FX

Block Trading in CME FX Futures

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This note is an introduction to and overview of block trading in CME foreign exchange ("FX") futures:

(1) It reviews basic requirements, standards, and rules of the road for participating in block trades on the CME Group exchanges.

(2) It summarizes the regulatory foundations on which block trading plays an essential role in an otherwise centralized and competitive futures market.

(3) It surveys the characteristics of block trading in CME FX futures and what those characteristics tell us about when and why users of FX futures employ block trades.

(1) Basics

On any US-regulated futures market, including any of the CME Group exchanges,[1] a block trade is a privately negotiated transaction that:

(a) is executed in accordance with exchange rules certified with and accepted by the Commodity Futures Trading Commission ("CFTC") and

(b) equals or exceeds an exchange-prescribed minimum size, permitting it to be executed apart from the centralized, competitive contract market.

Who, What, When

Not everyone can participate in block transactions. Each party to a block trade must be an Eligible Contract Participant, as defined in Section 1a(18) of the US Commodity Exchange Act.[2]

Not all products listed on the CME Group exchanges are permissible for block trading.[3] Products, product spreads, and product combinations eligible for block transactions, and the corresponding minimum size requirements, are determined solely by the exchange. Minimum size requirements in effect at any given time are published at: http://www.cmegroup.com/clearing/trading-practices/block-trades.html#generalInfo

A block trade may be executed in an eligible product at any hour of day, irrespective of whether the centralized, competitive market in that product is open or closed. A block trade may not, however, be executed in a futures contract or option contract after the contract has expired.

Price Standards

Any outright purchase/sale of a contract made via a block trade must be executed at a single price. Similarly, for a block trade in any eligible spread or combination, each leg of the spread or combination must be executed at a single price. In all instances, the block trade price must be consistent with the permitted minimum price increment for the contract, spread, or combination.

Crucially, for any block trade involving a given futures or option contract, the price must be fair and reasonable in light of (i) the transaction's size, (ii) prices and sizes of other transactions in the same contract at the relevant time, (iii) prices and sizes of transactions in other relevant markets at the relevant time, including, without limitation, the cash market corresponding to the contract or related contract markets, and (iv) market conditions and the circumstances of the parties to the block trade at the relevant time.

Entering the Trade

Upon agreeing the terms of a block transaction, the parties must report it to the exchange via CME Direct or CME

1 CME Group owns and operates four designated contract markets: Chicago Mercantile Exchange Inc. ("CME"), the Board of Trade of the City of Chicago, Inc. ("CBOT"), the New York Mercantile Exchange, Inc. ("NYMEX"), and the Commodity Exchange, Inc. ("COMEX") (collectively, the "CME Group exchanges" or "the exchange").

Rules for block trading on the CME Group exchanges are codified in Rule 526 ("Block Trades") in Chapter 5 of each of the CME Rulebook, the CBOT Rulebook, and the NYMEX Rulebook. The magisterial interpretative reference is the CME Group Market Regulation Advisory Notice ("MRAN") entitled Block Trades, available at: http://www.cmegroup.com/rulebook/files/cme-group-Rule-526.pdf

2 7 USC 1a(18)

3 Here and in what follows, we refer to "products, product spreads, and product combinations" as "products."

ClearPort[4] within either 5 minutes or 15 minutes, depending on the product and the time of day. For example, in any block-eligible CME FX product, a block trade must be submitted to the exchange within 5 minutes of trade execution during Regular Trading Hours ("RTH"), and within 15 minutes of trade execution during either European Trading Hours ("ETH") or Asian Trading Hours ("ATH").[5]

Provided that (a) both parties to the block trade pass the required credit checks and (b) the relevant terms of both sides of the transaction -- purchase and sale – have been confirmed to match, the block trade is accepted for clearing and is routed automatically to CME Clearing, and a price report of the trade is published to the marketplace by the exchange.

Frequently a block trade involves, on one side, a dealer who quotes bids and offers for block transactions and, on the other side, a customer of the dealer. Although the exchange does not post dealers' indicative quotes for block trades, it does publish contact information for market makers who actively provide liquidity for both block trades and exchange-for-related-position ("EFRP") transactions in CME FX products.[6]

(2) What Do Block Trades Do?

