EUREX Architects of trusted markets

Listed FX Futures & Options

- Creation of a European Liquidity pool

ECB Working Group

25 May 2021

Exchange Traded FX Volumes (in notional) on Global Scale

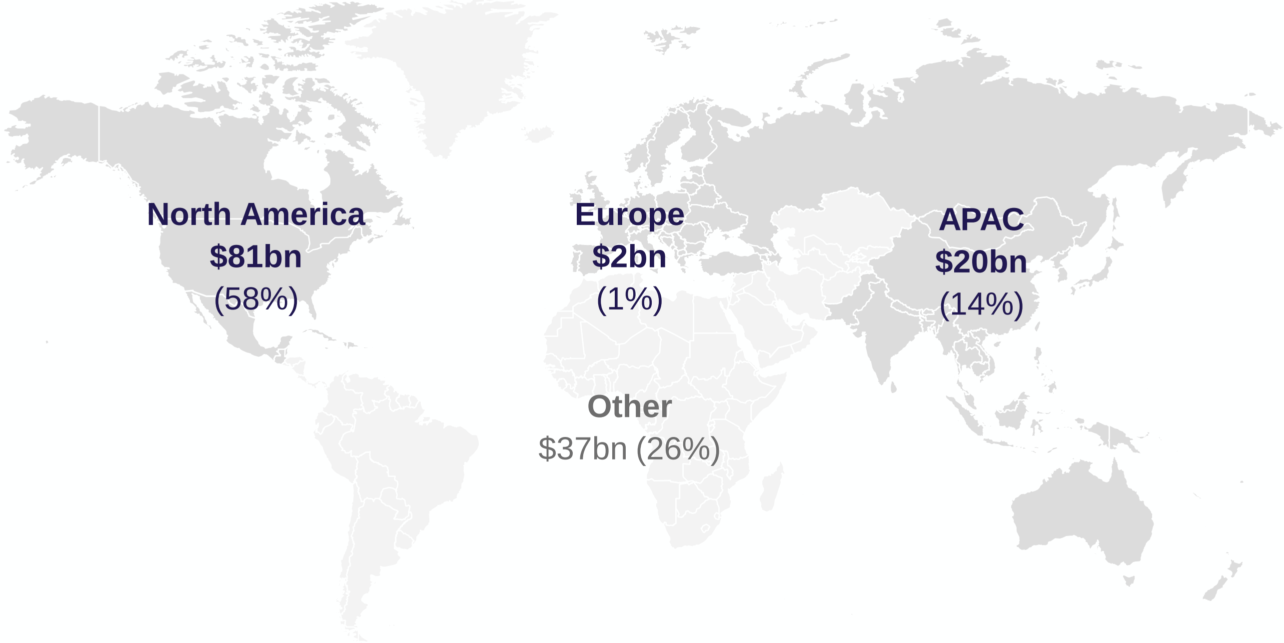
FX Volumes - Trading in comparison[1]

Bilateral (OTC) FX Derivatives
$6,595bn per day
(~98%)

vs

On-Exchange (ETD) FX Derivatives
$140bn per day
(~2%)

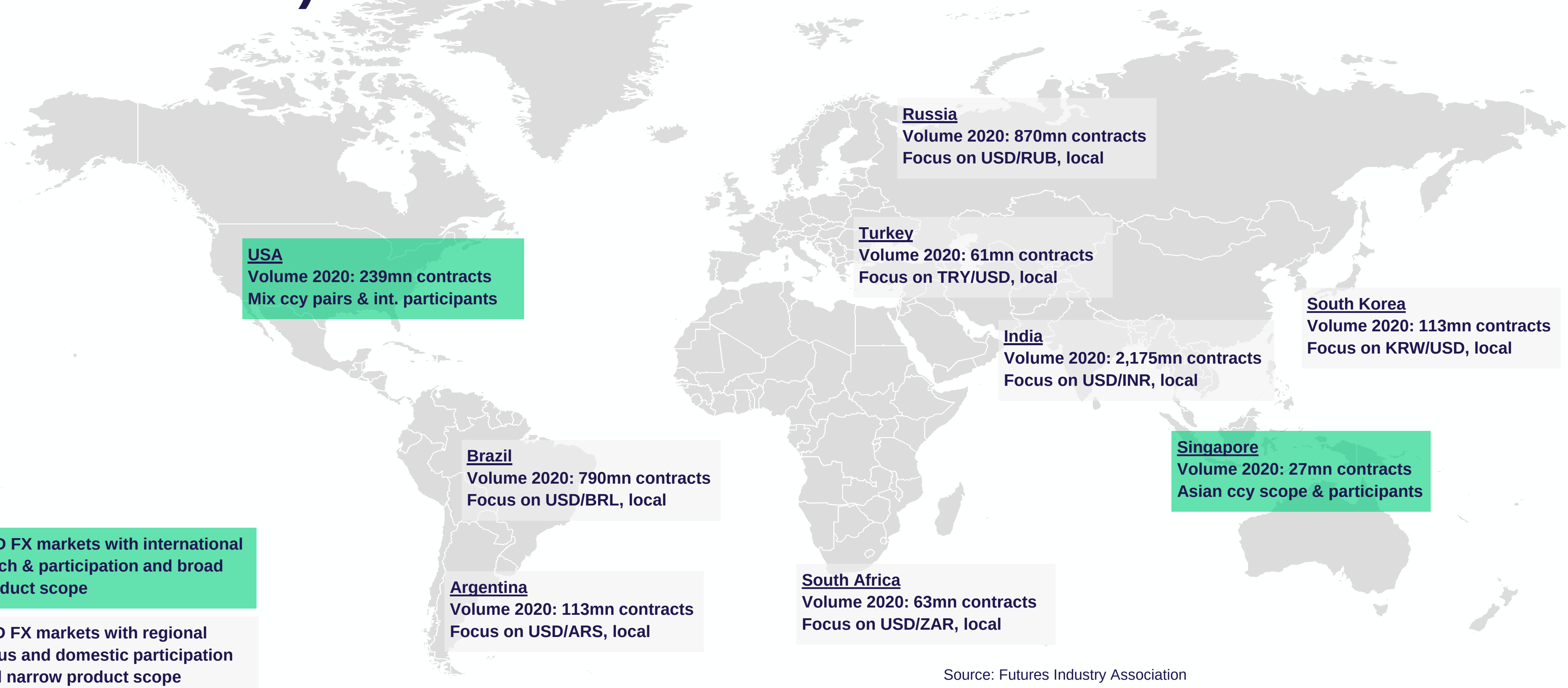
On-exchange FX Volumes – ETD Trading by region[1]



