Replicating OTC FX Market Positions with CME FX Futures

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In this white paper, we explore the advantages that CME FX futures offer traditional market practitioners in the OTC FX markets, and how CME FX futures can be used to replicate cost-efficient, manageable synthetic exposure to OTC FX spot, forwards, and swaps.

Executive Summary

In today's evolving regulatory environment, traditional market practitioners in the OTC FX markets are seeking solutions to mitigate the additional burdens that come with new regulation. While the imposition of new market regulation like Basel III and the revision of the Markets in Financial Instruments Directive (commonly known as "MiFID II") are intended to provide new regulatory frameworks designed to protect OTC market practitioners, these new frameworks will also make it more expensive and difficult for many institutional participants to transact in the OTC FX markets as the costs of increased market transparency, regulatory oversight, financial disclosure, and risk capital grow. For OTC FX market practitioners seeking capital and cost effective means to address new requirements, CME FX futures, traded on a highly liquid regulated exchange, offer an attractive alternative to many OTC FX trading strategies.

New Opportunities in CME FX Futures

In February 2017, CME Group introduced new monthly expiries to supplement the traditional quarterly listing cycle of the Australian Dollar/US Dollar ("AUD/USD"), British Pound/US Dollar ("GBP/USD"), Canadian Dollar/US Dollar ("CAD/USD"), Euro/US Dollar ("EUR/USD"), Japanese Yen/US Dollar ("JPY/USD") and Euro/British Pound ("EUR/GBP") futures contracts[1]. These new monthly FX futures have the look and feel of the regular quarterly FX futures, as they are largely identical (see Appendix). With the addition of these new expiries CME FX futures now provide market practitioners with IMM-dated FX futures expiries that more fully cover the first six months of the FX forward curve – capturing the vast majority of FX forward and swap trading activity – and which can be effectively used to replicate a variety of synthetic, cost-efficient OTC IMM-dated FX forward and FX swap market positions[2].

All examples in this report are hypothetical interpretations of situations and are used for explanation purposes only. The views in this report reflect solely those of the authors and not necessarily those of CME Group or its affiliated institutions. This report and the information herein should not be considered investment advice or the results of actual market experience.

1 *CME currently lists twenty (20) quarterly expiries in AUD/USD, GBP/USD, CAD/USD, EUR/USD, and JPY/USD futures for trading on CME Globex and for submission for clearing through CME ClearPort. The Exchange presently lists six (6) quarterly expiries in EUR/GBP futures on CME Globex and CME ClearPort.*

2 *Publicly available market data indicates that the majority of average daily outright FX forward volume and average daily FX swap volume by tenor takes place within six (6) months.*

Furthermore, because the new FX monthlies call for the physical delivery of FX spot, they are highly correlated with the underlying OTC FX markets and thus provide market participants with a simple, cost-efficient, and standardized alternative for trading synthetic exposure and replicating OTC FX spot, forward, and swap market positions.

Additionally, in September 2017, CME enabled implied functionality for FX futures on the CME Globex electronic trading platform for outright transactions in the first 12 months and in all serial-serial, serial-quarterly, and quarterly-quarterly calendar spreads in the first 12 months using a calendar spread pricing algorithm that more closely follows OTC market conventions. Implied functionality integrates bids and offers in outright and spread markets thereby optimizing liquidity across both markets, increasing market transparency by facilitating tighter pricing and increasing market depth in the central limit order book ("CLOB") for CME FX futures new monthly expiries and extant quarterly expiries.

Benefits of CME FX Futures

Margin Efficiencies

CME FX futures require margin to be reserved against the risk of adverse market moves – approximately one to three percent of the notional contract value. CME FX futures benefit from the netting of market positions against a central counterparty ("CCP"), standardization of collateral for margin, and portfolio margining. Contrast that with the bilateral OTC market whereby margin is posted against each trading counterparty often to different standards and processes. This is becoming especially important with the introduction of mandatory uncleared margin requirements on certain OTC FX products.

(For authoritative and up-to-date information on margin requirements, please visit: **cmegroup.com/margins**.)

Capital Efficiencies

CME FX futures offer relief against Basel III capital costs. For instance, risk weighted assets, total leverage exposure and liquidity related costs are reduced considerably due to the effects of compressing exposures against a CCP. In addition, CME FX futures have no credit value adjustment ("CVA") charges[3]. By comparison, OTC FX forward and swap traders have to contend with gross mark-up of market positions on a counterparty by counterparty basis that substantially increases capital surcharges based on total risk-weighted assets[4], CVA charges, and liquidity requirements.