The signal feature of any futures contract is the centralized, competitive, all-to-all market in which it trades and in which price discovery occurs. US law requires any organized futures exchange to "provide a competitive, open, and efficient market and mechanism for executing transactions that protects the price discovery process of trading in the centralized market."[7] The corresponding regulatory requirement is that "all purchases and sales of any commodity for future delivery, and of any commodity option, on or subject to the rules of a contract market shall be executed openly and competitively" through the market's central limit order book.[8]

Exceptions are permitted for trades to be executed privately and non-competitively, provided that such trades are:

(a) authorized by exchange rules that have been submitted to and approved by the CFTC, and

(b) "made in accordance with written rules of the contract market", and

(c) made for "bona fide business purposes."

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4 For information on how to register for access to CME Direct, visit: http://www.cmegroup.com/trading/cme-direct/registration.html#newFirmUserRegistration For general information about CME Direct, please visit: http://www.cmegroup.com/trading/cme-direct.html Information on registering for access to CME ClearPort is available at: http://www.cmegroup.com/clearport/registration.html For general information about CME ClearPort, please visit: http://www.cmegroup.com/clearport.html

5 For CME FX products, the following definitions apply:

RTH: 7am – 4pm Chicago time ("CT"), Monday through Friday on regular business days

ATH: 4pm – 12am CT, Monday through Friday on regular business days and at any time on weekends

ETH: 12am – 7am CT, Monday through Friday on regular business days

6 Market-making firms who have agreed to accept customer enquiries in respect of either block trades or EFRP trades in CME FX futures are listed at: http://www.cmegroup.com/trading/fx/fx-futures-blocks-and-efps-market-makers.html To register to receive market-maker contact information, please visit: http://www.cmegroup.com/education/events/forms/rfq-followup-registration.html

7 See US Commodity Exchange Act Core Principle 9 for Designated Contract Markets (17 USC 38.500):

The board of trade shall provide a competitive, open, and efficient market and mechanism for executing transactions that protects the price discovery process of trading in the centralized market of the board of trade. The rules of the board of trade may authorize, for bona fide business purposes:

(a) Transfer trades or office trades;

(b) An exchange of:

(1) Futures in connection with a cash commodity transaction;

(2) Futures for cash commodities; or

(3) Futures for swaps; or

(c) A futures commission merchant, acting as principal or agent, to enter into or confirm the execution of a contract for the purchase or sale of a commodity for future delivery if the contract is reported, recorded, or cleared in accordance with the rules of the contract market or a derivatives clearing organization.

8 See 17 CFR 1.38 ("Execution of transactions"):

Block trading counts among these exceptions, as an accommodation to the business purposes of market participants for whom private negotiation of transactions occasionally may be necessary, or at least strongly preferred, as an alternative to centralized and competitive trade execution.[9] Broadly speaking, a block transaction meets these needs in two ways:

Trade facilitation

In a futures market that is historically illiquid, or for a transaction that takes place at an hour of day when an otherwise liquid futures market is relatively inactive, the buyer and seller of the futures contract might resort to a block trade to ensure they can execute the trade at all.

Price uniformity

The buyer and seller of the futures contract may use a block trade to ensure they can execute a large transaction at a single price.

(3) Block Trading in CME FX Products

Recent years have seen a general rise in block transacting in CME FX futures markets.[10] Exhibit 1 summarizes the evidence since 2013 for nine futures products, comprising six major currency pairs and three highly active emerging market currency pairs.[11] The only cases in which the assertion of an uptrend might be open to debate -- Brazilian real/US dollar (BRL/USD) futures and Russian Ruble/US dollar (RUB/USD) futures – occur where block trading has enjoyed high popularity and use throughout the period.

9 It was not always thus. Only in the 1990s did US-regulated futures markets gradually recognize privately negotiated block transactions as allowable trade practice.

US-regulated securities exchanges, by contrast, made allowance for blocks in their trading rules several decades earlier. Eg, on the New York Stock Exchange ("NYSE") bilaterally negotiated block transactions were permissible by at least the early 1960s. In terms of share of NYSE trading volume, blocks represented around 10 percent in the late 1960s. By the late 1990s, they routinely accounted for more than 50 percent.