- According to BIS data, 2% of the global FX activity is traded on regulated futures & options exchanges
- This activity takes place nearly exclusively on markets outside the EU territory, for example on exchanges in the US, Brazil, India and Russia

1) Sources: BIS Triennial FX Survey 2019, BIS On-Exchange Volumes 2019

Largest ETD FX Exchanges & Respective Trading Volumes (in contracts) in 2020



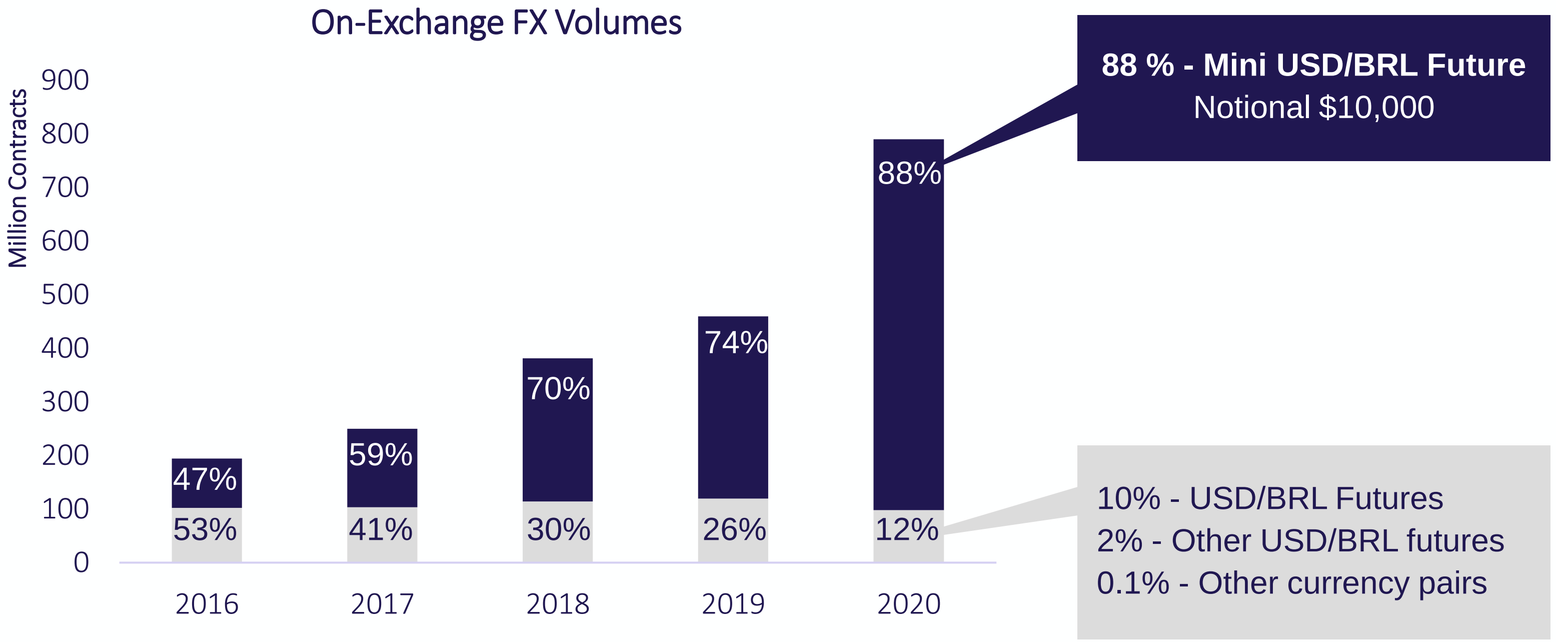
ETD FX markets with international reach & participation and broad product scope

