CME Eurodollar Options on Futures
Global Leadership in the Financial Marketplace

CME is the largest and most diverse financial futures and options exchange in the world – handling nearly 800 million futures contracts worth more than $460 trillion in a single year. Founded in 1898, we serve the risk-management needs of customers around the globe by offering the widest range of benchmark financial products available on any exchange, traded via our CME Globex electronic trading platform and on our trading floors. Our innovative products cover major market segments - including interest rates, equities, foreign exchange, commodities and alternative investment products - and improve the way these markets work for customers everywhere.

CME Interest Rate Products

CME interest rate products enable banks and other lenders worldwide to hedge interest rate risks, and in turn help to reduce the overall cost of borrowing and financing. CME trades more short-term interest rate futures and options than any other exchange in the world. The cornerstone of the CME interest rate product line is CME Eurodollar futures, the world’s most actively traded futures contract. In addition, CME Eurodollar options are the most actively traded exchange-listed interest rate options in the world.
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A benchmark for investors globally, CME Eurodollar futures provide a valuable, cost-effective tool for hedging interest rate fluctuations on Eurodollars, which are U.S. dollars deposited in commercial banks outside the United States. CME Eurodollar futures, which reflect three-month LIBOR (London Interbank Offered Rate), were the first futures contract to be settled in cash, rather than physically delivered. A total of 40 quarterly futures contracts, spanning ten years, plus the four nearest serial (non-quarterly) months are listed at all times. Today more than 80 percent of CME Eurodollar futures, representing average daily volume of 1.5 million contracts, trade electronically on the CME Globex electronic trading platform.

We also offer options on CME Eurodollar futures, the most actively traded exchange-listed interest rate options contract in the world. Options liquidity offers traders and hedgers an even greater opportunity to take advantage of their views on the direction of U.S. interest rates.

Options on CME Eurodollar futures provide the opportunity to limit losses while maintaining the possibility of profiting from favorable changes in the futures prices. All options on CME Eurodollar futures are American-style, meaning that the options may be exercised on or before expiration.

In addition to quarterly and serial options on CME Eurodollar futures, CME lists Mid-Curve options, which are short-dated, American-style options on long-dated futures. The underlying instrument is CME Eurodollar futures contracts one and two years out. Because the options are short-dated, they offer a low-premium, high-time-decay alternative in this segment of the yield curve.

The combination of CME Eurodollar futures and options, both risk-management tools, give market participants the leverage of futures and the more limited risk of options.
Why Trade CME Eurodollar Options?

CME Eurodollar products are part of a broad derivatives market, which also includes the over-the-counter (OTC) swap and interest rate derivatives markets. These markets have grown in tandem over the last quarter-century and it is widely accepted that neither could have grown to their current size without the other. However, there are significant advantages to exchange-traded products, such as those offered by CME:

**Concentrated liquidity**
Options on CME Eurodollar futures are the most actively traded exchange-listed interest rate options in the world, with average daily volume in excess of 700 thousand per day and open interest of over 20 million contracts. This unsurpassed liquidity means consistently tight bid/ask spreads and lower transaction costs for our clients.

**Trading Opportunities**
Options on CME Eurodollar futures are the premier vehicle for hedging short term interest rate risk. They also offer a variety of trading opportunities, including outright long or short positions, spreading against other instruments, hedging strategies, arbitrage, and cash equitization strategies.

**Price Transparency**
At CME, trading transactions take place in an open, fair and anonymous trading environment. CME market prices are universally available in real time, with transactable quotes on a subset of outright puts, calls and straddles and indicative quotes on more than 70,000 outrights and combinations.

**Electronic Access/Ease of Trading**
The majority of CME Eurodollar contracts, and a growing number of CME Eurodollar options, trade on the CME Globex electronic trading platform virtually around the clock. Customers can access the CME Globex platform through 800 direct connections in 36 countries around the world, as well as through telecommunication hubs – located in London, Amsterdam, Dublin, Frankfurt, Gibraltar, Milan, Paris and Singapore — that provide reduced connectivity costs, increased accessibility, and fast, efficient trading of CME products.

**Market Integrity/Fully Integrated Clearing**
At CME, we operate our own clearing house that matches and settles all trades and guarantees the creditworthiness of every transaction that takes place in our markets. Our integrated clearing function ensures the safety and soundness of our markets and helps differentiate us from our competitors. With CME Clearing serving as the counterparty to every trade, credit risk is very low.

