



**MOSCOW
EXCHANGE**

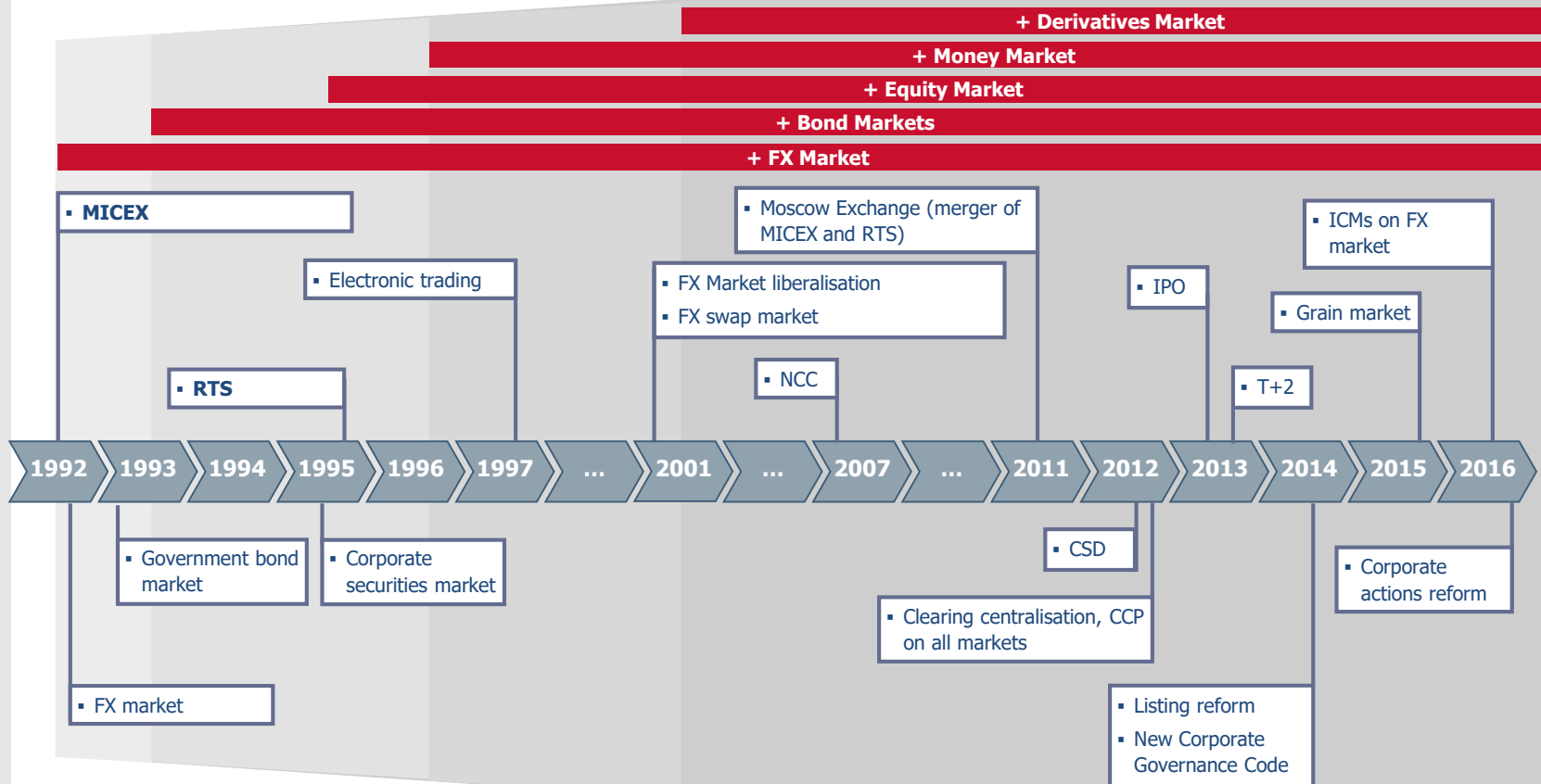
Moscow Exchange – Unique Source of Data from the Russian Financial Market

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RUSSIAN EXCHANGE MARKET HISTORY OVERVIEW



LEADING POSITIONS IN A GLOBAL CONTEXT IN 2017

2nd largest exchange in fixed income¹

Rank	Exchange	Country	Trading vol. (USD bln)	Incl. REPOs
1	LSE Group	UK	8 681	×
2	Moscow Exchange	Russia	4 818	✓
3	BME	Spain	4 804	✓
4	Korea Exchange	Korea	2 144	×
5	Johannesburg SE	South Africa	2 083	✓
6	Nasdaq OMX	USA	1 704	✓
7	Oslo Borse	Norway	1 041	✓
8	Shanghai SE	China	355	×
9	Bolsa de Valores de Colombia	Colombia	312	×
10	Tel-Aviv SE	Israel	241	×

