on home prices may add stability to the economy by allowing institutions to hedge their exposure to home prices and diversify the potential impact

of sustained declines in home prices. As articulated by Case, Shiller and Weiss …

> "Nowhere in the world today are there markets that would allow investors to invest in a widely diversified portfolio of real estate without incurring enormous transaction costs. Since they cannot invest in a widely diversified portfolio of real estate, they cannot invest in a truly diversified portfolio at all. Thus, the presumed diversification that is supposed to be practiced by all investors according to modern financial theory just isn't happening.
>
> "Nor are there markets that would allow individuals and institutions with large exposure to specific real estate risk to hedge these risks. Individuals for various reasons usually prefer to own their own homes, rather than rent them from institutions, and firms usually prefer to own real estate that they use in connection with their operations. But they cannot easily hedge the risk of these holdings.
>
> "In order to hedge their portfolio, these owners of real estate should sell real estate futures or buy put options that are closely correlated with the real estate that they live in or operate. At the same time, everyone should invest in a broad portfolio of real estate futures and options, which they can do by holding a portfolio of the opposite sides of the futures and options contracts that those who own real estate concentrated in a certain area undertake.
>
> "Thus, the long sides of any given futures or options contract should be taken by a wide spectrum of investors, presumably primarily institutional, who invest in many futures contracts and options as a means of diversifying their portfolios; the short side should be taken by owners of region-specific real estate: individual homeowners, managers of rental properties, developers, corporation, and farmers." [7]

Housing futures and options have the potential to reduce the cost of doing business in the real estate markets.

Further, it is possible and perhaps even likely that the availability of real estate futures may facilitate the introduction of a variety of risk management products that may be made available to individuals, such as home equity insurance or mortgages with guaranteed down payments. Institutions that offer such retail products will want to hedge their interests in futures markets. In fact, we might speculate that these institutions are unlikely to appear until futures markets are in place. We would expect that over a period of years after the introduction of real estate futures a substantial risk management industry will develop that will be intensive users of real estate futures.

In the process, the costs associated with real estate transactions might be reduced on an institutional and on a retail level alike …

> "The establishment of real estate futures and options contracts might be described as having the effect of spectacularly lowering transactions

[7] *Op. cit.,* Case, Shiller, Weiss.

costs for trading real estate. The modern theory of the transaction costs (see for example Demsetz [1968], Akerlof [1970], Gammill and Perold [1989], and Gorton and Pennachi [1991]) stresses the importance of traders with superior or inside information: dealers must announce bid-asked spreads wide enough that they are not routinely 'picked off' by more informed traders. Baskets of corporate stocks and other financial assets are inherently subject to lower bid-asked spreads than are individual assets because there is less informed trading about the aggregates. The same would be true about the baskets of real estate on which the index is used to settle real estate futures and options contracts is based. Those who invest in real estate would be spared the concern that they are buying lemons, they can thereby forego the enormous costs and risks associated with buying individual properties." [8]

MSA	Represented Counties
Boston-Cambridge-Quincy, MA-NH Metropolitan Statistical Area	Essex MA, Middlesex MA, Norfolk MA, Plymouth MA, Suffolk MA, Rockingham NH, Strafford NH
Chicago-Naperville-Joliet, IL Metropolitan Division	Cook IL, DeKalb IL, Dupage IL, Grundy IL, Kane IL, Kendal IL, McHenry IL, Will IL
Denver-Aurora, CO Metropolitan Statistical Area	Adams CO, Arapahoe CO, Clear Creek CO, Denver CO, Douglas CO, Elbert CO, Gilpin CO, Jefferson CO, Park CO, Broomfield CO
Las Vegas-Paradise, NV Metropolitan Statistical Area	Clark NV
Los Angeles-Long Beach-Glendale, CA Metropolitan Division	Los Angeles CA
Miami-Miami Beach-Kendall, FL Metropolitan Division	Miami-Dade FL
NY Commuter Metro Area	New Haven CT, Bergen NJ, Essex NJ, Hudson NJ, Hunterdon NJ, Mercer NJ, Monmouth NJ, Morris NJ, Ocean NJ, Passaic NJ, Sussex NJ, Union NJ, Warren NJ, Bronx NY, Dutchess NY, Kings NY, Nassau NY, New York NY, Orange NY, Putnam NY, Queens NY, Rockland NY, Suffolk NY, Westchester NY, Pike PA, Fairfield CT, Middlesex NJ, Somerset NJ, Richmond NY
San Diego-Carlsbad-San Marcos, CA Metropolitan Statistical Area	San Diego CA
San Francisco-San Mateo-Redwood City, CA Metropolitan Division	Marin CA, San Francisco CA, San Mateo CA
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area	District of Columbia DC, Calvert MD, Charles MD, Frederick MD, Montgomery MD, Prince Georges MD, Arlington VA, Clarke VA, Fairfax VA, Fauquier VA, Loudoun VA, Prince William VA, Spotsylvania VA, Stafford VA, Warren VA, Alexandria City VA, Fairfax City VA, Fall Church City VA, Fredericksburg City VA, Manassas City VA, Manassas Park City VA, Jefferson WV

CME will list futures and options based on 10 cities.

