THE FX **REPORT**

Q2 2019

News, Views & Stats

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Risk Awards 2019 Winner

CME Exchange of the year

CME FX LINK

FX Week e-FX Awards 2018 Winner

e-FX initiative of the year

Risk Awards 2019 Winner

CME Exchange innovation of the year

CME FX OPTIONS

FX Week e-FX Awards 2018 Winner

Best e-derivatives platform

The FX Report: Q2 2019

EBS Traiana

CME Group is now home to EBS - for cash market execution, from spot to forwards to NDFs, and Traiana - for seamless FX connectivity.

Trade | **Optimize** | **Analyze** – The Full FX Trade Lifecycle

Need To Know: In Our Markets

We're working to deliver creative solutions to your most important challenges,

so you can access the capital and margin efficiencies of our centrally-cleared and transparent market.

That's why:

We've expanded our FX futures offering
With quarterly expiries across every contract, and monthly expiries on six pairs, and now, with CME FX Link which connects the OTC FX market with FX futures electronically, for the first time.

We've expanded our listed FX options offering
With Friday and Wednesday Weeklies, we are now the largest centralized all-to-all electronic FX options marketplace in the world.

We've expanded our OTC FX clearing offering
With all FX Futures and Options, and all OTC Cleared FX Products, under one guaranty fund - that houses all of CME's listed products.

Launched

MPI Reduction in GBP/USD Non-Consecutive Monthly Calendar Spreads: From 1 to .5 – In response to client feedback, we have reduced the minimum price increment (MPI) in GBP/USD calendar spreads, along with a change to the match algorithm, to 20% FIFO and 80% Pro Rata - with no levelling and all residuals being distributed via FIFO, to enable more granular price discovery

Shift to 10 a.m. New York expiration time: All FX Options now expire at 10 a.m. NY – to bring our markets in line with OTC convention

Strike listing change: New quarterly strikes are available in CAD/USD, AUD/USD, EUR/USD and JPY/USD – to provide traders with more choice and more ability to optimize strategies

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Launching

MPI Reduction in EUR/USD & JPY/USD Non-Consecutive Monthly Calendar Spreads: From .5 to .2
– In response to more client feedback, there will be a reduction in the minimum price increment (MPI) in both EUR/USD & JPY/USD calendar spreads, along with a change to the match algorithm. The new match algorithm will be 80% Pro Rata, 20% FIFO split.

Announced: July 11 2019
New Release: July 15 2019
Live: August 12 2019 (ahead of September Quarterly Roll)

Visit cmegroup.com/mpi for more information

Implied Functionality: This functionality will be removed as it is no longer necessary to support the liquidity in the outrights and spreads.

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Monthly, Quarterly, in print and online. Direct to your mailbox. **cmegroup.com/fxtrending**

FX Futures: In The News

GBP/USD Non-Consecutive Monthly Calendar Spreads Minimum Price Increment (MPI) Reduction: More volume, better managed

29% increase in GBP ADV vs. last four rolls – over the full two week roll window. June roll ADV across other major pairs was in aggregate up just 4%.

145,000+ contracts top of book (TOB), during RTH at .5 MPI (~15x TOB coverage of 9,999 max order quantity). TOB during peak roll days – Wed/Thur avg. ~250k TOB at .5)

50% reduction in spread costs for all trade sizes based on average TOB levels.

38% of Open Interest transfer was completed by Tuesday of the roll week and more than 95% ADV during the week prior to the roll – all ahead of the typical pace.

14% went to delivery, compared to 29% on average – showing above average Open Interest transfer prior to expiration.

62% increase in non-member ADV – a measure of end-user activity in our market – comparatively, in other majors, non-member roll ADV was on average up 11%.

Source: Data collated for summary of June 2019 GBP roll with reduced MPI

FX Options: In The News

Greenwich Associates Publishes New Total Cost Analysis (TCA) Study: FX Options in the Age of Uncleared Margin Rules

In June 2019, Greenwich Associates published a paper which states that buyside firms could achieve significant savings on execution costs, up to 70% on some trades, by shifting some of their trading to listed FX options. In addition, for those impacted by uncleared margin rules (UMR), funding costs could potentially be reduced by 86%.