**Regulatory Assurance**
The quality and strength of CME regulatory capabilities underlie the financial security of our markets. Our integrated compliance and market surveillance functions assure market participants of the highest trading standards and supervision. CME markets are monitored by the Commodity Futures Trading Commission (CFTC), an independent federal regulatory agency.
Pricing CME Eurodollar Futures and Options Contracts

CME Eurodollar futures prices are determined by the market’s forecast of the 3-month London Interbank Offered Rate (LIBOR). The futures prices are derived by subtracting the implied interest rate from 100.00. That price reflects the market’s expectation of where 3-month LIBOR deposit rates will be at some point in the future. For instance, an anticipated interest rate of 5.00 percent will translate to a futures price of 95.00 (100.00 – 5.00 = 95.00). Given this price construction, if interest rates rise, the price of the futures contract falls, and vice versa. Therefore, a trader who expected interest rates to decline would buy the futures contract (known as “going long”). If a trader believed rates would rise, he or she would sell the contract (known as “going short”). In either case, if the trader’s market view turns out to be correct, the transaction could result in a loss. If the market view is incorrect, however, the transaction could result in a loss.

Prices of CME Eurodollar futures trade in increments of one-quarter and one-half one basis point, depending upon when the contract expires, and this is often referred to as the “tick” value. Gains or losses are calculated simply by determining the number of ticks moved, multiplied by the value of the tick.

A full tick or basis point in CME Eurodollar futures, for example, is worth $25.00. The $25.00 basis point value is based on the $1,000,000 notional (underlying cash) value of this contract, as calculated below:

\[ \text{notional value} \times .0001 \times \frac{90}{360} = $25.00 \]

For the nearest expiring or “spot” month in CME Eurodollar futures and options (serial or quarterly), the minimum price fluctuation is 1/4 of a basis point or a “1/4 tick,” which is $6.25. For all other CME Eurodollar contracts, the minimum price fluctuation is 1/2 of one basis point, or a “1/2 tick,” which is $12.50.

Options on CME Eurodollar futures are also quoted in index points. Because the futures price, the options price and the strike price are quoted in the same terms, the price relationships are clearly observable.
Trading Example: Hedging with Options on CME Interest Rate Futures

Whenever CME Eurodollar futures can be used to lock in a rate, options on futures can be substituted to guarantee a rate floor or ceiling. As an alternative to a long futures position, which determines a forward investment return for an asset, the purchase of a call option can be substituted. The call gives the right to buy the futures contract at a stated price, providing a floor for a return on the asset while preserving the opportunity for a potential profit. On the other hand, instead of taking a short futures position to predetermine a liability rate, buying a put option can provide protection. The put gives the right to sell the futures at a stated price, providing a ceiling for the liability rate, while preserving the opportunity for a lower cost of funds.

The effective floor or ceiling rate provided by the option is determined by its strike price and the premium paid. The “strike yield” (simply 100 minus the option strike price) is adjusted to reflect the cost of the option. For example, suppose the following prices were observed:

<table>
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<tr>
<th>Contract</th>
<th>Price/Premium</th>
<th>Delta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jun CME Eurodollar futures</td>
<td>96.02</td>
<td>1.00</td>
</tr>
<tr>
<td>Jun 96.00-strike call</td>
<td>0.30</td>
<td>0.51</td>
</tr>
<tr>
<td>Jun 96.50-strike call</td>
<td>0.11</td>
<td>0.25</td>
</tr>
<tr>
<td>Jun 96.00-strike put</td>
<td>0.28</td>
<td>0.49</td>
</tr>
<tr>
<td>Jun 95.50-strike put</td>
<td>0.11</td>
<td>0.24</td>
</tr>
</tbody>
</table>

Under these conditions, the user of the futures contract could expect to lock in a target LIBOR of 3.98 percent (100.00 - 96.02) - an asset return if long or a liability cost if short. Subject to basis risk, this yield would be locked in regardless of whether market rates rise or fall over the hedge period.

Using the 96.00-strike call to hedge a floating rate investment, a hedger could guarantee a minimum return of 4.00 percent for a cost of 30 basis points. In other words, the realized minimum return would be 3.70 percent as a worst case (4.00 - .30).

If the rate falls below 4.00 percent, futures prices would rise and the call option would increase in value. The lower investment rate on the asset would be supplemented by the profit on the call to ensure a minimum net return of 3.70 percent. On the other hand, if the rate rises above 4.00 percent, the option would be worthless at expiration, and the investor would simply lose the cost of the option and receive the higher market rate on the asset.