ETD FX markets with regional focus and domestic participation and narrow product scope

Source: Futures Industry Association

Note: The underlying notional per contract can vary significantly between exchanges

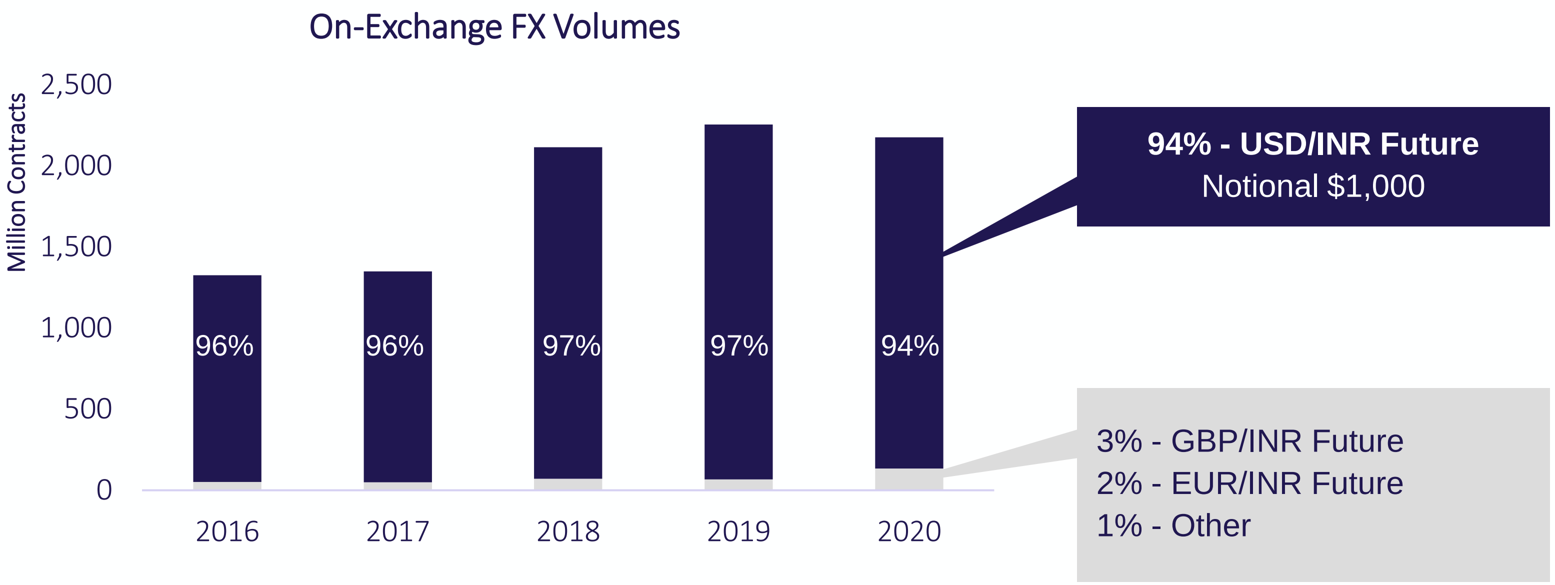
Example 1 – local ETD FX market: Brazil – ETD FX Market Development



- Local participants have restricted access to FX Spot market (chartered banks only) & foreign currencies
- Accessibility, tax benefits in the Brazilian tax system (due to inherent netting) and subsequent increase in liquidity key characteristics of Brazilian ETD FX market
- All ETD FX derivatives in Brazil settle in cash (domestic currency)