Crucially, their total cost analysis (TCA) research also shows that listed FX options can be more cost-efficient alternatives to bilateral trading, independent of the incoming regulations, as the electronification of FX options accelerates and liquidity responds.

In Brief

Today, 37% of FX Options volume is executed electronically

However, this is double the volume from only five years ago. In terms of where the market will execute more on screen, 70% of survey respondents stated that they saw value in the all-to-all model for FX Options – of which CME Group provides the largest in the world.

In the wake of MiFID II, the use of TCA across all desks is increasing

Along with a need to demonstrate transparent pricing and best execution – which has remained a challenge in the bilateral FX Options market. This, coupled with incoming UMR regulations, is causing dealers, FXPBs and buyside firms to consider costs, compliance, counterparties and future sources of liquidity with more urgency.

The result, 40% of all surveyed are identifying listed FX Options as a potential solution

And tool to help solve these challenges – especially as listed options are being updated and adapted to better align with OTC market conventions – and market participants should recognize them as an untapped source of new liquidity.

The TCA analysis, revealed substantial potential savings

for buyside participants, ranging from $2,000 to $7,000 per trade of $50 million notional.

Finally, when the Listed Options TCA is combined with funding and capital cost savings which can be accrued through netting

the research shows savings up of to 70% per trade, for market participants with average trade sizes of $50 million and under on the CLOB.

To read the full report, and to understand the methodology, visit cmegroup.com/fxotca

FX Options: In Our Markets

CME Group operates the largest all-to-all electronic FX Options marketplace in the world.

We're actively aligning our FX Options marketplace to OTC market conventions, to enable more participants to benefit from our liquidity and the capital efficiencies available in our market.

Built from The Floor up – Made for the Electronic Market

- **All CME FX options expire at 10 a.m. NY** – made for the most widely traded FX options expiration time in the world
- **$8 billion in daily liquidity***, made for all participants, totalling ~25% of all single-dealer and multi-dealer electronic volume globally
- **24 options pairs**, flexible Wednesday, Friday and Monthly maturities, traded around the clock, made for macro event risk management
- **New "quarter" strikes** for more choice in deltas and premiums, live since March, already comprising ~22% of total volume, made for more granular execution
- **Our auto-exercise process** – which means all you have to do is focus on the fix, your position, and your hedge. No need to call counterparties and wait for their decision. It's automatic, it's efficient and it's final. Made for simplicity and certainty.

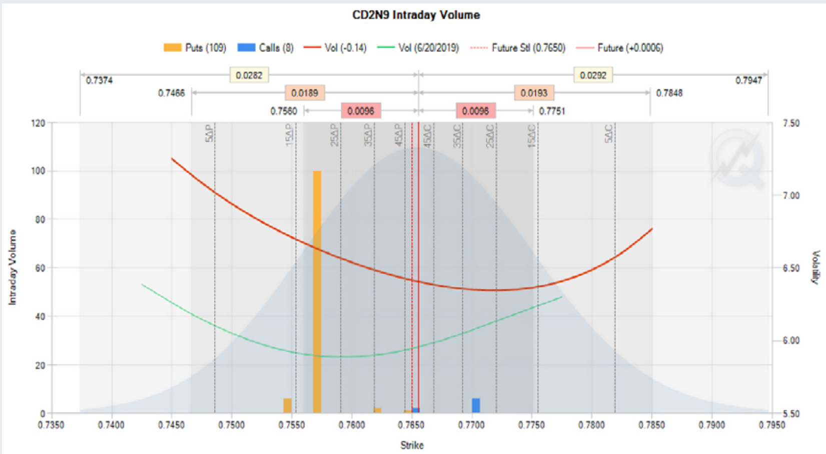
Spot Light: Options Analytics

A view into market positioning and visibility of pricing across the curve for better risk management.
Example CAD/USD: The QuikStrike Heat Map & Vol2Vol tools

Open interest in the CAD/USD options shows a strong bias towards downside risk positioning for the nearest 14 days and the sharp rise in the CAD Put vol skew over the prior week, helping clients to adjust strategies accordingly.

