

A Better Tool for Managing Mortgage Risk Exposures

Prior to the introduction of CBOT Mortgage futures and options, participants in the mortgage-backed securities (MBS) market had no truly effective exchange-traded instrument to meet their risk management needs. Over-the-counter (OTC) forwards expose users to counterparty risk, impose significant operations requirements, and lack both price transparency and a liquid options market. While various cross hedges can provide the advantages of liquidity, price transparency, and reduced counterparty risk, they subject market participants to significant basis risk, especially when the market is volatile and spreads change significantly. CBOT Mortgage futures and options, however, correlate well with the most actively traded MBS coupons, which makes them better tools for managing the risks associated with mortgage origination and the MBS components of fixed-income portfolios.

Advantages

- **Virtually Eliminates Counterparty Risk**

The Board of Trade Clearing Corporation (BOTCC®), an independent entity, settles all CBOT trades and acts as guarantor to CBOT clearing members. This clearing function upholds the integrity of the CBOT marketplace and virtually eliminates credit risk. Indeed, since the inception of this clearing system in 1925, no CBOT market user has lost money due to default on a futures position.

- **Options** The corresponding option contracts provide unparalleled means to manage convexity risk.

- **Cash Settlement** To enhance efficiency, flexibility, and ease of use for mortgage market participants, CBOT Mortgage futures and options are cash settled to the Current Mortgage Price Index.

- **“Cheaper-to-Deliver” Pricing** At each of its three coupon levels, the Current Mortgage Price Index explicitly tracks the cheaper of the Freddie Mac security or Fannie Mae security. This facilitates spreading against agency or Treasury futures and provides protection against squeezes in individual agency issues, which is lacking in the OTC forward market.

- **Cash Flow Adjustment** At the expiration of each contract, a cash flow adjustment factor will be established to account for the 10-day difference in cash flows of Freddie Mac and Fannie Mae securities. This cash flow adjustment factor will be transparent and its terms available to all market participants.

The Current Mortgage Price Index

CBOT Mortgage futures settle to the Current Mortgage Price Index, which is based on the prices of Freddie Mac and Fannie Mae conventional 30-year MBS. Since these securities account for 70% of all outstanding 30-year MBS issued by Freddie Mac, Fannie Mae, and Ginnie Mae, the Current Mortgage Price Index should be an effective proxy for the entire MBS market. At expiration, a CBOT Mortgage futures contract cash settles to a weighted average of Freddie Mac and Fannie Mae conventional mortgage-backed pass-through prices at three coupon levels determined two days prior to the date the contract is listed. For each of the three coupons, the cheaper of Freddie Mac or Fannie Mae prices are used in the calculation, after applying the 10-day cash flow adjustment.

- **Contract coupons** These are selected to represent coupons issued during the three months prior to the month in which the contract is listed. The three coupons closest to par typically account for 82% of trading volume in the market. The coupon closest to par will be assigned a weight of 0.50, the next two coupons, weights of 0.25. These weights will be used to calculate the final settlement price.
- **Designating coupons** Coupons are selected from a pool of coupons of pass-through securities issued by Freddie Mac and Fannie Mae in the three preceding calendar months. Only pass-throughs backed by conventional 30-year fixed-rate conforming mortgages are included. The total dollar value issued in the preceding three months is calculated for each coupon and agency. Coupons representing less than 5% of the overall outstanding balance are excluded. Prices are determined for each coupon, by agency, through a dealer polling

process. Finally, the production-weighted average coupon price is calculated for all of the Freddie Mac and Fannie Mae 30-year coupons produced in that three-month period.

- **The trading schedule** CBOT Mortgage futures and options are traded on a monthly cycle. Each contract is listed four months prior to its expiration. The coupon composition of the Current Mortgage Price Index remains constant throughout the four-month life of the contract.
- **Contract size** The CBOT Mortgage futures and options contract size is \$100,000, making it identical to actively traded Treasury and agency futures at the CBOT. This facilitates spread trading and synthetic index construction.

Conclusion

Clearly, since CBOT Mortgage futures and options are based on the most actively traded MBS coupons, they provide more effective risk management tools than cross hedges, especially when times of market turmoil put a premium on effective risk management. Additionally, they offer greater efficiency, price transparency, flexibility, and a stronger risk management framework than the OTC forward market. Because they combine the benefits of exchange-traded contracts with a close correlation to the MBS market, CBOT Mortgage futures and options meet the risk management needs of a wide variety of market participants, giving them a level of security to build on.

For further information, visit www.cbot.com and click on Knowledge Center and then on Mortgage Futures Hub or call the CBOT Market and Product Development Department at 312-341-7955.

Salient Features

CBOT Mortgage Futures

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| Trading Unit | \$1,000 times the Current Mortgage Price Index, for a par value of \$100,000. |
| Price Basis | Points and quarters of 1/32 of one point. Par is on the basis of 100 points, with one point equal to \$1,000. |
| Tick Size | One quarter of 1/32 of one point (\$7.8125), rounded up to the nearest one cent. |
| Daily Price Limits | None. |
| Contract Months | Nearest four calendar months. |
| Last Trading Day | Two business days before Notification Day for To-Be-Announced delivery of Class A mortgage-backed securities, as determined by the Bond Market Association. The futures contract ceases trading at 2:00 p.m. Chicago time on the last day of trading. |
| Delivery Standards | \$1,000 times the closing value of the Current Mortgage Price Index on the last day of trading, as determined by prices (excluding accrued interest) quoted by exchange-approved reference dealers on Class A mortgage-backed securities (i.e., conventional 30-year mortgage-backed securities issued by either the Federal National Mortgage Association or the Federal Home Loan Mortgage Corporation) for TBA delivery during the contract month. |
| Trading Hours | Open outcry: 7:20 a.m. to 2:00 p.m. Chicago time, Monday through Friday. a/c/e SM (electronic trading platform): 8:00 p.m. to 4:00 p.m. Chicago time, Sunday through Friday. |
| Position Limits and Reportable Positions | Spot and aggregate limits of 5,000 contracts. Reportable limit of 100 contracts. |
| Ticker Symbols | Open outcry: MF a/c/e: ZG |

Options on CBOT Mortgage Futures

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| Trading Unit | One CBOT Mortgage futures contract. |
| Price Basis | Points and quarters of 1/32 of one point, with one point equal to \$1,000. |
| Tick Size | One quarter of 1/32 of one point (\$7.8125), rounded up to the nearest one cent. |
| Strike Prices | Listed in half-point (\$500) increments to bracket the previous day's settlement price in the underlying futures contract, i.e., the at-the-money strike plus the next 15 consecutively higher and lower strikes. |
| Daily Price Limits | None. |
| Contract Months | Same as futures. |
| Last Trading Day | Same as futures. |
| Exercise Procedure | American exercise. The holder can exercise by giving notice by 6:00 p.m. Chicago time to the Board of Trade Clearing Corp. on any business day the option is traded. |
| Expiration | Unexercised options expire at 6:00 p.m. Chicago time on the last day of trading. |
| Trading Hours | Open outcry: 7:20 a.m. to 2:00 p.m. Chicago time, Monday through Friday. a/c/e (electronic trading platform): 8:00 p.m. to 4:00 p.m. Chicago time, Sunday through Friday. |
| Position Limits and Reportable Positions | Spot limit of 5,000 contracts on a futures equivalency basis with an aggregate outright limit of 5,000 contracts and a reportable limit of 50 contracts. |
| Ticker Symbols | Open outcry: MFC for calls/MFP for puts a/c/e: OZG |



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