Exchange: B3
Source: Futures Industry Association

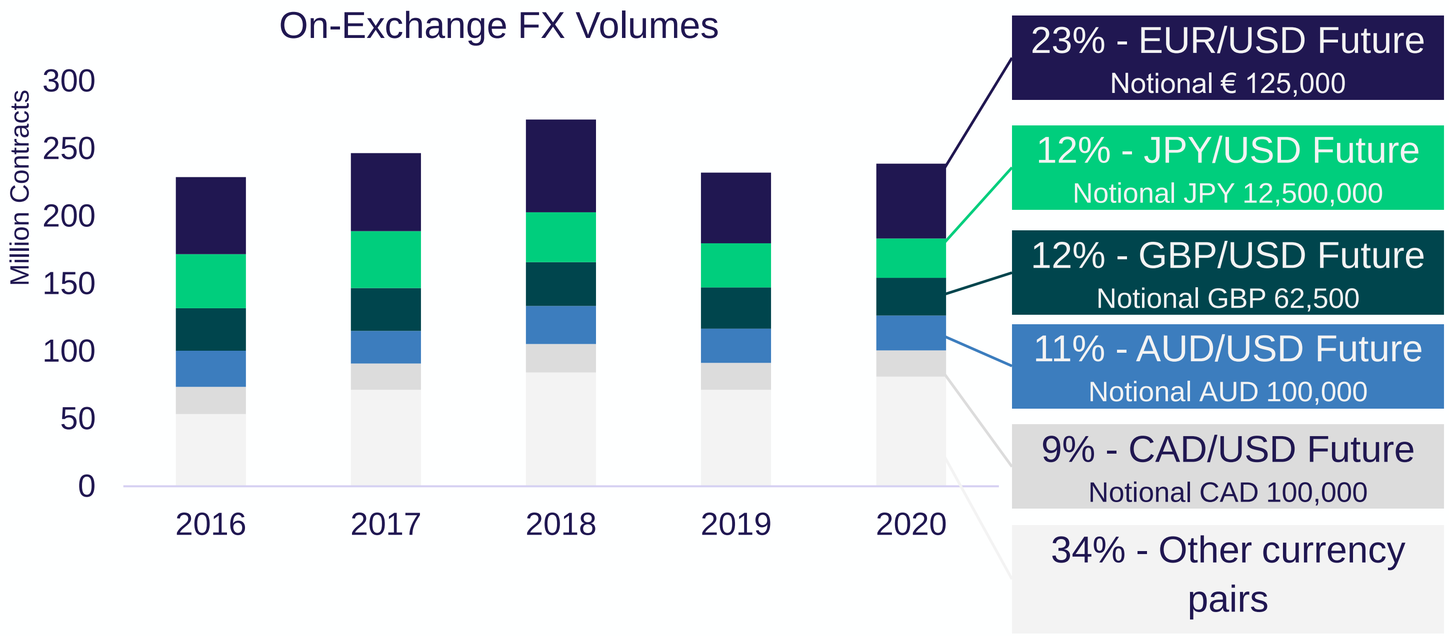
Example 2 – local ETD FX market: India – ETD FX Market Development



- Historically non-convertible domestic currency
- Exchange traded FX enables local participants to liquid FX hedging instruments
- Most ETD FX contracts with small notional value
- ETD FX derivatives in India typically settle in cash in the domestic currency

Exchanges: National Stock Exchange (NSE), Bombay Stock Exchange (BSE), Metropolitan Stock Exchange of India (MSEI), India International Exchange (INX)
Source: Futures Industry Association

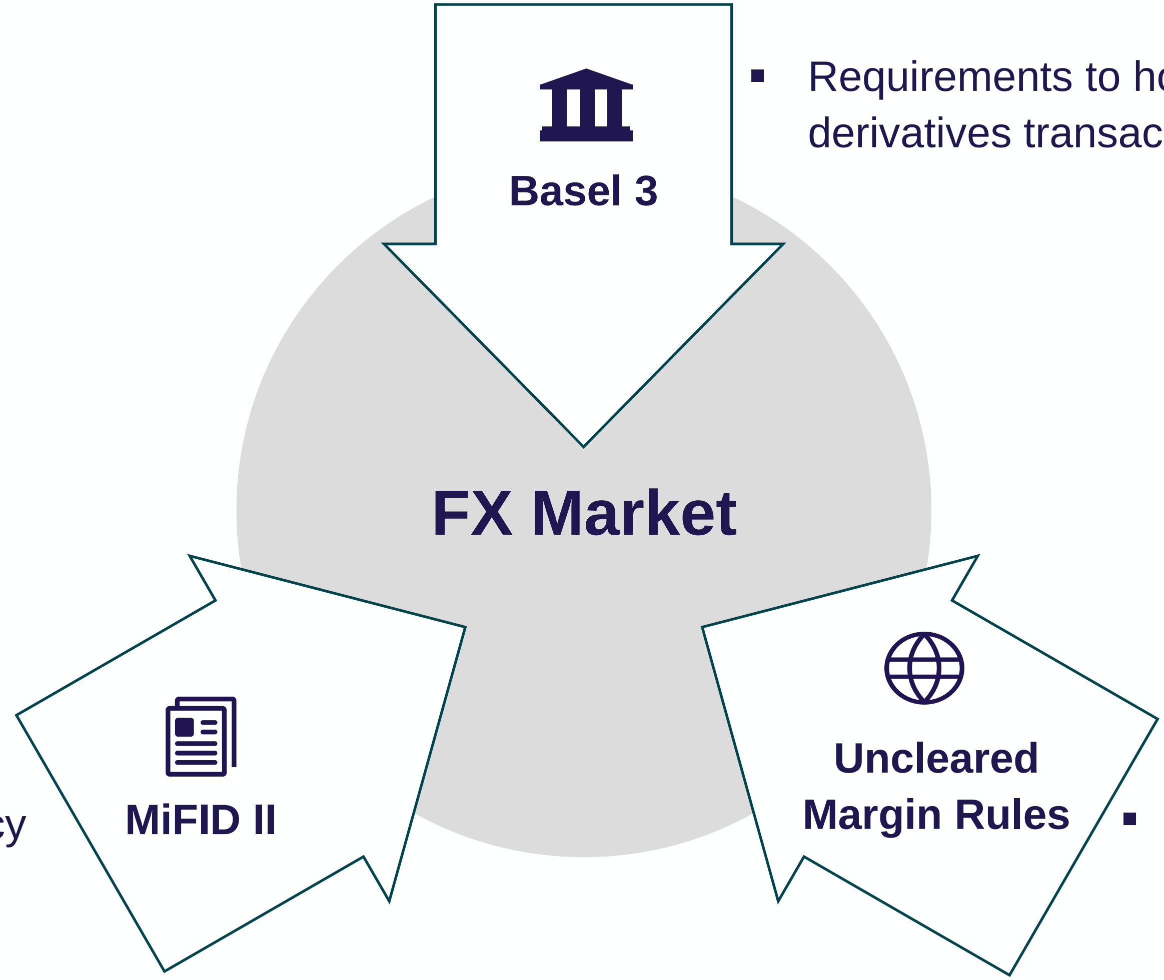
Example 3 – global ETD FX market: USA – ETD FX Market Development