CAD/USD OPEN INTEREST
AS OF 6/27/2019

	6CU9 82 DTE 0.7649									
STRIKES	WD1N9 5 DTE		CAUN9 7 DTE		WD2N9 12 DTE		CD2N9 14 DTE		TOTAL	STRIKES
	CALL	PUT	CALL	PUT	CALL	PUT	CALL	PUT		
0.7400			23	760			1	40	824	0.7400
0.7425			1	210		200	10	262	683	0.7425
0.7450		61	842	979		20	91	654	2,647	0.7450
0.7475		6	5	328				415	754	0.7475
0.7500		100	1,259	771			37	25	2,192	0.7500
0.7525		560	4	58		10	22	303	957	0.7525
0.7550	636	1	1,907	498		1	4	480	3,527	0.7550
0.7575			327	538		50	10	60	985	0.7575
0.7600	100	251	1,214	254		200	22	5	2,046	0.7600
0.7625	53	246	100	55		5	101	5	565	0.7625
0.7650	105	20	530	82		536	21		1,294	0.7650
0.7675	100		348			1	35		484	0.7675
0.7700	620		381	17					1,018	0.7700
0.7725	200		4		100				304	0.7725
0.7750	6		364				101		471	0.7750
0.7775							20		20	0.7775
0.7800			234						234	0.7800
0.7825										0.7825
0.7850			11						11	0.7850
0.7900			49						49	0.7900
0.7950			4						4	0.7950



Average Daily Volume, averaged over a three year period

Uncleared Margin Rules: In The News

Get Ready: Further Initial Margin Requirements May Impact your Costs

The Uncleared Margin Rules (UMR) began being phased in from September of 2016 and require impacted firms to post 2-way initial margin against their non-cleared derivatives trades which is calculated using an approved model such as the ISDA SIMM. Whether and when a given entity is impacted directly by UMR is dictated by the Average Aggregate Notional Amount (AANA) calculation. The details of the AANA calculation differs by region, but is based on the total open gross notional value of all non-centrally cleared derivatives during a designated observation period.

To date it has primarily been large dealers directly impacted by UMR, but phases 4, 5 and 6 between September 2019-2021* will have a broader impact across the derivatives ecosystem including many regional banks, asset managers and hedge funds.

Threasholds by Country and Currency

UMR Phase	US (in USD), EU (in EUR)	Initial Margin Compliance Date
Phase 4	750 billion	1-Sep-19
Phase 5	50 billion	1-Sep-20
Phase 6	8 billion	1-Sep-21

Understand which products are included within the AANA calculation:

Included: Uncleared OTC Derivatives	Not Included: Cleared Instruments
✓ FX options	× Centrally cleared OTC swaps
✓ Non-deliverable forwards (NDFs)	× Exchange-traded derivatives
✓ Physical FX forwards	
✓ Swaptions	
✓ Hedging trades	

This is not an exclusive list. For a detailed list, visit ISDA.