Subject Indexes – CME will list futures and options based on indexes depicting matched sale prices for single family residential dwellings in ten (10) metropolitan statistical areas ("MSAs").[9] The 10 MSAs include Boston, Chicago, Denver, Las Vegas, Los Angeles, Miami, New York

[8] *Ibid*.
[9] MSAs as defined by the U.S. Census Bureau.

Commuter area, San Diego, San Francisco and Washington D.C. In addition, the Exchange will further list futures and options based upon a composite index of the ten MSAs.

Actually, the CSW New York Commuter Index is not an MSA but, rather, represents a customized index that measures single family home values in select New York, New Jersey and Connecticut markets with significant populations that commonly commute to New York City for employment purposes. The CSW U.S. Composite Index is an equally weighted arithmetic average of the 10 MSA indexes.

Further, futures and options will also be listed on the CSW U.S. Composite Index representing all 10 cities.

Note that while the CSIs are intended to be representative of all single family residential homes within the subject MSA, data for particular properties or component areas may be unavailable. Performance of individual properties or counties is not necessarily consistent with the MSA as a whole. County components are subject to change as a result of revisions by the U.S. Census Bureau or data insufficiencies.

CME CSI® Housing Futures & Options

	Futures	Options on Futures
Contract Size	Each contract shall be valued at $250 times the CSI, *e.g.*, the value of the Los Angeles CSI was reported at 261.03 in the 3rd quarter 2005, which equates to a contract value of $$65,257.50 (=$250 x 261.03)	One futures contract
Minimum Price Fluctuation	0.10 index points ($25.00)	0.05 index points ($12.50)
Trading Hours	Offered exclusively on CME® Globex® on Sundays-Thursdays 5:00 p.m.-2:00 p.m. the next day	Offered exclusively on CME® Globex® on Sundays-Thursdays 5:00 p.m.-2:00 p.m. the next day
Contract Months	March Quarterly Cycle of March, June, September and December	March Quarterly Cycle of March, June, September and December
Final Settlement Date	One business day after 25th of contract month	One business day after 25th of contract month
Cash Settlement	Cash settlement based on reported value of Case-Shiller Indexes® (CSIs) of home prices as published by Fiserv CSW Inc. (CSW) for the cities of Boston, Chicago, Denver, Las Vegas, Los Angeles, Miami, New York Commuter Area, San Diego, San Francisco, Washington DC and an index that represents a composite of the 10 cities	Exercised into the associated futures contract
Strike Prices	NA	At one (1) point intervals above and below prevailing market price
Position Limits	5,000 contracts	5,000 contracts

Appendix: Case-Shiller Indexes (CSI) Data

	Boston	Chicago	Denver	Las Vegas	Los Angeles	Miami	New York	San Diego	San Francisco	Washington DC	Composite
Q3 '70					12.54						
Q4 '70					12.66						
Q1 '71					12.65						
Q2 '71					12.68						
Q3 '71					12.90						
Q4 '71					13.15						
Q1 '72					13.08	21.99					
Q2 '72					13.16	22.44					
Q3 '72					13.28	23.33					
Q4 '72					13.54	23.75					
Q1 '73					13.77	24.90					
Q2 '73					14.02	25.95					
Q3 '73					14.29	27.33					
Q4 '73					14.66	28.11					
Q1 '74					14.78	28.80					
Q2 '74					15.46	29.61		17.94			
Q3 '74					16.06	30.53		18.45			
Q4 '74					16.62	30.61		18.78			
Q1 '75					16.74	30.29		19.52			
Q2 '75					17.50	30.59		19.78			
Q3 '75					18.19	30.79		20.35			
Q4 '75					18.95	30.81		20.81			
Q1 '76					19.57	30.71		21.13			
Q2 '76					20.65	31.10		22.05			
Q3 '76					21.94	31.37		22.76			
Q4 '76					22.94	31.57		23.51			
Q1 '77			22.68		24.08	31.29		24.39			
Q2 '77			24.51		26.16	32.06		26.21			
Q3 '77			26.06		28.37	32.17		28.47			
Q4 '77			27.56		29.55	32.76		30.53			

Appendix: Case-Shiller Indexes (CSI) Data, cont.