- ETD FX market in US with global reach and international participation
- Broad mix of pairs, including deliverable and non-deliverable currencies
- Accordingly, ETD FX derivatives available both with physical settlement and cash-settlement

Exchanges: CME Group, NADEX, ICE, Nasdaq OMX, CBOE
Source: Futures Industry Association

Since the financial crisis, regulatory amendments altered FX trading and FX markets



- Requirements to hold regulatory capital for derivatives transactions
- Enhanced transparency & integrity in financial markets
- Collateralization and exchange of bilateral IM for uncleared derivatives

ETD Derivatives in combination with central clearing receive preferential treatment under current regulatory regimes

Basel III

Trades executed on exchanges benefit from lowest capital requirements (no CVA capital charge, 2% RWA risk weight) due to the well-proven risk methodologies of CCPs

Uncleared Margin Rules

Exchange traded derivatives are exempt from uncleared margin rules. ETD trades do not account towards the average aggregate notional amounts (AANA) thresholds.

MiFID II

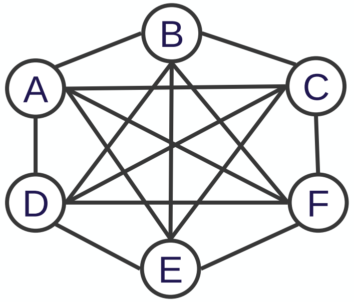
Exchanges ensure compliance with current regulation, such as MiFID II, and support highest levels of transparency and market integrity

Exchange traded derivatives best suited to address statutory requirements

Exchanges & Central Counterparties (CCPs): Multilateral Trading & Clearing provides significant benefits

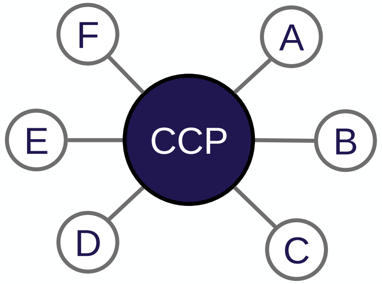
Bilateral trading & clearing

OTC market structure - 1:n relationship



Multilateral trading & clearing

Exchange & CCP market structure - 1:1 relationships between CM and CCP



Benefits of multilateral clearing with Central Counterparty

Multilateral Trading

- Exchange provides access to all other exchange participants on an anonymous and undisclosed basis
- Trading takes place based on common exchange rules in central-limit order book (CLOB)
- Non-discriminatory pricing & exchange fees

Reduced systemic risk

- CCP takes over counterparty risk through trade novation
- CCP enforces strict risk control and adequate collateralisation of open positions
- Automatic multilateral netting reduces gross risk exposure

Increased transparency

- Awareness of concentration risk
- Independent position valuation by neutral institution
- Early warning function by daily mark-to-market

Efficiency gains

- Full automation and straight-through processing reduces manual errors
- Efficient use and management of collateral
- Increased capital efficiency by reduced balance sheet exposure & efficient use of collateral

ETD FX Market Characteristics

	ETD FX	OTC FX
Product	**Standardized** *(notional & IMM dates)*	**Full Customization**
Access	**Single Relationship to Exchange / CCP** *(Self-clearing or via clearing broker)*	**Bilateral Credit** *(per counterparty or centrally via prime broker)*
Execution Model	**Central Limit Order Book** *(undisclosed)*	**Request for Quote / Stream** *(disclosed / undisclosed)*
Pricing & Fees	**Non-Discriminatory**	**Individual**
Netting	**Multilateral Netting**	**Bilateral Netting / PB Netting**
Collateralization	**Collateralized** *(IM & VM based on multilateral net)*	**Uncollateralized / Collateralized** *(e.g. VM only)*
Capital Requirements	**Lowest** *(no CVA capital charge, 2% RWA risk weight)*	**Typically high**

ETD FX can complement traditional OTC FX markets, while its usage is currently dependent on client preferences, trading requirements, sensitivity to funding and technological constraints

Bridging the OTC and ETD FX markets to boost market liquidity

Market participants are looking for a greater ability to switch between FX OTC and FX futures markets and improving this “translation” is a key focus for the market

By improving the movement between markets, and adding FX futures to OTC FX users capabilities, it creates a virtuous circle that improves liquidity in both markets and enables end users to take advantage of the best price, irrespective of the underlying product.