**Dates and/or thresholds may be extended and/or may change*

Uncleared Margin Rules: In Our Markets

Understand your options – and the full trade lifecycle solutions at CME Group

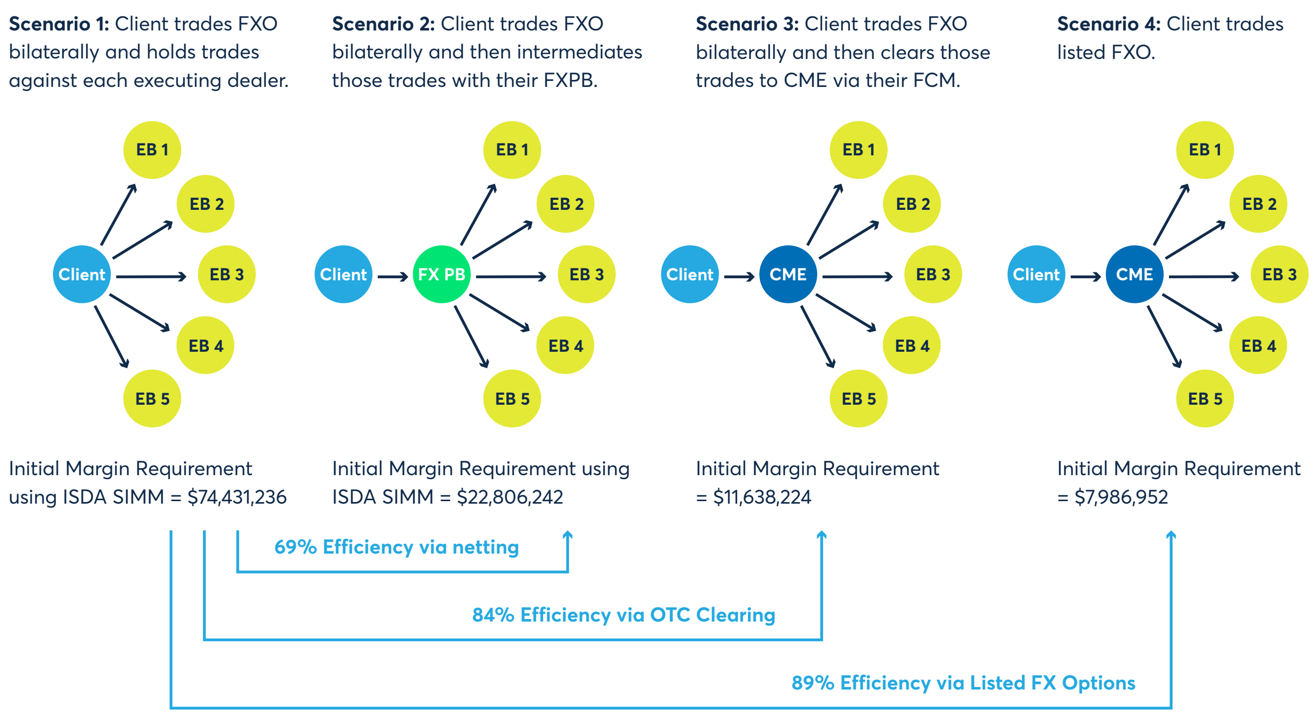
CME Group offers the broadest set of global solutions to help you overcome challenges throughout the entire UMR process. These solutions can assist you in meeting UMR requirements, gain capital efficiencies, as well as minimize costs and core business disruptions.

Our solutions include ways to:

- Reduce notional – to assist with the AANA calculation
- Calculate, communicate and reconcile margin – to assist with the UMR requirements
- Reduce margin – to optimise the funding and cost implications of UMR

Case Study: FX Options

The example below illustrates the IM requirements of a real portfolio of FX options across 4 different scenarios. The impacts of firstly netting and then also the model differences between non-cleared (ISDA SIMM) and cleared (CME) help to generate material IM efficiencies. Furthermore, ISDA SIMM does not allow the inclusion of FX FWDs and as such the typical delta hedges to FX Options are excluded from the IM requirements in the bilateral environment. Within clearing (both OTC cleared and Exchange Traded Derivatives) the delta hedges can be included alongside the FX Options in the margin calculation, and as such even higher levels of IM efficiencies can be generated.