CME Clearing Guarantee

CME Clearing protects the financial integrity of CME Group markets, including CME FX futures. By serving as the counterparty to every transaction, CME Clearing becomes the buyer to every seller and the seller to every buyer, virtually eliminating credit risk for each market participant through its centrally-cleared model. In its more than 165-year history, there has never been a failure of a clearing member firm resulting in a loss of customer funds.

Regulated Marketplace

Unlike the OTC FX market, which is unregulated, CME is a regulated designated contract market and CME Clearing is a regulated designated clearing organization, subject to the jurisdiction of the Commodity Futures Trading Commission and rules and regulations of the Commodity Exchange Act.

Low Operational Cost

CME FX futures effectively remove the need for entering into time-consuming ISDA® Master Agreements for establishing and maintaining bilateral collateralization, for posting counterparty credit surcharges, or for entering into auxiliary OTC credit default swaps to insure against counterparty failure.

FX Global Code of Conduct

CME FX futures markets are aligned with the principles of the FX Global Code. CME FX futures promote a robust, fair, liquid, open, and transparent market in which market participants are able to confidently and effectively transact at competitive prices that reflect available market information and in a manner that conforms to acceptable professional standards of industry behavior.

Firm Liquidity on Central Exchange

CME FX futures provide firm liquidity with all participants treated equally and subject to CME exchange rules. In particular, there are no last look practices which exist in certain OTC FX marketplaces, allowing market makers optionality to cancel trades.

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3 Credit valuation adjustment is the difference between the risk-free portfolio value and the true portfolio value that takes into account the possibility of a counterparty's default. In other words, CVA is the market value of counterparty credit risk.

4 Under the final rule and using the most recent available data, the Federal Reserve Board estimates surcharges for a global systemically important bank ("G-SIB") will range from 1.0 to 4.5 percent of a G-SIB's total risk-weighted assets. Because the final rule relies on individual G-SIB data that will change over time, the currently estimated surcharges may not reflect the surcharges that will apply to a G-SIB when the rule becomes effective.

1. Replicating OTC FX Spot Exposure with CME FX Futures

In the FX spot market, institutional market participants – asset managers, banks, and hedge funds – typically establish a long or short market position in FX spot and maintain this position by rolling the position forward in time by extending the settlement date of the open FX spot position[5]. Alternatively, these same market participants can use CME FX futures to effect cost-efficient, synthetic spot exposure.

Using CME FX futures allows institutional participants to avoid the additional complexities and risks of rolling their FX spot positions daily and thus collecting and paying interest on their purchased and borrowed currency positions, respectively. Institutional participants commonly focus their trading on the nearby quarterly series CME FX futures contract since it is generally the most liquid expiry in the CLOB on the CME Globex electronic trading platform and thus is the preferred futures expiry to use to replicate FX spot positions. With the introduction of implied functionality for CME FX futures on CME Globex, market participants now have an even broader array of monthly and quarterly expiries with which to replicate FX spot transactions.

Example of Replicating OTC FX Spot Exposure with CME FX Futures

Assume a hedge fund believes the Canadian dollar will depreciate steadily versus the US dollar between March 19 and mid-June and therefore wants to modify its FX book to reflect this trade bias. To initiate a transaction based on this market view, the fund sells in the OTC FX market 15 million CAD on March 19 and then rolls its position daily until Tuesday, June 19, when it closes out the position to avoid physical delivery.

Alternatively, the hedge fund could replicate its FX spot position by selling 150 CME CAD/USD futures contracts with a June 2018 quarterly expiry date on March 19 – 15 million CAD divided by 100,000 CAD, or the notional size of the spot position divided by the notional size of the CAD/USD futures contract. To terminate its futures position – assuming the fund only seeks to profit from changes in the USD/CAD spot exchange rate over its three-month investment horizon and thus has no intention of taking physical delivery, the fund can simply offset its short futures position by buying back its June 2018 futures contracts prior to futures expiration on the last trading day on June 18.