See http://www.nyxdata.com/nysedata/asp/factbook/viewer_interactive.asp?hidCategory=4

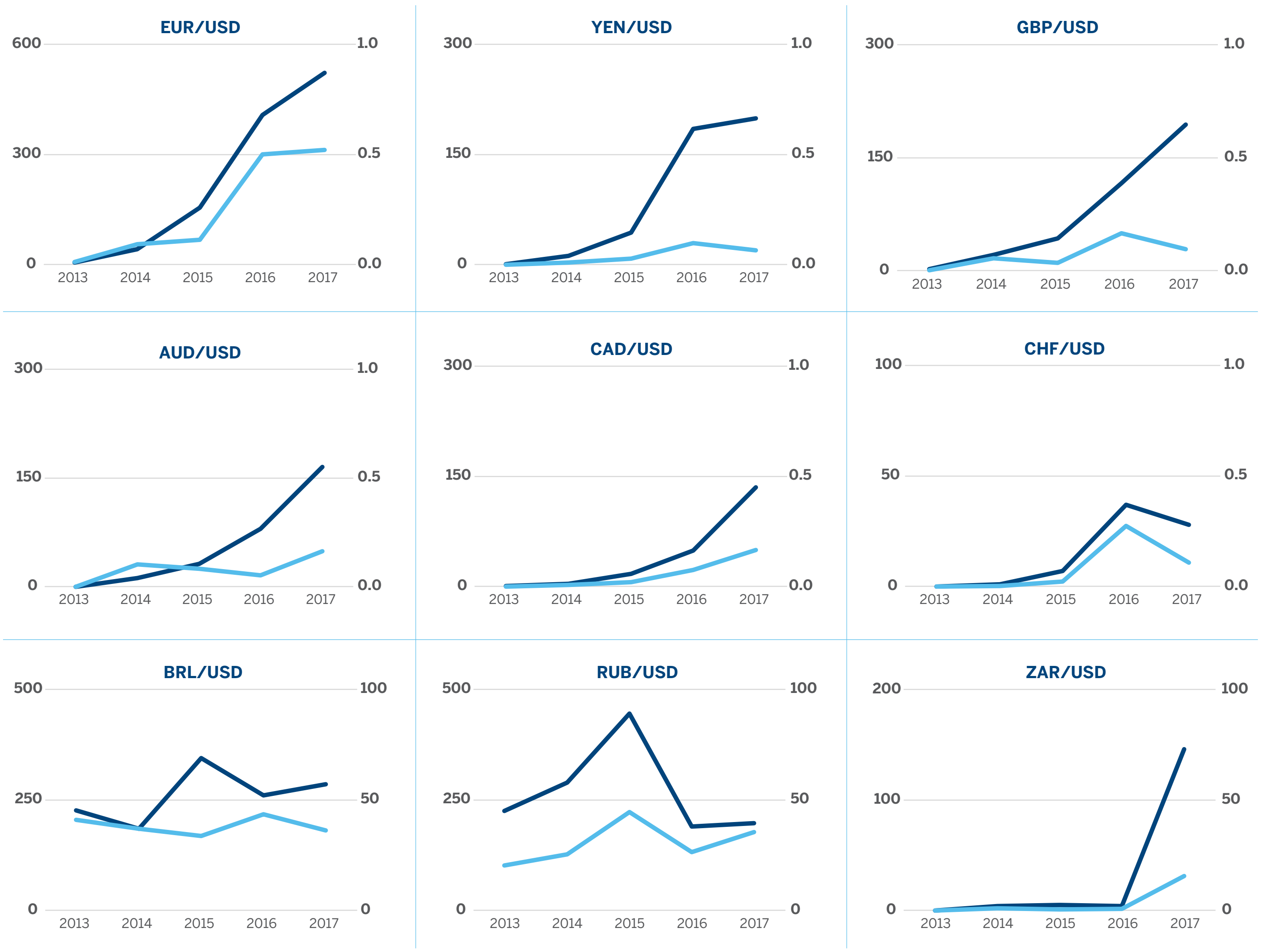
10 Foreign exchange futures and options are listed for trading on the CME designated contract market.