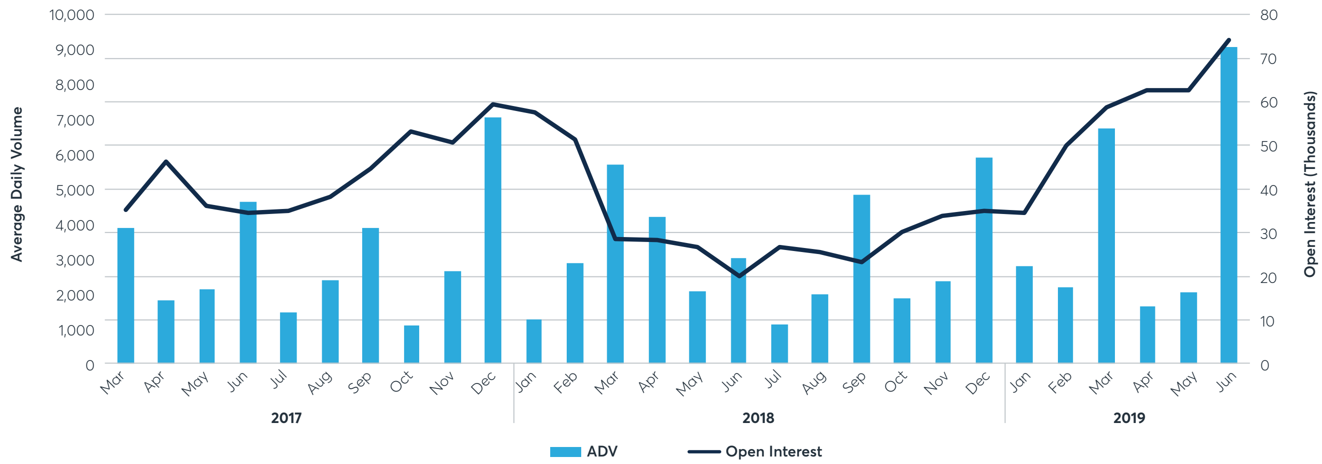
To understand UMR more fully – and the available solutions at CME Group, visit cmegroup.com/umr

FX Futures: In Our Markets

One to Watch: RUB/USD

More participants are active in RUB/USD: Over 39k traded on June 13, equivalent to $1.5B notional.

Russian Ruble Futures - ADV and Open Interest



EMFX, Efficiencies

Margin offsets across FX and across commodities

	AUD	BRL	CAD	CNH	INR	JPY	MXN	NZD	RUB	ZAR	Brent Crude Oil	WTI Crude Oil	Gold	Copper
BRL	30%	–	–	–	25%	–	**30%**	–	20%	35%	–	–	–	–
CLP	–	**50%**	–	–	–	–	45%	–	–	–	–	–	–	**30%**
CNH	**45%**	–	–	–	30%	45%	–	–	–	–	–	–	**40%**	**50%**
INR	**35%**	25%	–	**30%**	–	–	–	–	–	25%	–	–	**20%**	–
KRW	**45%**	–	30%	–	–	**25%**	–	44%	–	–	–	–	–	**30%**
MXN	–	**30%**	30%	–	–	–	–	–	20%	30%	**30%**	**30%**	–	–
RUB	20%	20%	–	–	–	–	20%	–	–	20%	**25%**	**25%**	–	–
ZAR	20%	35%	26%	–	25%	–	30%	30%	20%	–	–	–	**30%**	–

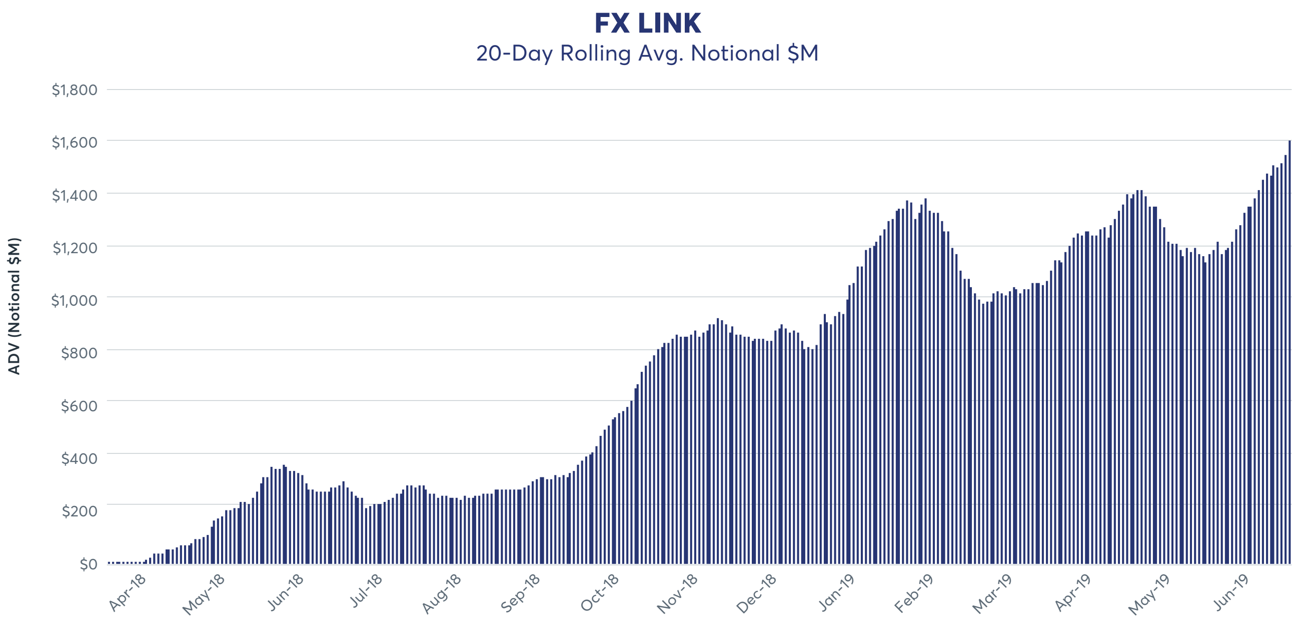
Ones to Watch: INR/USD, USD/CNH, SEK/USD & NOK/USD