Exchange and OTC FX providers continue to work on solutions to bridge this gap more effectively

Futures Execution Models

Central Limit Order Book

- Central record of price
- Post passive interest
- Developed Algo solutions

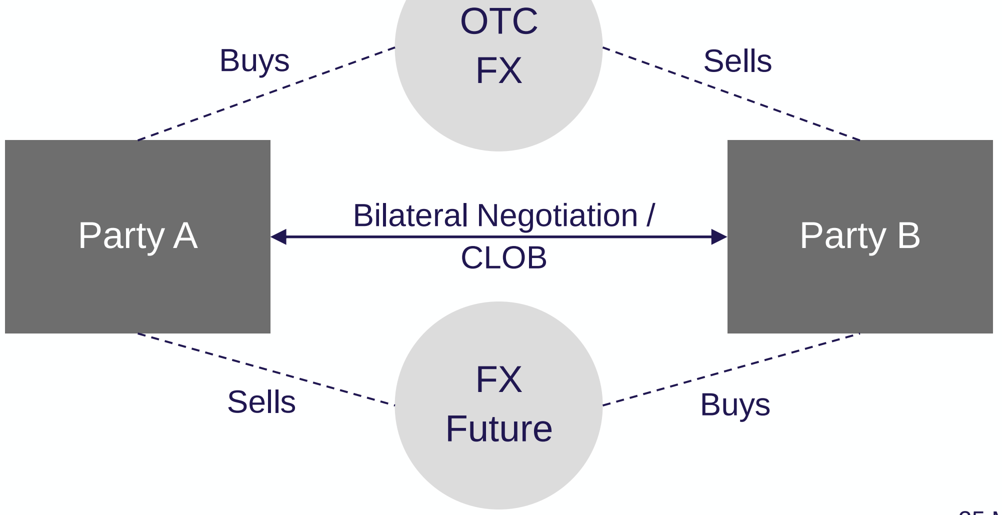
Blocks

- Bilaterally negotiated price
- Price only announced to market after agreement

EFPs

- Bilaterally negotiated price
- Trade out of or into underlying OTC FX position
- Allow users to benefit from OTC liquidity

Example EFP workflow:



Client key drivers in Europe to consider FX futures to complement the traditional OTC FX market

Trading and clearing fees

Ensuring trading and clearing fees are in line with OTC markets is key for growth. Lowering the number of intermediaries and trading fees has helped create a more competitive futures offering.

Spreads

FX Futures tick values have (generally) been falling across the global FX Futures markets and converging on OTC markets. This allows spreads to compress, pricing accuracy to increase and provide takers the best possible execution prices.

Collateral/Credit

The ability of clients to obtain credit is a key factor for usage of FX futures. In addition, costs associated with posting margins are a consistent theme.

Portfolio Margining

By taking into account correlations between currency pairs, clients are able to significantly optimize the margins they need to post to the CCP

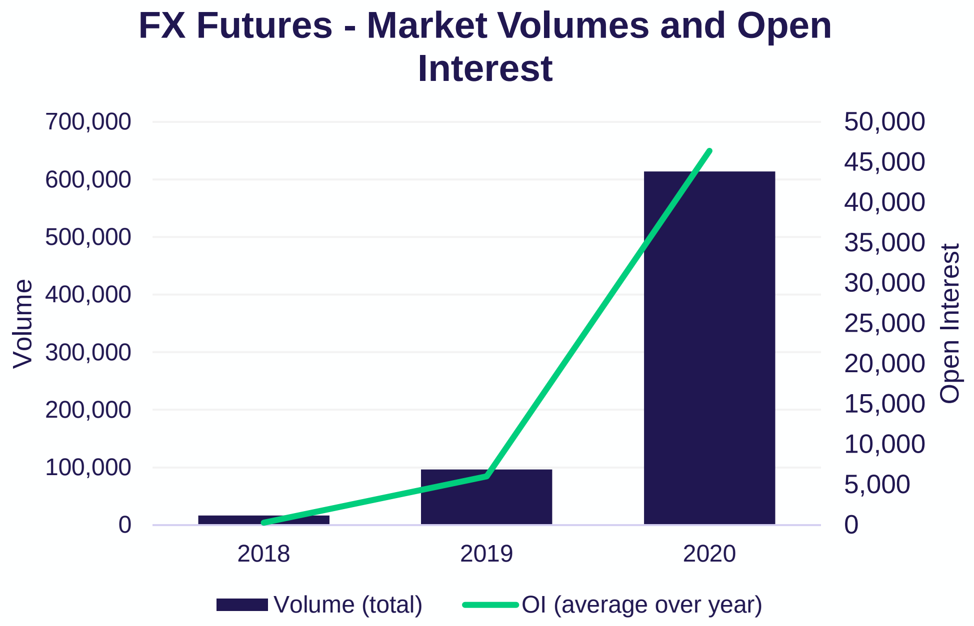
Reasons to establish an exchange traded FX liquidity pool in the EU