Using the 96.50-strike call, the investment hedger would establish a minimum return of 3.39 percent (100.00 - 96.50 - .11). Why would someone use the 96.50-strike call rather than the 96.00-strike call, when the latter offers a higher minimum return? The question involves an important tradeoff consideration.

While it is true that the 96.00-strike call provides a more attractive worst-case scenario, it does so for a larger upfront cost. The purchaser of the 96.00-strike call pays $750 for this protection ($25 x 30 basis points), while the cost of the 96.50-strike call is only $275 ($25 x 11 basis points).

To hedge floating rate liabilities, put options present a similar set of choices. A short futures contract can establish a forward rate of 3.98 percent. The 96.00-strike put can provide a ceiling rate of 4.28 percent (100.00 - 96.00 + .28) for the premium of $700 ($25 x 28 basis points); and the 95.50-strike put can provide a 4.61 percent (100.00 - 95.50 + .11) ceiling rate for the price of $275 ($25 x 11 basis points).
Enhanced CME Eurodollar Options on CME Globex

CME recently introduced enhanced functionality for trading electronic CME Eurodollar options, combining committed market making, indicative quotes, complex spread combinations and electronic request for quote (e-RFQ) functions. The new state-of-the-art functionality facilitates trading of complex CME Eurodollar combination and spread trades within a fully transparent and competitive execution environment. Customers can view real-time prices from major market-making participants for thousands of outright contracts and complex spread combinations. The technology also provides unparalleled competitive execution by ensuring that all incoming orders are exposed to the largest possible universe of potential counterparties.

The competitive execution technology guarantees that customer orders are filled at the best available price and that all bids, offers and trades are reported real-time to the entire trading community. Moreover, the patent-pending electronic Request for Quote (eRFQ)-based methodology provides significant incentives for market makers to improve prices and attract customer orders.

The new technology enhances electronic trading opportunities for all market participants: customers, brokers and liquidity providers. It provides anonymous and transparent execution without exposing participants to counterparty risk. Trades are matched in the Exchange’s central order book and are instantly backed by the CME Clearing House. The platform also offers straight-through processing, lower transaction costs, and real-time global distribution of transactable options and complex spread prices. This enhanced functionality is fully integrated into the CME Globex platform.

The end users and brokers using the enhanced options capability can:

» View indicative quotes on more than 70,000 outrights and spread combinations
» Select from more than 20 different complex spread types
» Send eRFQs
» Enter limit and fill and kill (FAK) orders
» See working orders, trade confirmations, and order cancellations
» Execute trades instantly and anonymously
Benefits of Enhanced CME Eurodollar Options

Consider the benefits of trading CME Eurodollar Options on the CME Globex Platform:

**Liquidity**

The system's technology and market structure replicate the "liquidity pooling" dynamic of the CME interest rate options pits and the system gathers liquidity from the entire global trading network.

Selected Lead Market Makers (LMMs) and Responding Market Makers (RMMs) represent a significant portion of current CME Eurodollar options volume.

More than a dozen major firms serve as Lead Market and Responding Makers, publish real-time indicative quotes for a variety of CME Eurodollar options outright contracts and spread combinations. Responding Market Makers, are obligated to rapidly respond to electronic Requests for Quotes (eRFQs) from users with transactable quotes in the Exchange order book that are as good as or better than current indicative prices. Each trader's eRFQ is broadcast to all participants, who also can submit orders to add liquidity to the market makers' transactable quotes. Both Lead and Responding Market Makers stream real-time, transactable hard quotes for at-the-money straddles and the first five out-of-the-money puts and calls.

**Transparency**

All price and trade activity are displayed real-time in a centralized and transparent fashion. LMMs broadcast indicative prices anonymously to the entire market and eRFQs are sent to every participant simultaneously. All participants view eRFQ responses and working orders in real-time. Trade confirmations are immediate and are broadcast system-wide.

**Competitiveness**

Because the eRFQ is broadcast to all participants and the best bid and offer are easily viewable, market makers have a strong incentive to improve prices and narrow the bid-ask spread. In contrast to other "electronic" interest rate options markets, the platform and market structure ensure that customers receive the best execution possible.

**Efficiency**

The enhanced options capability brings to CME Eurodollar options the cost efficiencies users have come to expect in electronic interest rate and equity index futures markets: instant trade confirmations, automatic linkage to analytic and risk management systems, straight-through processing (STP) and reduced error trade processing.

**Access**

Participants can access the enhanced options capability via CME Globex, using the front end provided directly by CME or via a front end offered by many popular providers.