Replicating 15MM Canadian Dollar OTC FX Spot Exposure with CME CAD/USD Futures

March 19, 2018		June 18, 2018
INITIAL TRADE	▷	**TERMINAL TRADE**
Sell 150 June 2018 CME CAD/USD Futures		Buy 150 June 2018 CME CAD/USD Futures

5 *In most currency trades, market participants are required to make or take delivery of the currency two days after the transaction date. However, by rolling the position forward in time – i.e., simultaneously closing the existing FX spot position at the daily closing rate and then re-entering the position at the new opening rate the next trading day – participants can extend the settlement period of the open FX spot position by one day. Market practitioners find rollover useful in FX spot because participants want to profit only from changes in exchange rates and thus have no intention of taking physical delivery of the currency they buy. Market end-users continue to roll open FX spot positions forward in time as long as they wish to maintain market exposure. Since FX spot is transacted by borrowing in one currency to buy another currency, receiving interest on the purchased currency and paying interest on the borrowed currency is a regular occurrence in FX spot trading. At the close of every trading day, participants who took long positions in a high yielding currency relative to the currency that they borrowed will receive an amount of interest in their account. Conversely, end-users will need to pay interest if the currency they borrowed has a higher interest rate relative to the currency that they purchased.*

2. Replicating OTC IMM-Dated FX Forward and Forward-Starting Forward Exposure with CME FX Futures

At any single point in time, CME lists a total of five futures expiries – three monthlies plus two quarterlies – within the first six calendar months for the AUD/USD, CAD/USD, EUR/USD, EUR/GBP, GBP/USD, and JPY/USD futures contracts.

This listing cycle provides market practitioners with a broad array of IMM-dated FX futures expiries for greater granularity across the IMM-dated FX forward curve that can be effectively used to replicate a variety of synthetic, cost-efficient OTC IMM-dated FX forward market positions in these six currency pairs. Moreover, because the futures on these six currency pairs call for the physical delivery of FX spot, these FX futures are highly correlated with the OTC IMM-dated FX forward market.

Table 1: Listing Cycle for CME FX Futures Contracts

	IMM Start Date	1	2	3	4	5	6
1	12/18/17	Jan 2018	Feb 2018	Mar 2018	Apr 2018	–	Jun 2018
2	1/15/18	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018	–
3	2/19/18	Mar 2018	Apr 2018	May 2018	Jun 2018	Jul 2018	–
4	3/19/18	Apr 2018	May 2018	Jun 2018	Jul 2018	–	Sep 2018
5	4/16/18	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	–
6	5/14/18	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	–
7	6/18/18	Jul 2018	Aug 2018	Sep 2018	Oct 2018	–	Dec 2018
8	7/16/18	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	–
9	8/13/18	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	–
10	9/17/18	Oct 2018	Nov 2018	Dec 2018	Jan 2019	–	Mar 2019
11	10/15/18	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	–
12	11/19/18	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	–

Table 1 illustrates the current listing cycle for CME's AUD/USD, CAD/USD, EUR/USD, EUR/GBP, GBP/USD, and JPY/USD futures based on specific IMM trade dates.

On December 18, 2017 (Row 1), for example, the current listing cycle will be composed of three monthlies (January, February, and April 2018) and two quarterlies (March and June 2018). This listing cycle can be used to replicate five different FX forwards and ten different FX forward-starting forwards – 15 instruments in all (see Table 2, Row 6).

Specifically, a market participant looking to replicate IMM-dated FX forwards can use CME FX futures to synthetically create five forwards (1, 2, 3, 4, and 6 months), four one-month starting forwards (1, 2, 3, and 5 months), three two-month starting forwards (1, 2, and 4 months), two three-month starting forwards (1 and 3 months), and one four-month starting forward (2 months).

In general, for any specific IMM trade date in the above table or any date between any two specific IMM trade dates, the listing cycle of CME FX futures can be used to create five different FX forwards and ten different FX starting forwards synthetically, albeit with slight variation in the term structures of the various FX forward offerings.

Table 2: FX Forwards and FX Forward-Starting Forwards Replicated with CME FX Futures Contracts