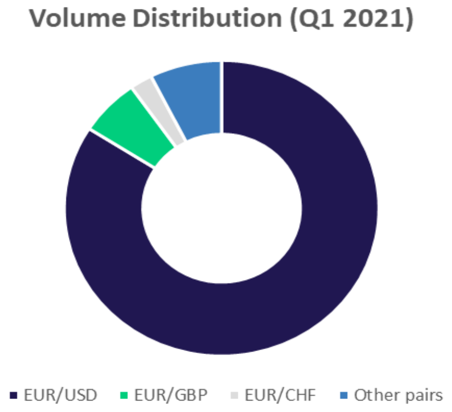
1. Lack of EU based ETD FX offering
2. Access to exchanges outside the EU can be costly or prohibitive for European participants
3. Evolving regulatory landscape
4. Increasing demand for ETD FX solution within the EU territory
5. ETD FX ability to complement traditional OTC FX market and to bridge liquidity

There are multiple reasons to establish an EU based ETD FX liquidity pool.

Eurex & 360T are therefore working with market participants to establish a Euro denominated liquidity pool for FX Futures & FX Options within the EU to complement the existing FX market structure in Europe.

Eurex FX – European FX Exchange





Market Interest
Supporting the reported market interest, Eurex has seen continued volume growth in FX futures with the market continuing to expand with new LPs, end clients and clearing members

Product Coverage
Eurex offers deliverable FX Futures (quarterly and monthly expirations), Calendar Spreads (to trade between expirations), Rolling Spot Futures and FX Options

EUREX Architects of trusted markets

Thank you!

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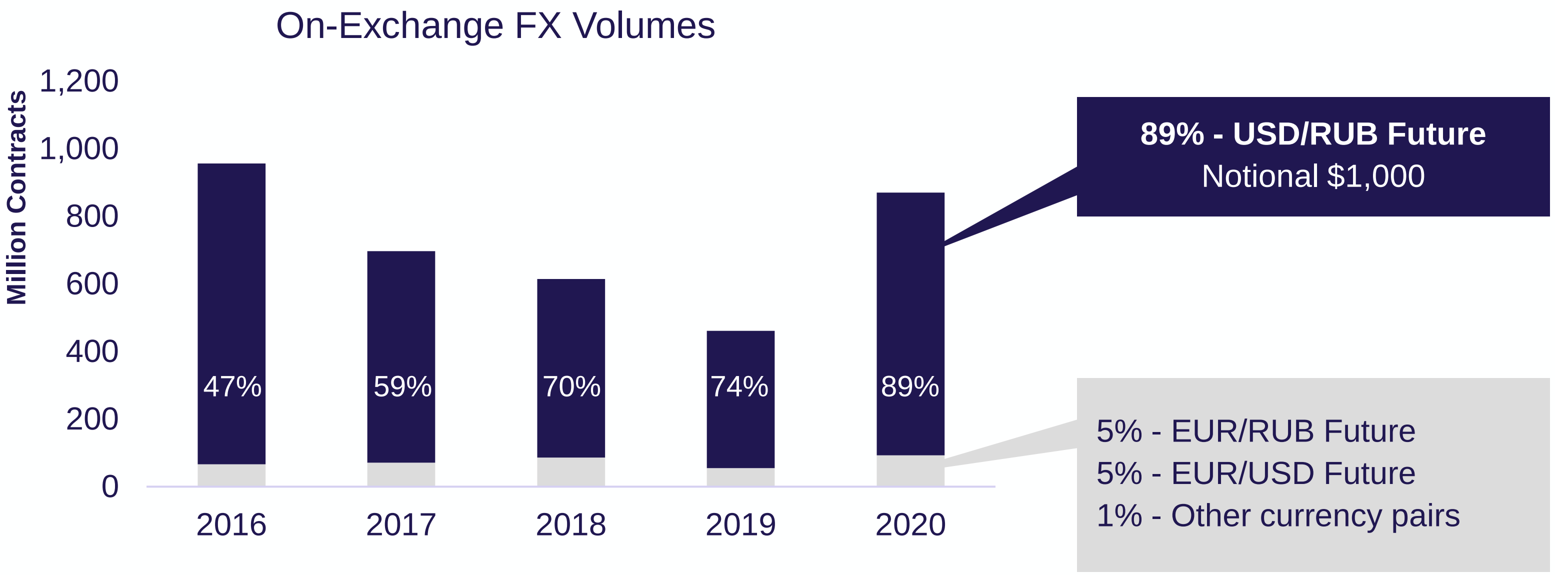
Appendix

