

# Home Price Indices Futures

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THIS ARTICLE ANALYZES THE POTENTIAL USE OF Chicago Mercantile Exchange (CME) housing futures for hedging, arbitrage and speculative purposes. The quote from the CME web page on housing futures reads: "CME Housing futures and options are the first comprehensive financial tools that make it possible to trade U.S. real estate values. These products provide opportunities for protection or profit in up or down markets, and extend to the housing industry the same tools for risk management and investment that previous CME innovations have brought to agriculture and finance. In addition, they create a new means of risk transfer to a broad range of investors, have the potential for fostering stability in the housing industry, and provide an innovative way to participate in the real estate market without having to buy and sell properties." The following markets are tradable: Composite Index (CUS), Boston (BOS), Chicago (CHI), Denver (DEN), Las Vegas (LAV), Los Angeles (LAX), Miami (MIA), New York (NYM), San Diego (SDG), San Francisco (SFR), and Washington, D.C. (WDC).

In this article, we explain how futures contracts can be used for hedging, arbitrage and speculative purposes in other more traditional markets, such as copper. We consequently analyze whether housing futures can be used similarly and effectively to participate in the residential real estate market.

## FUTURES AS HEDGING TOOL

Producers of commodities such as copper can use futures contracts to lock in the selling price in the near future. For example, a copper mining company can produce copper today at given cost, and immediately sell copper futures at

a higher price to ensure profits. Consequently, copper producers can hedge the risk of a sudden, sharp drop in the price of copper.

Similarly, copper consumers such as industries that use copper as raw material, can use futures contracts to lock in the buying price of copper in the near future. For example, a homebuilder can buy copper futures today at a certain price, for construction planned for months ahead. Consequently, a homebuilder hedges the risk of a sudden, sharp increase in the price of copper, which would significantly affect profit margins.



## About the Authors

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The interaction of copper producers and consumers in the futures markets sets the price of copper futures with different expiration dates. Rising copper futures prices indicate increased demand by consumers, while falling futures prices could indicate rising inventories by producers.

### **CAN CME HOUSING FUTURES BE USED AS A HEDGING TOOL?**

A homebuilder could build a house today and sell housing futures expiring several months ahead to hedge the risk of falling home prices. Similarly, a homeowner concerned about falling home values and/or wanting to sell his/her house could sell housing futures. In both cases, potential losses on home sales as a result of falling home prices are offset by gains on housing futures.

The major problem with this strategy is that individual home values are affected by home-specific variables such as location, shape, size, property maintenance, and age, in addition to macroeconomic international, national and regional variables. Consequently, a poorly maintained home located in an undesirable neighborhood can significantly decrease in value, while the housing index by which futures value is derived might not decrease as much.

A more significant problem with hedging housing values with futures is the availability of housing futures buyers. A potential homebuyer who wants to buy a house in the near future but is concerned that housing values will appreciate could theoretically buy housing futures today to hedge the risk of rising home values. In this way, a gain in housing futures offsets the higher home price in the near future. Unfortunately, this is an unlikely scenario because futures trading requires a cash account with the broker *and* sophistication, both of which are not typical characteristics of first-time homebuyers. In addition, easy credit availability discourages delay in home-purchasing decisions. Further, a potential gain in housing futures does not guarantee that the desired home or neighborhood would still be available for sale in the future. It is clear that the interaction between producers/consumers or buyers/sellers in the housing futures market is not as clear as in the copper futures market. As a result, housing futures are not likely to attract heavy volumes from hedgers, and as such, are not likely to be used as a hedging tool.

### **FUTURES ARE AN ARBITRAGE TOOL**

Occasionally the spot price of copper can momentarily decouple from the futures contract price of copper as a result of interaction mechanisms in one of the markets. For example, the price of copper futures can suddenly increase sharply because of a short squeeze (margin call) by a large speculator. At that point, an arbitrageur buys copper in the spot market and sells copper futures until the spot price of copper and the price of copper futures return to theoretical equilibrium. It is a strategy without risk since gains are locked in at the time of the position initiation.

### **CAN CME HOUSING FUTURES BE USED AS AN ARBITRAGE TOOL?**

An arbitrageur in CME housing futures would have to offset the short (long) position in housing futures by buying (selling) a real house or houses. It is an unlikely scenario because purchasing or selling a house takes time and requires significant fees, from closing costs to commissions. Further, individual home prices depend on other home-specific variables, in addition to general macroeconomic variables, that affect a housing index. Consequently, it would be extremely difficult to arbitrage a housing index with a real house unless a large portfolio of houses is constructed, which is impossible because of high transaction costs.

### **FUTURES AS SPECULATIVE TOOLS**

The interaction between consumers and producers hedging their risks sets the price in futures markets. A class of market participants called speculators tries to anticipate price changes resulting in supply/demand shifts in, for example, copper markets, and consequently tries to profit by betting on price direction by taking a one-directional position in the futures markets. For example, a speculator would open a long position in copper futures if copper consumers anticipate a shortage of copper, which in turn, would trigger significant hedging. As a result, the price of copper would rise until the supply met the demand, and a speculator would make a significant profit.

### **CAN CME HOUSING FUTURES BE USED FOR SPECULATION?**

A speculator anticipating rising inventories of unsold homes and falling demand could profit by shorting CME housing futures. Given the current situation of falling housing starts, falling building permits, falling new and existing home sales, rising inventories, significantly higher

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short-term rates, and expected adjustment of super-low ARM rates from 2003–2005, it seems a sure bet that home prices would significantly decline in 2007.

However, speculators need liquid markets to exit their bets. Because of a lack of participation of hedgers and arbitrageurs, CME housing futures do not offer the necessary liquidity to speculate. In addition to low volumes, the bid-ask spread on CME housing futures contracts is too large for speculators to profit. As a result, CME housing futures are not likely to attract significant speculation.

### **SO, WHAT'S BEHIND S&P/CASE-SCHILLER® HOME PRICE INDICES FUTURES?**

CME housing futures are not likely to attract hedgers, arbitrageurs or speculators. So what is the justification of housing futures trading on the CME? One has to understand the importance of U.S. housing to global economic and political situations. Since the dot-com bubble burst in 2000, the housing industry has carried the U.S. economy with significant jobs creation in construction, mortgage finance and other housing-related industries. In addition, rising home values have significantly boosted consumption as a result of home equity extraction. This has

supported growth overseas where goods consumed in the U.S. are produced.

A sudden and sharp drop in U.S. home values is likely to cause a worldwide recession because of the resulting drop in U.S. consumption. In addition, a loss of housing and housing-related jobs would create a significant rise in U.S. unemployment, further exacerbating a slowdown in consumption.

Although CME housing futures have not attracted significant volumes, it is still comforting to know there is a tool that could prevent a sharp drop in housing values and potentially bail out the U.S. economy. In a low probability scenario where panic liquidation of home inventory would crash home values nationally, an “invisible hand” could intervene by buying housing futures, thus preventing housing prices from dropping further—at least temporarily—until a better solution is available.

It is still unclear how such a mechanism would work in reality. Perhaps, a sort of arbitrage opportunity could arise between the price of real houses and housing futures. However, these opportunities would be limited strictly to institutional investors and private equity investors. ■