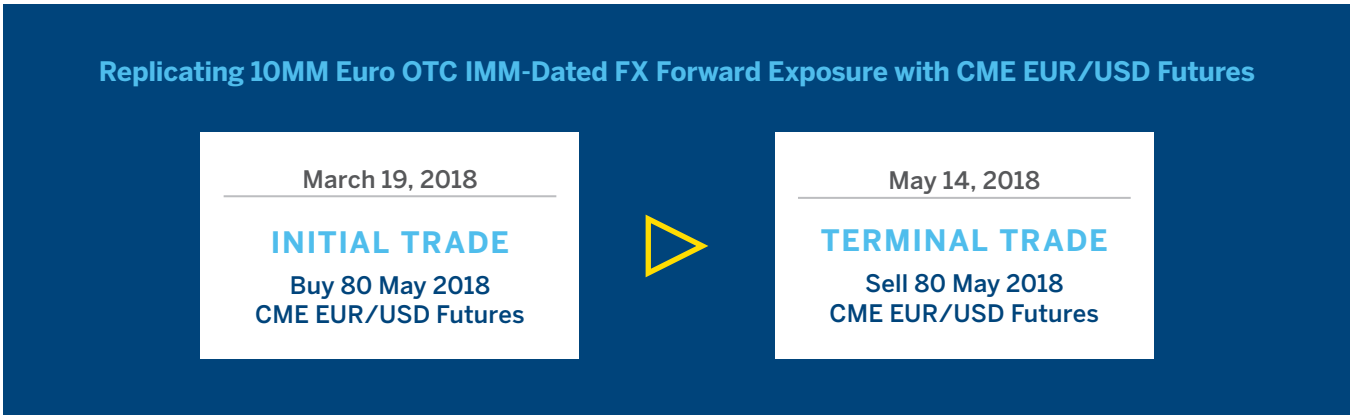
		Forward	1MSF	2MSF	3MSF	4MSF	Total Instruments
1	January	1M	1M	1M	1M	2M	
2	April	2M	2M	2M	3M		
3	July	3M	3M	4M			
4	October	4M	5M				
5	Quarterly Cycle	6M					
6		5	4	3	2	1	15
		Forward	1MSF	2MSF	3MSF	4MSF	Total Instruments
7	February	1M	1M	1M	1M	1M	
8	May	2M	2M	2M	2M		
9	August	3M	3M	3M			
10	November	4M	4M				
11	Quarterly Cycle	5M					
12		5	4	3	2	1	15
		Forward	1MSF	2MSF	3MSF	4MSF	Total Instruments
13	March	1M	1M	1M	1M	1M	
14	June	2M	2M	2M	2M		
15	September	3M	3M	3M			
16	December	4M	4M				
17	Quarterly Cycle	5M					
18		5	4	3	2	1	15

The process of creating and terminating synthetic FX forward exposure with CME FX futures is simple and straightforward. To create a synthetic long (short) IMM-dated FX forward position, all one needs to do is buy (sell) a specific tenor of CME FX futures in the correct notional size that fits one's market expectations. To terminate a position, all one has to do is reverse out of one's CME FX futures position just prior to futures expiration on the last trading day.

Example of Replicating OTC IMM-Dated FX Forward Exposure with CME FX Futures

Assume a bank needs to hedge its forward currency book because it believes the Euro will appreciate steadily versus the US dollar between March 19 and mid-May. To capitalize on this market expectation, the bank decides to purchase a two-month IMM-dated OTC EUR/USD forward on March 19 with a notional size of 10 million EUR for settlement on Monday, May 14 for delivery on Wednesday, May 16. Assuming the bank only seeks to profit from changes in the EUR/USD exchange rate over its two-month investment horizon and thus has no intention of taking physical delivery of 10 million EUR, the bank can terminate its forward position by selling 10 million EUR on a spot basis on May 14 for delivery on May 16.

Alternatively, the bank could replicate this specific forward position by purchasing 80 CME EUR/USD futures contracts with a May 2018 monthly expiry date on March 19 – 10 million EUR divided by 125,000 EUR, or the notional size of the forward divided by the notional size of the EUR/USD futures contract. To terminate its futures position, the bank can simply sell 80 May 2018 EUR/USD futures just prior to futures expiration on the last trading day on May 14.



Instead of an outright FX forward, however, a market practitioner may choose to execute a forward position on a forward starting basis. As with an outright FX forward, an end-user may choose to transact a forward-starting forward in the OTC FX market or synthetically in the CME FX futures market. All one needs to do to create a synthetic long (short) IMM-dated FX forward-starting forward position is to simultaneously combine a purchase (sale) of a specific tenor of a long-dated FX futures position with a sale (purchase) of a specific tenor of a short-dated FX futures position in the correct notional size that fits one's market expectations.