**Numberous Spread Combinations**

Enhanced CME Eurodollar options functionality on CME Globex supports the following complex spread types:

- Straddles
- Strangles
- Vertical Call Spreads
- Vertical Put Spreads
- Call 1 x 2s
- Put 1 x 2s
- Call Butterflies
- Put Butterflies
- Horizontal Call Spreads
- Horizontal Put Spreads
- Risk Reversals
- Call 1 x 3s
- Put 1 x 3s
- Call 2 x 3s
- Put 2 x 3s
- Call Christmas Trees
- Put Christmas Trees
- Call Condors
- Put Condors
- Call Strips
- Put Strips
- Horizontal Straddles
- Generics*

Customizable user-defined spread and covered trades will be available in 2006.

*Generic options spreads can consist of up to 40 customized individual legs. Generic spreads must be phoned into the CME Globex Control Center (GCC) by 3:00 p.m. (CT) and will be available for trading the following day.
Five Key Features of Enhanced CME Eurodollar Options:

The enhanced options technology on CME Globex offers the following five key features:

**Indicative Quotes**
The system’s trader front end displays real-time indicative quotes from Lead Market Makers (LMMs). Via the enhanced options capability’s front end, traders view competitive, indicative bids and offers for a wide variety of outrights and options spread combinations and calendar months. LMMs’ pricing models automatically update their indicative options quotes real-time in response to changes in underlying futures prices and other market conditions. In addition, both Lead and Responding Market Makers stream real-time, transactable hard quotes for at-the-money straddles and the first five out-of-the-money puts and calls.

**eRFQs and Transactable Responses**
To communicate interest in seeing a transactable quote, traders send an electronic Request for Quote (eRFQ). Once the eRFQ is sent, traders can expect to see a transactable, two-sided quote in the Exchange order book that is as good as or better than the indicative market maker quote.

The trader’s eRFQ message alerts all LMMs and RMMs to customer interest in a particular outright or spread combination. LMMs and RMMs are then obligated by the Exchange to respond to eRFQs within a specified time frame, with maximum liquidity. The market-makers’ timely and competitive response to eRFQs is greatly facilitated by the patent pending Enhanced Options messaging software. With each eRFQ, LMMs receive a pop-up quote ticket on their own front-end, pre-loaded with their own indicative bid-ask quote. At the same time, RMMs receive a pop-up quote ticket pre-loaded with the best LMM indicative quote at the time of the eRFQ. Market-makers simply confirm or improve the indicative quote and route a transactable quote to the Exchange central order book.

**Active Contract Viewer**
Every time an eRFQ is sent or a contract trades on the system, the order book for that contract appears in real-time on the bottom half of every trader’s screen (“Active Contract Viewer”). As in pit-based markets, the Active Contract Viewer calls the market’s attention to the specific outright or spread contract being actively quoted or traded. From the Active Contract Viewer, users can easily hit the bid, lift the offer or enter a limit order into the book.

**“Point and Click” Trading**
Once a transactable quote appears in the Exchange order book, traders simply “point and click” to complete a trade. Just as in CME Eurodollar futures or CME E-mini futures markets, traders’ orders are instantly matched and confirmed by the Exchange. Confirmed trades, partial fills and working orders are all displayed real-time on the trader front end. All market participants are alerted to any options trade on the platform by an audio cue on their front end. In addition, the Active Contract Viewer displays the real-time actionable prices for the contract or combination that was just traded or RFQ’d.

**Straight-Through Processing (STP)**
Matched trades are instantly recognized by the Exchange and fed automatically to the trader’s clearing firm and back office systems. As with other activity on the CME Globex platform, trades matched via the enhanced options capability will appear automatically in the trader’s clearing statements the following day.
Contract Specifications

Options on CME Eurodollar Futures

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<thead>
<tr>
<th>Contract Size</th>
<th>One Eurodollar Time Deposit Futures Contract</th>
</tr>
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<tbody>
<tr>
<td>Point Descriptions</td>
<td>1 point = .01 = $25.00</td>
</tr>
<tr>
<td>Minimum Fluctuation</td>
<td>0.01=$25.00</td>
</tr>
<tr>
<td>Half Tick</td>
<td>0.005=$12.50 For all options on CME Eurodollar futures including quarterly, serial and mid-curve expirations, except when the underlying future is the nearest monthly expiration.</td>
</tr>
<tr>
<td>Cab</td>
<td>0.0025=$6.25</td>
</tr>
<tr>
<td>Quarter</td>
<td>0.0025=$6.25 When Underlying Future is nearest expiring month.</td>
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Trading Venues: CME Trading Floor and CME Globex

| Hours | Virtually 24-hours, 6 days a week on CME Globex |
| Listed | 2.00 IMM index points above or below the reference RTH price |
| Strike | Strike listing rules shall be identical to the open outcry trading. |
| Limits | Trading halts when primary futures contract is locked at limit. |