Liquidity increasing, lower execution costs available through our capital and margin efficient model.

FX Link: In The News

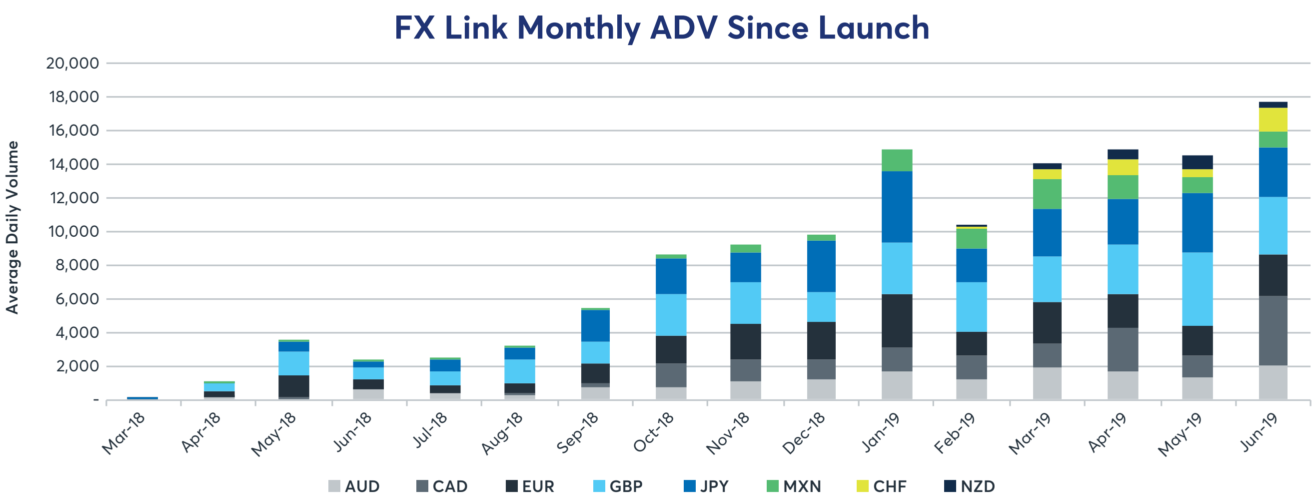
Record Volume: Over $3Bn in notional traded on June 20

More participants utilised FX Link than ever before – as a source of liquidity and a means to manage market risk in a capital efficient way. Volume reached a record 33,199 contracts traded with a notional of +$3.2B on June 20.



Source: CME Group

Q2 volume averages 16,000 contracts from a diverse user base including banks, prop trading firms and buy side firms. All pairs active. All pairs have a competitive top-of-book. Its time to take another look.



Source: CME Group

TRADE: **ON CME DIRECT** | **ANALYZE:** **VIA REFINITIV** | **EMPHASIZE:** **TO BLOOMBERG** | **VISIT:** **cmegroup.com/fxlink**

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