Combining long- and short-dated FX futures positions – *i.e.*, a futures calendar spread – effectively isolates a specific forward segment of the IMM-dated FX forward curve to synthetically replicate an IMM-dated FX forward-starting forward position. To terminate the position all one has to do is reverse out of one's long- and short-dated CME FX futures positions just prior to futures expiration on each contract's last respective trading day.

Example of Replicating OTC IMM-Dated FX Starting Forward Exposure with CME FX Futures

In the previous example, a bank needs to hedge its forward currency book against a steady appreciation of the Euro versus the US dollar between March 19 and mid-May.

Suppose, however, the bank instead believes the Euro will rally against the US dollar not over a two-month span but over a narrower one-month time horizon between mid-April and mid-May.

In this case, the bank could decide on March 19 to buy a one-month forward starting IMM-dated EUR/USD forward in the OTC FX market for 10 million Euros that settles on Monday, May 14 for delivery on Wednesday, May 16 to profit from its market expectation. Assuming the bank only seeks to profit from changes in the EUR/USD exchange rate over its one-month forward investment horizon and thus has no intention of taking physical delivery of 10 million EUR, the bank can unwind its starting forward position by selling 10 million EUR on a spot basis on May 14 for delivery on May 16.

Alternatively, the bank could replicate this forward-starting forward position with futures by simultaneously buying 80 CME EUR/USD futures contracts with a May 2018 monthly expiry while selling 80 EUR/USD futures contracts with an April 2018 monthly expiry. By going long the April-May 2018 futures calendar spread, the bank effectively isolates the forward segment of the IMM-dated FX forward curve between mid-April and mid-May by synthetically replicating an IMM-dated FX forward-starting forward position that comports to its one-month forward investment view.

Since the bank only wants to profit from movements in the EUR/USD exchange rate and thus has no intention of taking physical delivery of 10 million EUR, the bank can simply offset its long calendar spread position by buying back 80 April 2018 EUR/USD monthly futures just prior to the futures expiration on April 16 and selling back 80 May 2018 EUR/USD monthly futures just prior to the futures expiration on May 14.

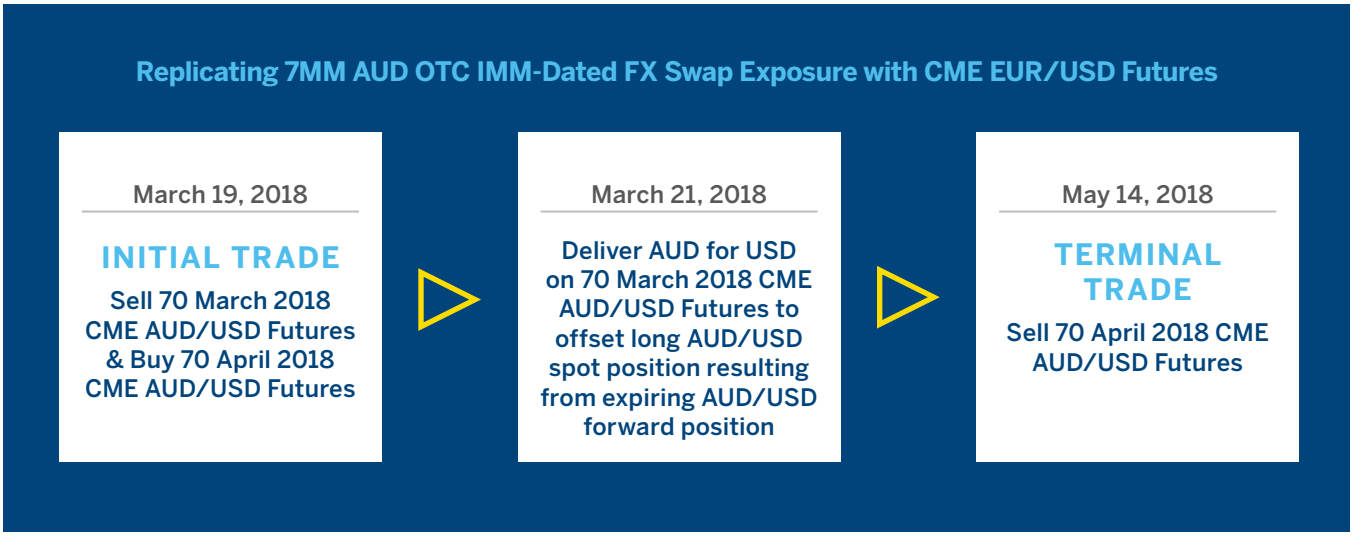
3. Replicating OTC IMM-Dated FX Swap Exposure with CME FX Futures