	Boston	Chicago	Denver	Las Vegas	Los Angeles	Miami	New York	San Diego	San Francisco	Washington DC	Composite
Q1 '78			29.31		30.57	33.02		32.15			
Q2 '78			31.56		32.16	33.97		34.20			
Q3 '78			33.95		33.79	35.05		35.77			
Q4 '78			35.18		35.03	36.12		36.53			
Q1 '79			36.30		35.82	38.39		38.37			
Q2 '79			37.74		38.34	40.45		40.37			
Q3 '79			39.17		40.38	42.86		42.08			
Q4 '79			39.97		42.28	44.46		42.83	25.43		
Q1 '80		36.15	40.25		43.17	47.24		43.40	26.76		
Q2 '80		35.63	40.85		42.58	50.39		42.91	27.12		
Q3 '80		36.88	41.95		46.60	52.56		44.99	28.40		
Q4 '80		37.07	43.10		47.23	54.76		45.56	28.57		
Q1 '81		36.54	43.87		47.20	55.69		44.45	29.01		
Q2 '81		37.60	44.79		47.87	57.43		45.11	29.04		
Q3 '81		36.99	46.11		48.46	58.19		45.26	28.86		
Q4 '81		37.02	47.25		47.53	57.84		44.12	29.06		
Q1 '82		37.80	47.83		46.70	57.17		45.39	28.26		
Q2 '82		37.22	48.61		46.61	56.89		44.79	28.94		
Q3 '82		37.04	48.62		47.67	55.96		44.21	27.61		
Q4 '82		37.89	48.43		48.20	55.35		44.41	27.81		
Q1 '83		38.30	48.45		49.38	55.76		46.67	28.05		
Q2 '83		39.30	48.57		50.41	56.42		46.63	28.74		
Q3 '83		40.03	48.90	64.23	51.34	56.82		47.41	29.49		
Q4 '83		39.81	48.77	65.15	50.78	56.41		46.38	28.98		
Q1 '84		40.67	48.77	64.19	51.37	55.81		46.56	29.55		
Q2 '84		41.50	48.89	62.02	52.03	56.54		47.51	30.35		
Q3 '84		41.76	49.17	62.81	52.52	56.72		47.55	31.13		
Q4 '84		41.75	48.71	59.09	51.88	56.83		47.89	30.79		
Q1 '85	42.80	42.58	48.86	61.12	52.57	56.40	47.66	48.03	30.97		
Q2 '85	46.96	43.42	48.98	59.68	53.75	56.23	50.52	48.74	32.05		
Q3 '85	51.61	44.57	48.74	60.55	54.83	56.48	54.38	49.92	32.72		
Q4 '85	54.83	44.63	48.33	59.31	55.62	56.30	56.70	50.04	33.33		

Appendix: Case-Shiller Indexes (CSI) Data, cont.