11 The exchange's listed FX offerings extend well beyond those depicted in Exhibit 1. As of this publication, CME lists for trading 11 futures products on 9 major currency pairs, 13 futures products on various major cross-rate (ie, non-US dollar) currency pairs, and 12 futures products on 11 emerging market currency pairs, as well as 17 option products exercisable into various FX futures. For more information, visit: http://www.cmegroup.com/trading/fx/

Exhibit 1 – CME FX Futures Block Trade Counts, and Block Trade Volume as Percent of Total Trading Volume, 2013-7

Left axis –
Number of block transactions per year (dark blue line).

Right axis –
EUR, YEN, GBP, AUD, CAD, and CHF: Block trade volume as share of total trading volume, as fraction of 1 percent (light blue line).
BRL, RUB, and ZAR: Block trade volume as percentage share of total trading volume (light blue line).



Source: CME Group

Exhibit 2 indicates minimum allowable block trade sizes for each of these FX products as of January 2018.

Exhibit 2 – Minimum Block Trade Sizes for March Quarterly ("Quarterly") Delivery Months and Non-March-Quarterly ("Monthly") Delivery Months in Various CME FX Futures, January 2018

FX Pair	Minimum Block Trade Size (Contracts)		Minimum Block Trade Size (Base Currency Amount, mlns)	
	Quarterly	Monthly	Quarterly	Monthly
EUR/USD	150	20	EUR 18.75	EUR 2.50
JPY/USD	150	20	JPY 1,875.00	JPY 250.00
GBP/USD	100	20	GBP 6.25	GBP 1.25
AUD/USD	100	20	AUD 10.00	AUD 2.00
CAD/USD	100	20	CAD 10.00	CAD 2.00
CHF/USD	100	–	CHF 18.75	–
BRL/USD	50	–	BRL 5	–
RUB/USD	50	–	RUB 125	–
ZAR/USD	50	–	ZAR 25	–

Source: CME Group

Against this backdrop, consider a bank treasury FX dealer and a bank customer wanting to sell FX futures. If the intended sale is large enough to qualify, the dealer and the customer could agree a bilaterally negotiated block trade. Or they could go their separate ways, respectively buying and selling futures in the centralized and competitive market on the CME Globex electronic trading platform ("CME Globex"). Why would they opt to use a block trade? The answer boils down to either or both of the two motives discussed above: trade facilitation and price uniformity

Trade facilitation

If the bank dealer and the customer are contemplating their transaction at an hour of day when futures liquidity is relatively sparse in the centralized, competitive CME Globex market, then the primary concern for both may be that a privately negotiated block is the only practical way to do the trade.

To the extent that this consideration is significant for market participants, it suggests that (all other things being equal) the observed share of product trading volume attributable to blocks should be larger during times of day when trade flows are thinner and, conversely, smaller during intervals when traffic is heavier. The evidence for 2017, summarized in Exhibit 3, reveals mixed results on this point.

For each of the nine futures products, total trading volume shows a characteristically steady rise through the typical CME Globex trading day (ie, from 5pm Chicago time ("CT") "yesterday" to 4pm CT "today"). Although the proportions vary among products, the representative intraday share distribution of 2017 trading activity is approximately:

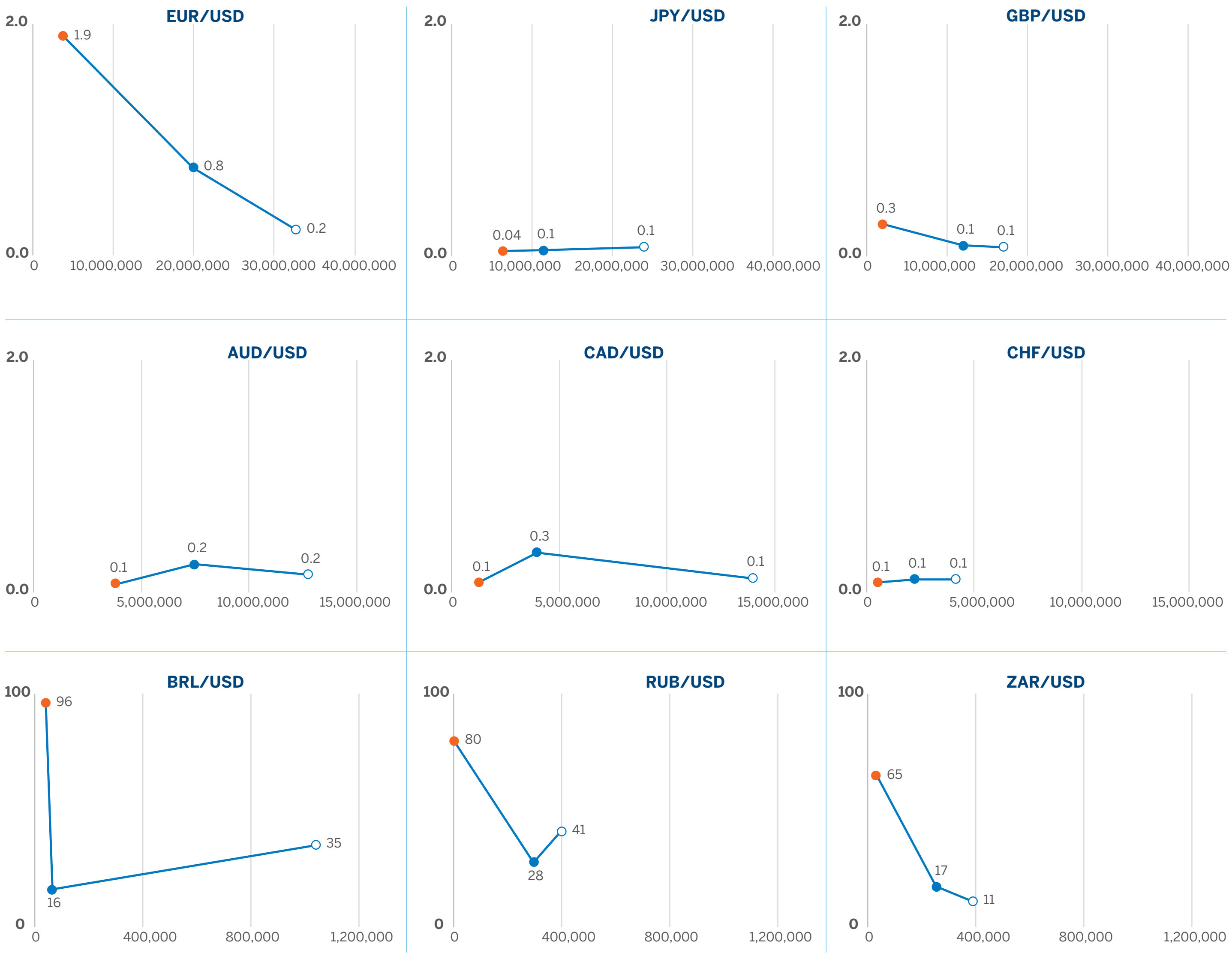
7 percent during ATH (4pm to midnight CT),
31 percent in ETH (midnight to 7am CT), and
62 percent in RTH (7am to 4pm CT).

For each of the nine currency pairs, the intraday distribution of futures trading volume exhibits this size ordering. Moving from left to right, ATH is smallest, followed by ETH, followed by RTH as the largest.

Exhibit 3 – 2017 Block Trading Volume as Percent of Total 2017 Trading Volume During Asian Trading Hours ("ATH"), European Trading Hours ("ETH"), and Regular Trading Hours ("RTH")

In each panel: Horizontal axis measures total number of contracts traded per year.
Vertical axis measures block trade volume per year as percent of total trading volume per year.

● ATH: 4 p.m. – 12 a.m. CT, Monday through Friday on regular business days and at any time on weekends
● ETH: 12 a.m. – 7 a.m. CT, Monday through Friday on regular business days
○ RTH: 7 a.m. – 4 p.m. CT, Monday through Friday on regular business days



Source: CME Group

By contrast, the relative incidence of block transactions throughout the typical CME Globex trading day varies from product to product, falling into roughly three patterns of response:

One-Way

For Euro/US dollar (EUR/USD), UK pound sterling/US dollar (GBP/USD), and South African rand (ZAR/USD), the share of futures trading volume executed via block trades declines uniformly throughout the trading day, as total trading activity rises -- the outcome that would be expected to emerge if trade facilitation is a key inducement for market participants to employ block transactions.