In the OTC FX market, market practitioners use IMM-dated FX swaps to roll their expiring IMM-dated FX forwards further along the IMM-dated forward curve. A long (short) FX swap is essentially an interest rate transaction that simultaneously combines a long (short) FX forward with a short (long) FX spot trade. Market participants roll their expiring IMM-dated FX forwards by combining the FX swap with their outright forward position such that the latter is offset by the FX spot leg of the FX swap at the settlement of the expiring forward while the forward leg of the FX swap extends the expiring forward out an additional term. As in the previous section, market end-users can use CME FX futures to create low-cost, synthetic exposure that replicates IMM-dated FX forwards, whether outright or starting forward transactions. In this example, we show how market participants can use CME FX futures to replicate low-cost, synthetic IMM-dated FX swaps to roll their IMM-dated FX forward positions.

Example of Replicating OTC IMM-Dated FX Swap Exposure with CME FX Futures

Assume an asset manager expects the Australian dollar will appreciate versus the US dollar between February 19 and mid-March and thus needs to mitigate its USD exposure in its FX forward book to reflect this market view. To profit from this market expectation, the asset manager is long a one-month IMM-dated AUD/USD forward with a notional amount of 7 million AUD that will settle on Monday, March 19 for delivery on Wednesday, March 21. As the expiring forward position approaches settlement, the asset manager finds that its market outlook is correct. The asset manager, however, now expects the AUD to continue its price appreciation against the USD between mid-March and mid-April and wishes to roll its expiring forward position by one-month to capture further market gains. In this case, the asset manager could decide to buy a one-month IMM-dated FX swap for 7 million AUD on March 19 in the OTC FX market. The short spot leg of the FX swap would offset the long spot position resulting from the expiring forward position while the long forward leg of the FX swap effectively rolls the expiring forward out an additional month with settlement on Monday, April 16 for delivery on Wednesday, April 18.

Alternatively, the asset manager could roll its expiring forward position on March 19 by selling 70 CME AUD/USD March 2018 quarterly futures contracts just prior to expiration on the futures' last trading day while buying 70 CME AUD/USD April 2018 monthly futures contracts – 7 million AUD divided by 100,000 AUD, or the notional size of the forward divided by the notional size of the AUD/USD futures contract. The short March 2018 quarterly futures position will offset the long FX spot position resulting from the expiring forward position on March 19 while the long April 2018 monthly futures position effectively rolls the expiring forward out an additional month with settlement on Monday, April 16 for delivery on Wednesday, April 18.



CME FX Link: Spot FX Basis Spreads on CME Globex

Introducing CME FX Link

Testing November 16, 2017 | Trading February 25, 2018

CME is launching spot FX basis spreads on CME Globex that allow market participants to simultaneously transact OTC FX spot vs. each of the front 3 monthly futures expiries.

This will be complimentary to strategies outlined in this paper, allowing users to buy or sell FX Futures versus OTC spot on a central limit order book.

Market participants will use the functionality to (a) enter into a synthetic swap from spot to one of the front 3 monthly IMM expiries and (b) convert futures exposures to OTC spot to either close exposures or obtain delivery of FX futures to-the-date.

For more information on CME FX Link, please visit **cmegroup.com/fxlink**.

Additional Considerations

As standardized, exchange-traded instruments, CME FX futures present additional considerations that can be easily managed to successfully replicate cost-efficient, synthetic exposure to OTC FX spot, forward, and swap transactions.

- **CME Pricing Convention** The CME pricing convention for FX futures has the US dollar as the quoting currency and the underlying notional amount for physical delivery denominated in foreign currency. For AUD/USD, EUR/USD, EUR/GBP, and GBP/USD futures, the CME pricing convention is aligned with OTC conventions. This means a trader needs to buy futures if they are replicating a long spot or forward position and sell futures if they are replicating a short spot or forward position in these four currencies. For CAD/USD and JPY/USD futures, however, the CME pricing convention is opposite OTC conventions, which means a trader needs to sell futures if they are replicating a long spot or forward position and buy futures if they are replicating a short spot or forward position in these two currencies.
- **Scaling the Trade** CME FX futures have standardized notional sizes. To determine the number of FX futures to be bought or sold to replicate an FX spot, forward, or swap transaction, all one needs to do is simply divide the notional size of the OTC position by the notional size of the FX futures contract. Traders need to be mindful that they may need to round the number of CME FX futures required to replicate an OTC position since the standardized notional sizes of CME FX futures may make it difficult to replicate the notional size of an OTC position precisely.
- **Physical Delivery** OTC FX traders typically want to profit only from changes in exchange rates and want to avoid physical delivery of the currencies they buy or sell. Traders usually offset their OTC positions with matching spot transactions when they mature to mitigate currency deliveries. When replicating OTC positions with CME FX futures, traders need to be mindful that they need to reverse out of their expiring futures positions just prior to 9:16 am Chicago time on the last trading day or they will be bound to make or take physical delivery in the underlying cash currencies.