	Boston	Chicago	Denver	Las Vegas	Los Angeles	Miami	New York	San Diego	San Francisco	Washington DC	Composite
Q1 '86	57.48	46.00	47.82	62.30	56.14	56.20	59.79	50.40	33.70		
Q2 '86	61.68	47.82	48.46	60.42	58.06	57.49	63.95	51.73	35.51		
Q3 '86	64.82	49.98	48.37	62.93	60.40	58.49	69.35	53.06	37.11		
Q4 '86	66.57	50.39	47.97	61.48	61.77	58.34	73.02	53.55	37.43		
Q1 '87	66.95	51.44	47.47	63.30	62.82	58.74	76.12	54.79	38.12	62.47	58.22
Q2 '87	69.03	54.43	48.27	63.63	65.79	60.48	80.45	56.31	39.74	65.66	60.38
Q3 '87	71.04	55.90	48.28	61.06	68.41	59.95	82.98	57.44	42.05	68.73	61.58
Q4 '87	71.66	56.48	47.26	63.60	71.24	61.05	84.03	58.27	43.02	70.43	62.71
Q1 '88	69.82	57.65	46.61	62.11	73.93	60.25	83.02	59.56	44.10	74.25	63.13
Q2 '88	71.87	60.28	47.28	64.94	80.25	62.54	83.97	63.33	49.02	77.33	66.08
Q3 '88	72.22	61.97	47.18	66.40	85.50	64.83	85.06	65.35	50.52	80.56	67.96
Q4 '88	72.09	62.27	46.50	64.79	89.50	65.32	84.08	67.93	52.20	82.40	68.71
Q1 '89	71.79	63.44	46.20	68.29	94.57	66.99	82.89	71.90	54.83	85.70	70.66
Q2 '89	72.91	66.15	47.04	69.63	100.65	67.81	82.82	76.62	58.73	88.63	73.10
Q3 '89	71.99	67.16	47.00	70.16	103.38	68.99	82.02	80.37	62.43	89.10	74.26
Q4 '89	71.18	68.64	46.24	72.43	105.21	69.72	80.92	81.77	62.03	89.18	74.73
Q1 '90	69.99	69.11	46.53	72.67	105.46	69.94	79.53	82.73	60.90	89.12	74.60
Q2 '90	68.75	70.48	48.27	75.93	106.41	70.96	78.48	83.91	62.46	89.71	75.53
Q3 '90	67.88	70.52	48.24	79.09	105.95	69.99	76.98	84.07	61.44	88.29	75.24
Q4 '90	64.03	70.30	47.74	78.12	102.63	68.68	75.38	82.33	58.66	86.18	73.41
Q1 '91	62.34	70.57	48.03	79.54	98.86	69.40	72.51	79.04	55.54	84.42	72.03
Q2 '91	63.39	71.76	49.39	79.00	100.86	69.69	73.01	80.93	58.52	86.92	73.35
Q3 '91	64.09	72.34	49.98	83.68	101.40	70.81	74.40	80.87	58.77	86.23	74.26
Q4 '91	62.94	72.85	50.14	79.54	98.28	70.64	73.97	79.52	58.07	84.57	73.05
Q1 '92	62.16	73.09	51.19	81.64	95.77	70.60	73.50	79.03	55.45	85.41	72.78
Q2 '92	64.25	74.27	53.01	81.18	96.52	71.59	74.30	79.82	57.20	86.88	73.90
Q3 '92	63.98	74.65	53.91	79.32	94.80	71.75	74.62	78.56	56.47	85.97	73.40
Q4 '92	63.70	75.19	54.31	79.30	90.52	72.15	74.47	76.13	55.18	85.46	72.64
Q1 '93	63.49	75.73	55.75	79.98	86.81	72.35	74.26	74.73	53.45	85.64	72.22
Q2 '93	65.33	77.36	57.62	79.68	86.14	76.04	75.43	74.42	54.32	86.28	73.26
Q3 '93	66.48	78.18	59.51	82.63	84.20	78.84	75.98	73.37	53.85	86.14	73.92
Q4 '93	65.37	78.86	61.22	82.37	79.78	77.84	75.89	72.82	54.51	86.00	73.47

Appendix: Case-Shiller Indexes (CSI) Data, cont.