Quarterly Options on CME Eurodollar Futures

Underlying Contract: Corresponding futures contract
Contract Months: Mar, Jun, Sep, Dec
Number Listed: 8
Last Trading Day: 11:00 a.m. London time on the second London bank business day preceding the third Wednesday of the contract month
Settlement/Exercise: Cash-settled

Serial Options on CME Eurodollar Futures

Underlying Contract: Next quarterly futures contract
Contract Months: Jan, Feb, Apr, May, Jul, Aug, Oct, Nov
Number Listed: 2
Last Trading Day: 2:00 p.m. Chicago time on the Friday preceding the third Wednesday of the contract month
Settlement/Exercise: Position in front quarterly futures contract

Mid-Curve Options on CME Eurodollar Futures

Underlying Contract: Quarterly CME Eurodollar future that expires one, two or four years after the option
Contract Months: All twelve calendar months and weekly expirations for one-year Mid-Curves and Mar, Jun, Sep, Dec for two-year and Gold Mid-Curves
Number Listed: 4 weekly, 2 serial and 4 quarterly in the one-year Mid-Curves and 4 quarterly in the two-year and Gold Mid-Curves
Last Trading Day: 2:00 p.m. Chicago time on the Friday preceding the third Wednesday of the contract month
Settlement/Exercise: Quarterly options: Position in the corresponding futures contract expiring either one, two or four years after the option expires. Serial options: Position in the next quarterly futures contract expiring one year after the option expires.
Getting Started in CME Eurodollar Options

For additional information to help you get started trading CME Eurodollar options, please visit our web site at www.cme.com/eurodollar. You will be able to access a number of other brochures, online seminars and marketing and education materials that can answer your questions or help you to begin trading these products. Additionally, if you would like to talk to a CME representative, please call our Customer Service Line at 1-800-331-3332. An online demonstration is available to show you how to use the enhanced CME Eurodollar functionality on CME Globex. To watch the presentation, please visit www.cme.com/optionsdemo.

CME Publications:
» An Introduction to CME Interest Rate Products
» CME Interest Rate Products: The Basics
» CME Interest Rate Products: Advanced Topics

Web Sites:
» www.cme.com/interestrates
» www.cme.com/eurodollar
» www.cme.com/options
» www.cme.com/optionsdemo

Prices seen here can be found in real time on our web site at www.cme.com/edge.
CME Interest Rate Products Listing

In addition to its benchmark CME Eurodollar futures and options contracts, CME offers a complete range of futures and options products based on a variety of interest rate instruments, including:

» Mid-Curve Options on CME Eurodollar Futures

» CME One-Month LIBOR Futures and Options

» CME Euroyen Futures and Options

» CME Eurozone HICP Futures (Harmonized Index of Consumer Prices, ex-tobacco), based on the price index which measures the level of prices for market goods and services consumed by households in the 12 European Union member states that use the euro as their currency.

» CME 13-week Treasury Bill Futures

» CME Swap Futures, based on the interest rate swap market.

» CME 28-Day TIIE (Tasa de Interest Interbancario de Equilibrio) futures, based on the benchmark Mexican interbank money market.

» CME 91-Day CETES (Certificados de la Tesoreria de la Federacion) Futures, based on Mexican government bonds.

» CME Turn Futures, based on expectations for interest rates on the last business day of the year.

» CME JGB (Japanese Government Bond) Futures, based on 10-year Japanese government bonds.

» CME CPI (Consumer Price Index) Futures, based on the market’s expectation for future inflation rates in the U.S.

» CME Eurodollar FRA (Forward Rate Agreement) Switch Futures, based on the needs of risk managers in the OTC interest rate derivative community.

More information on each of these products is available on the CME web site: www.cme.com
Futures trading is not suitable for all investors, and involves the risk of loss. Futures are a leveraged investment, and because only a percentage of a contract’s value is required to trade, it is possible to lose more than the amount of money initially deposited for a futures position. Therefore, traders should only use funds that they can afford to lose without affecting their lifestyles. And only a portion of those funds should be devoted to any one trade because a trader cannot expect to profit on every trade.

All references to options in this brochure refer to options on futures.

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