Russia – ETD FX Market Development



- Trading predominantly in RUB denominated NDF pairs (USD/RUB, EUR/RUB) as well as EUR/USD without physical delivery
- ETD FX derivatives in Russia typically cash-settled

Exchange: Moscow Exchange (MOEX)
Source: Futures Industry Association

Under UMR, FX derivatives are becoming subject to bilateral margining requirements

- The Uncleared Margin Rules (UMR) are implemented globally leveraging the framework and recommendations set out by the BCBS IOSCO, requiring in-scope entities to exchange collateral for uncleared derivative transactions

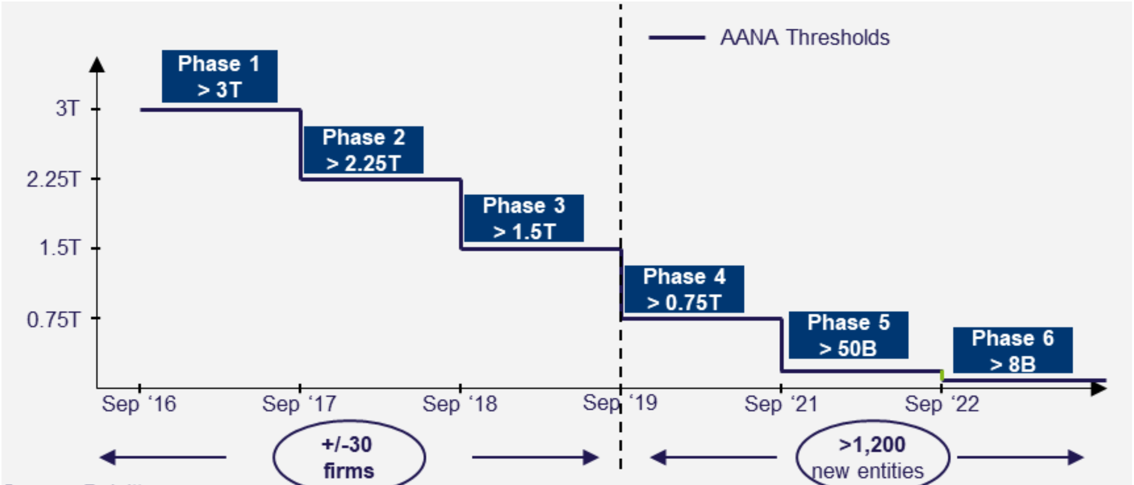
Products in scope margin exchange

- All uncleared derivatives (incl. NDFs and FX Options), with exemption for physically settled FX Swaps & FX Forwards

Average Aggregate Notional Amount (AANA) Calculation:

- All uncleared derivatives (incl. FX Swaps and FX Forwards) between March and May period for next September implementation

Uncleared Margin Rules: AANA Thresholds & In-Scope Entities Estimates



Source: Deloitte

Under Basel III, Banks are required to hold more regulatory capital for FX derivatives

- Under the Basel III regulatory framework, banks are subject to minimum capital requirements to cover unexpected losses and to remain solvent in a crisis. Banks must meet both risk based as well as leverage based capital requirements

Risk Based Capital Ratio	Leverage Ratio	SA-CCR
Based on risk weighted assets (RWA):	Non-risk based backstop to a bank's capital reserves:	▪ Standardized Approach to Counterparty Credit Risk (SA-CCR) comes into effect for European banks in June 2021 and is designed to improve the risk sensitivity of CCR
$Risk\ Based\ Capital\ Ratio = \frac{Common\ Equity\ Tier\ 1\ Capital}{Risk\ Weighted\ Assets}$ ***Most banks operate within the range of 11% - 15%***	$Leverage\ Ratio = \frac{Tier\ 1\ Capital^{1}}{Leverage\ Exposure}$ ***Most banks operate within the range of 3.5% - 7%***	▪ As a result, capital charges for shorter-dates derivatives may rise under SA-CCR while the requirements for longer dated derivatives might be lower
Risk covered under Risk Weighted Assets (RWA): • Credit Risk, Counterparty Credit Risk (CCR), Credit Valuation Adjustment (CVA) Risk, Market Risk, Operational Risk, Large Exposure	**Leverage Exposure is defined as:** • Balance sheet assets, derivate exposure, securities finance transactions, and other off-balance sheet exposures	

1) Tier 1 Capital comprises Common Equity Tier 1 and/or Additional Tier 1 instruments.

Under MiFID II, FX derivatives are increasingly subject to transparency requirements and transaction cost analysis

- The second Markets in Financial Instruments Directive (MiFID II) came into effect across the EU in 2018 to strengthen the integrity of financial markets in the EU
- This included a clearing obligation for certain OTC derivatives (such as interest rate swaps)
- While no clearing mandate has been introduced for FX derivatives, novel requirements referred to enhanced transparency (e.g. trade reporting) as well transaction cost analysis (e.g. best execution) for FX transactions