For more information, please contact fxteam@cmegroup.com or visit cmegroup.com/fx.

CME FX Futures Contract Specifications

	EUR/USD	JPY/USD	GBP/USD	AUD/USD	CAD/USD	EUR/GBP
Product Code	6E	6J	6B	6A	6C	RP
Contract Size	125,000 EUR	12,500,000 JPY	62,500 GBP	100,000 AUD	100,000 CAD	125,000 EUR
Contract Months	3 Monthlies (in addition to current offering of 20 Quarterlies)					3 Monthly contracts (in addition to current offering of 6 Quarterlies)
Quotation	Quoted in USD per EUR	Quoted in USD per JPY	Quoted in USD per GBP	Quoted in USD per AUD	Quoted in USD per CAD	Quoted in GBP per EUR
Tick	**Outrights:** 0.00005 USD per EUR (6.25 USD)	**Outrights:** 0.0000005 USD per JPY (6.25 USD)	**Outrights:** 0.0001 USD per GBP (6.25 USD)	**Outrights:** 0.0001 USD per AUD (10.00 USD)	**Outrights:** 0.00005 USD per CAD (5.00 USD)	**Outrights:** 0.00005 GBP per EUR (6.25 GBP)
	Consecutive Month Spreads: 0.00001 USD per EUR (1.25 USD)	**Consecutive Month Spreads:** 0.0000001 USD per JPY (1.25 USD)	**Consecutive Month Spreads:** 0.00001 USD per GBP (0.625 USD)	**Consecutive Month Spreads:** 0.00001 USD per AUD (1.00 USD)	**Consecutive Month Spreads:** 0.00001 USD per CAD (1.00 USD)	**Consecutive Month Spreads:** 0.00001 GBP per EUR (1.25 GBP)
	Other Spread Combinations within the First 12 Months: 0.00005 USD per EUR (6.25 USD)	**Other Spread Combinations within the First 12 Months:** 0.0000005 USD per JPY (6.25 USD)	**Other Spread Combinations within the First 12 Months:** 0.0001 USD per GBP (6.25 USD)	**Other Spread Combinations within the First 12 Months:** 0.00005 USD per AUD (5.00 USD)	**Other Spread Combinations within the First 12 Months:** 0.00005 USD per CAD (5.00 USD)	**Other Spread Combinations within the First 12 Months:** 0.000025 GBP per EUR (3.125 GBP)
Last Trading Day	9:16 a.m. Central Time (CT) on the second business day immediately preceding the third Wednesday of the contract month (usually Monday)				9:16 a.m. Central Time (CT) on the business day immediately preceding the third Wednesday of the contract month (usually Tuesday)	9:16 a.m. Central Time (CT) on the second business day immediately preceding the third Wednesday of the contract month (usually Monday)
Daily Settlement	Settlement prices established at 14:00 CT					
Contract Settlement	Physical Delivery					
Trading Hours	CME Globex and CME ClearPort: Sunday – Friday, 17:00 – 16:00 CT, with a 60-minute break each day beginning at 16:00 CT and no 17:00 CT session on Friday					
Position Accountability	Single & All Months: 10,000 Contracts			Single & All Months: 6,000 Contracts		
Reportable Limits	200 Contracts					25 Contracts
Block Trade	Monthlies: 20 Contracts Quarterlies: 150 Contracts Spreads: Sum of the Higher of the 2 Legs		Monthlies: 20 Contracts Quarterlies: 100 Contracts Spreads: Sum of the Higher of the 2 Legs			Monthlies: 20 Contracts Quarterlies: 50 Contracts Spreads: Sum of the Higher of the 2 Legs
EFRPs	Allowed					
Matching Algorithm	Outrights: FIFO Spreads: Pro-Rata					

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