5th largest exchange in derivatives²

Rank	Exchange	Country	Contracts traded (mln)
1	CME Group	USA	4 089
2	NSE India	India	2 482
3	BM&FBOVESPA	Brazil	1 638
4	Deutsche Boerse	Germany	1 597
5	Moscow Exchange	Russia	1 585
6	CBOE	USA	1 274
7	Nasdaq OMX	USA	1 101
8	Korea Exchange	Korea	1 015
9	ICE&NYSE	USA	742
10	BSE India	India	608

Among top 25 exchanges by equity trading volumes globally³

Rank	Exchange	Country	Mkt Cap (USD bln)	Securities listed	Trading vol. (USD bln)
1	ICE&NYSE	USA	22 081	2 286	14 535
2	Nasdaq OMX	USA	10 039	3 933	12 138
3	Shenzhen SE	China	3 622	2 089	9 112
4	Shanghai SE	China	5 090	1 396	7 563
5	Japan Exchange	Japan	6 223	3 604	5 813
6	LSE Group	UK	4 290	2 485	2 157
7	HKEx	Hong Kong	4 226	2 118	1 957
8	Euronext	EU	4 371	1 255	1 943
9	Korea Exchange	Korea	1 731	2 134	1 920
10	Deutsche Boerse	Germany	2 245	499	1 482
...
25	Moscow Exchange	Russia	619	234	144

13th largest publically listed exchange by Mkt Cap⁴

Rank	Exchange	Country	Mkt Cap (USD bln)
1	CME	USA	51.8
2	HKEx	Hong Kong	45.7
3	ICE&NYSE	USA	43.6
4	Deutsche Boerse	Germany	23.0
5	LSE Group	UK	17.7
6	BM&FBovespa	Brazil	15.2
7	CBOE	USA	14.8
8	Nasdaq OMX	USA	13.4
9	Japan Exchange	Japan	10.0
10	ASX	Australia	8.4
11	SGX	Singapore	6.1
12	Euronext	EU	4.7
13	Moscow Exchange	Russia	4.6

Sources: Moscow Exchange, WFE, Bloomberg, LSE Group (for LSE Group data)

1 Due to different methodologies applied, data on fixed income trading may not be directly comparable among exchanges. Data for 2017

2 Data for 2017

3 Top equity trading exchanges are ranked by trading volume. Ranking without BATS (excluded due to absence of data for market capitalization and number of listed companies).LSE data for 11M2017. Data for 2017