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Similarly for BRL/USD futures and RUB/USD futures, block trades account for the lion's share – 80 percent or more -- of trading activity during ATH, when overall activity tends to be relatively light. As liquidity bulks up during ETH and RTH, the share of trading volume mediated through blocks drops off. In each instance, the only departure from the "one-way" profile is that block trading accounts for a lesser share of volume in ETH than in RTH.

All Other

Among the remaining futures products – Japanese yen (JPY/USD), Australian dollar (AUD/USD), Canadian dollar/US dollar (CAD/USD), and Swiss franc/US dollar (CHF/USD) – the relative incidence of block trade volume either rises slightly, or it kinks up and then down slightly. In all cases, "slightly" is the key qualifier. All four products are for major currency pairs, and (as the evidence in Exhibit 4 below will confirm) in each instance block trading accounts for only a minuscule share of total trade activity at any time of day.

Price Uniformity

Alternatively, the priority for the bank dealer and the bank customer might be to execute the FX futures transaction at a single price. A block trade would ensure this outcome, whereas buying or selling a futures position through the centralized, competitive market provides no such guarantee. Indeed, a single price is an unlikely outcome in a competitive market purchase or sale, unless the intended trade size is less than the resting volume quoted at, respectively, the best offered price or the best bid price in the central limit order book.

From this vantage, the decision whether to trade via a bilaterally negotiated block pivots upon how the intended transaction size compares to competitive market depth at the top of the futures order book. Exhibit 4 presents evidence on this point for 2017.

Exhibit 4 – CME FX Futures: Block Trading Activity in 2017

FX Pair	Total Volume (Contracts/Yr)	Block Trade Volume (Contracts/Yr)	Block Trade Volume (Pct of Total)	Block Trades per Year	Average Block Trade Size (Contracts)	Average Resting Quantity at CME Globex Best Bid/ Offered Price Levels (Contracts)	Average Block Trade Size as Multiple of Average Resting Quantity at Best Bid/Offered Price Levels
EUR/USD	56,455,834	294,450	0.52	523	563	21	26.8
JPY/USD	41,623,449	26,922	0.06	199	135	22	6.1
GBP/USD	31,167,897	29,801	0.10	194	154	22	7.0
AUD/USD	24,054,242	39,220	0.16	165	238	62	3.8
CAD/USD	19,222,524	31,684	0.16	135	235	15	15.6
CHF/USD	6,978,111	7,503	0.11	28	268	17	15.8
BRL/USD	1,147,242	415,509	36.22	286	1,453	47	30.9
RUB/USD	700,678	249,309	35.58	198	1,259	32	39.3
ZAR/USD	671,568	105,347	15.69	146	722	37	19.5

Source: CME Group

Several insights emerge:

Block trade size

Among futures for the six major currency pairs, the average block trade size ranges from 135 contracts (for JPY/USD) to 563 contracts (for EUR/USD). It is noticeably larger among futures for the three emerging market currency pairs, with average block trade size running from 722 contracts (for ZAR/USD) to 1,453 contracts (for RUB/USD).

Block trade size in relation to central limit order book size

For all but one currency pair, the size of the average block transaction is an order of magnitude greater than the average resting quantity quoted at the best bid or best offered price levels in the CME Globex order book. That is, the number of futures contracts changing hands in the average block trade exceeds the average number of contracts that could be bought or sold competitively, at a single offered or bid market price, by a multiple ranging from around 6x (for JPY/USD) to nearly 40x (for RUB/USD).

The exception is Australian dollar/US dollar (AUD/USD) futures, for which the average block trade is a comparatively small multiple – less than 4x – of the resting best-bid or best-offered quantities in the order book. This is not because the average block in AUD/USD futures is small relative to other currency pairs. (At 238 contracts, it's around the middle of the pack.) Rather, it's because the resting amounts quoted at the top of the CME Globex order book in AUD/USD futures tend to be large in comparison to futures for other currency pairs.