	Boston	Chicago	Denver	Las Vegas	Los Angeles	Miami	New York	San Diego	San Francisco	Washington DC	Composite
Q1 '94	65.41	79.32	63.08	82.69	79.70	79.70	75.94	73.13	54.19	86.45	73.96
Q2 '94	68.08	80.95	64.35	84.82	80.73	81.08	77.50	74.29	56.84	87.92	75.65
Q3 '94	68.74	81.66	65.42	85.29	80.11	82.12	78.29	73.67	56.63	88.57	76.05
Q4 '94	67.91	81.93	66.03	85.85	78.40	82.81	77.63	71.43	58.76	88.14	75.89
Q1 '95	67.42	82.21	66.88	85.84	76.74	82.71	77.22	70.44	59.77	87.05	75.63
Q2 '95	69.46	81.46	68.77	86.61	77.88	83.93	77.76	71.72	58.56	87.54	76.37
Q3 '95	70.22	83.61	69.84	87.91	78.22	84.15	78.33	72.08	58.29	87.05	76.97
Q4 '95	69.04	83.58	70.28	87.03	76.60	86.01	77.85	69.75	56.08	86.10	76.23
Q1 '96	69.80	83.17	70.87	87.65	75.66	85.22	77.95	70.03	57.71	85.63	76.37
Q2 '96	71.70	84.81	72.45	88.93	77.80	85.77	78.70	71.11	58.64	87.36	77.73
Q3 '96	73.07	84.58	72.83	89.10	77.63	86.71	79.60	70.78	59.50	87.11	78.09
Q4 '96	72.85	84.62	73.72	88.57	77.20	87.35	79.10	70.91	59.08	85.84	77.93
Q1 '97	73.39	85.16	74.31	90.41	77.02	87.80	79.22	71.74	61.14	87.33	78.75
Q2 '97	76.20	86.43	76.26	91.22	79.57	88.37	80.69	73.14	64.72	87.73	80.43
Q3 '97	77.56	87.12	77.07	91.21	81.50	88.57	81.80	74.44	66.14	87.44	81.29
Q4 '97	77.97	87.89	78.18	92.08	82.73	90.23	82.21	75.97	67.85	86.84	82.20
Q1 '98	79.55	88.63	79.17	92.49	84.05	91.20	83.25	78.54	70.38	86.77	83.40
Q2 '98	83.18	90.99	81.73	93.51	88.96	93.26	85.69	82.15	75.11	89.82	86.44
Q3 '98	86.08	91.66	84.23	94.38	92.04	94.15	87.98	85.38	76.61	90.49	88.30
Q4 '98	86.32	90.88	85.58	93.53	93.03	95.39	88.45	85.92	76.52	90.73	88.63
Q1 '99	89.02	92.43	88.62	94.91	92.49	97.06	89.52	87.51	78.42	92.23	90.22
Q2 '99	93.07	96.32	91.97	96.29	96.77	98.08	93.01	90.72	84.25	95.52	93.60
Q3 '99	96.73	97.44	95.50	97.86	97.87	100.12	96.42	93.50	88.43	98.25	96.21
Q4 '99	98.57	98.08	97.28	98.56	98.54	98.51	98.10	95.33	90.98	97.90	97.18
Q1 '00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Q2 '00	107.15	104.52	105.49	100.44	104.82	104.69	104.53	106.07	111.20	105.32	105.42
Q3 '00	111.03	105.84	108.97	102.87	107.77	104.61	108.29	109.82	111.83	108.42	107.95
Q4 '00	115.00	105.90	111.84	104.18	108.34	106.91	110.35	112.97	117.30	109.59	110.24
Q1 '01	118.79	107.69	114.44	104.89	110.99	107.47	113.08	116.95	119.57	113.01	112.69
Q2 '01	123.84	112.62	119.98	107.99	114.92	114.71	116.38	121.36	116.25	119.03	116.71
Q3 '01	127.76	115.09	121.71	109.38	118.40	118.80	121.39	123.70	112.52	122.78	119.15
Q4 '01	128.15	115.10	118.73	111.23	120.03	121.18	123.24	124.68	109.20	123.84	119.54

Appendix: Case-Shiller Indexes (CSI) Data, cont.

	Boston	Chicago	Denver	Las Vegas	Los Angeles	Miami	New York	San Diego	San Francisco	Washington DC	Composite
Q1 '02	129.45	115.80	120.12	112.36	123.15	125.01	125.20	128.10	112.07	126.61	121.79
Q2 '02	137.77	119.75	122.61	113.90	131.93	129.98	130.67	137.41	122.41	134.16	128.06
Q3 '02	143.68	122.15	123.32	116.71	138.47	136.63	137.92	145.47	123.48	140.55	132.84
Q4 '02	144.97	124.27	123.07	119.53	143.49	142.76	143.21	150.23	120.70	143.11	135.53
Q1 '03	146.72	126.31	122.64	120.67	147.96	151.19	146.39	153.82	122.20	144.49	138.24
Q2 '03	150.99	130.92	123.29	125.02	155.44	152.82	150.01	160.96	124.29	151.13	142.49
Q3 '03	153.78	132.47	124.49	131.99	165.61	159.60	155.31	170.24	126.96	157.81	147.83
Q4 '03	155.66	136.06	124.58	140.11	174.05	164.48	160.70	179.07	129.36	162.51	152.66
Q1 '04	158.42	137.32	125.51	155.57	185.72	172.48	164.97	191.28	137.31	169.29	159.79
Q2 '04	165.96	141.89	128.26	182.53	204.12	182.43	170.88	212.75	145.47	184.85	171.92
Q3 '04	168.83	145.41	129.35	202.02	214.66	193.25	177.11	224.73	146.89	194.46	179.67
Q4 '04	170.88	148.44	129.91	204.10	218.98	203.35	183.12	227.23	152.57	202.18	184.08
Q1 '05	174.15	151.49	130.49	208.55	230.53	217.94	190.13	231.17	160.52	214.25	190.92
Q2 ‘05	178.54	155.76	133.26	216.07	245.85	236.06	195.75	239.00	168.94	231.40	200.06
Q3 ‘05	179.27	159.51	135.04	222.74	261.03	252.04	201.05	242.76	171.18	239.51	206.41