Block trade volumes in major currency pairs

For five of the six major currency pairs, futures block trade volume accounts for a tiny share of total futures trading volume, less than one fifth of one percent. The exception is EUR/USD futures, for which block transactions represent slightly more than one half of one percent of total trade flows. For all six, the proportions are small enough to confirm that market practitioners customarily prefer the centralized competitive market, reserving block trade capability for exceptional circumstances.

Block trade volumes in emerging currency pairs

Blocks play a more prominent role in futures trading in the three emerging market currency pairs. The share of total traffic mediated by blocks ranges from nearly 16 percent for ZAR/USD futures to approximately 36 percent for each of BRL/USD futures and RUB/USD futures.

Price Uniformity, the Quarterly Roll and Block Trading

Frequently, institutional users of CME FX futures are strategic holders of open interest, who have no interest in taking expiring futures positions to physical delivery, and who prefer instead to liquidate their positions before the contracts come to final settlement.

Such liquidations typically are rolled: The trade to liquidate the expiring futures position is combined with a trade to initiate a new position in futures for the next (deferred) delivery month. Eg, for an investment portfolio manager who holds a short position in futures for March delivery, and who wants to maintain the foreign exchange exposure in the position, the roll trade entails buying back March contracts while simultaneously establishing a new, comparably-sized short position in futures for June delivery.[12] Although details of timing and pacing vary from one quarter to the next, market participants typically make the roll within the five exchange business days preceding the last trading day of the expiring nearby futures contract ("roll period").

Given the prominent involvement of institutional market participants in the quarterly roll, and given that uniformity of trade pricing is a critical commercial requirement for many of them, it would be reasonable to hypothesize that block trade incidence is elevated during roll periods. Exhibit 5 confirms as much with data for 2017.

If, hypothetically, block trade activity were uniformly distributed throughout the year, then around 7.9 percent[13] of the year's total block transaction volume would be expected to

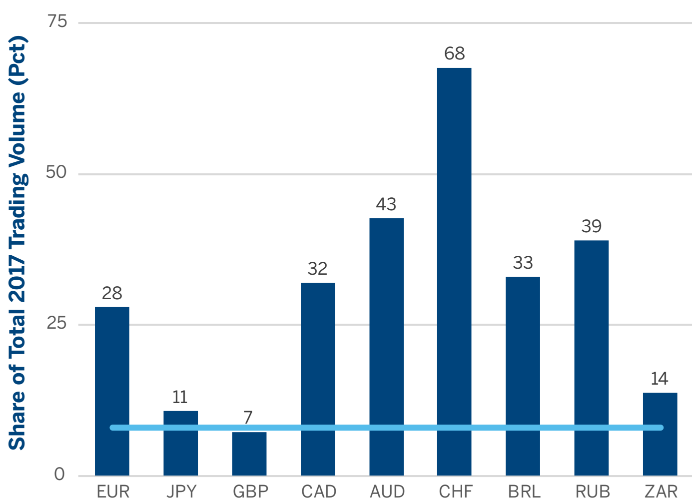
12 The choice of example is not arbitrary. The roll is almost always a feature of the exchange's long-established March Quarterly futures listing calendar, in which contract delivery months are March, June, September, or December. Worth note, however, is that for all but one of the nine currency pairs examined here – the exception is CHF/USD -- CME futures listings include actively traded non-March Quarterly delivery months.
See: http://www.cmegroup.com/trading/fx/majors/monthlies.html

13 7.9 percent = (20 roll days per year) / (252 business days per year) occur during the 20 or so business days occurring within the year's four roll periods (marked in Exhibit 5 by the blue line).

For seven of the nine futures products examined here, the data show otherwise: Block trading activity concentrates during roll weeks. Most conspicuous is the market for CHF/USD futures, in which fully two thirds of the year's block trade traffic occurs during roll periods. For both AUD/USD futures and RUB/USD futures, around 40 percent of block activity for the entire year is concentrated in roll periods.

The two exceptions are JPY/USD futures and GBP/USD futures. For them, the share of block trade traffic during roll periods is close to 7.9 percent, suggesting that – at least from the vantage of block transaction users – quarterly roll weeks are indistinguishable on average from any other week.

Exhibit 5 – CME FX Futures: Block Trading Activity in 2017



Source: CME Group

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