4 Market capitalization of public exchanges based on Bloomberg data as of 31 December 2017

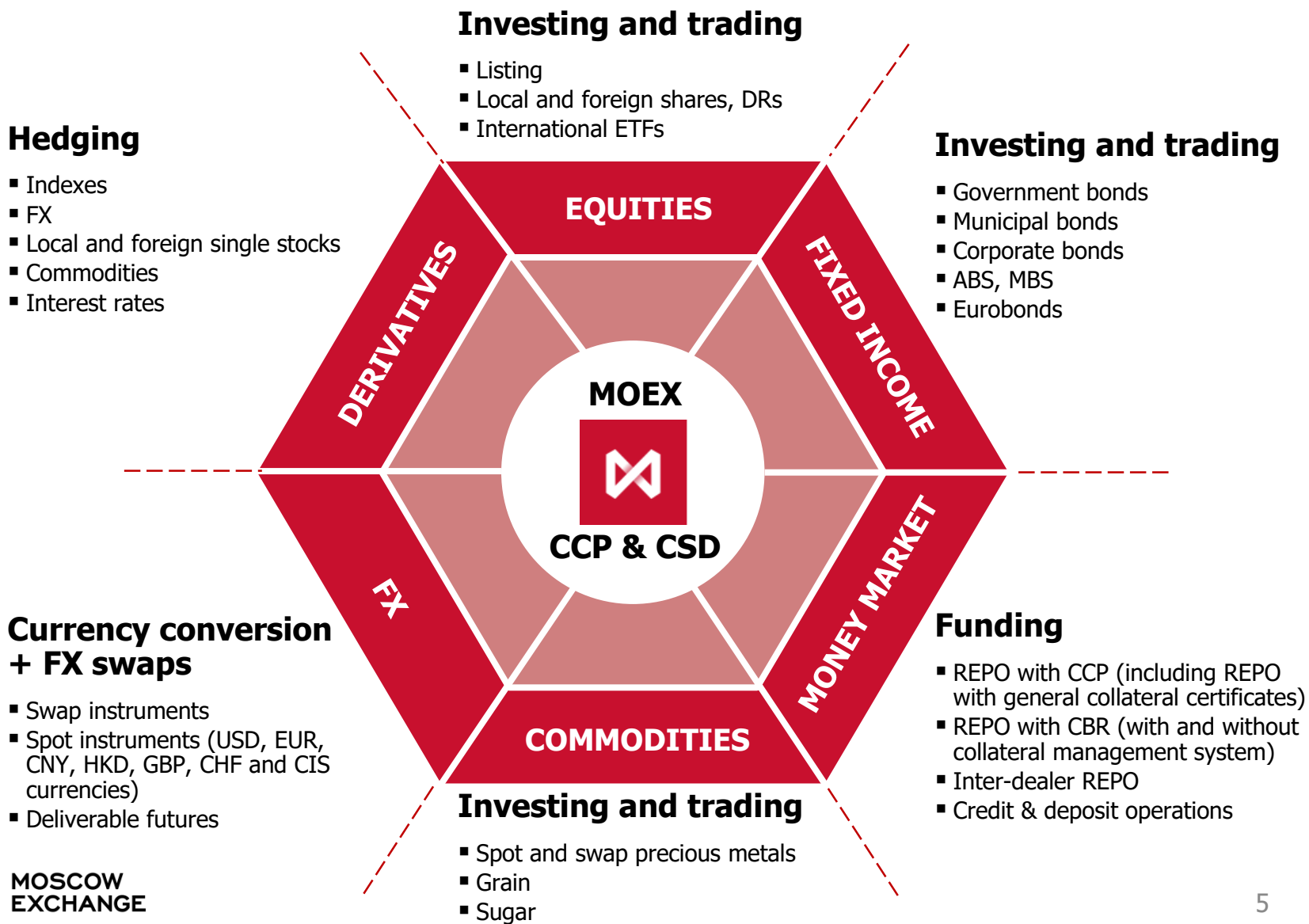


**MOSCOW
EXCHANGE**

ONE OF THE FEW PLATFORMS TRADING IN **ALL MAJOR ASSET CLASSES** AND OFFERING **FULL RANGE OF TRADE AND POST-TRADE SERVICES**

Exchange	Country	Asset classes					Trade and post-trade services			
		Equity	Bonds	Derivatives	FX	Commo dities	Trading	Clearing	Depository	Market Data
CME	USA	×	×	✓	×	×	✓	✓	×	✓
HKEx	Hong Kong	✓	✓	✓	×	×	✓	✓	✓	✓
Deutsche Boerse	Germany	✓	✓	✓	×	×	✓	✓	✓	✓
ICE - NYSE	USA	✓	✓	✓	×	×	✓	✓	×	✓
BM&FBovespa	Brazil	✓	✓	✓	✓	✓	✓	✓	✓	✓
LSE	UK	✓	✓	✓	×	×	✓	✓	×	✓
ASX	Australia	✓	✓	✓	×	×	✓	✓	✓	✓
SGX	Singapore	✓	✓	✓	×	×	✓	✓	✓	✓
Japan Exchange	Japan	✓	✓	✓	×	×	✓	✓	×	✓
NASDAQ OMX	USA	✓	✓	✓	×	×	✓	✓	×	✓
MOEX	Russia	✓	✓	✓	✓	✓	✓	✓	✓	✓
CBOE	USA	×	×	✓	×	×	✓	×	×	✓
BME	Spain	✓	✓	✓	×	×	✓	✓	✓	✓
TMX	Canada	✓	✓	✓	×	✓	✓	✓	✓	✓
BMV	Mexico	✓	✓	✓	×	×	✓	✓	✓	✓
Bursa Malaysia	Malaysia	✓	✓	✓	×	×	✓	✓	✓	✓
JSE	South Africa	✓	✓	✓	×	×	✓	✓	×	✓
WSE	Poland	✓	✓	✓	×	✓	✓	✓	✓	✓

HIGHLY DIVERSIFIED PRODUCT OFFERING



INVESTING IN **RUSSIAN LOCAL SECURITIES IS EASY**

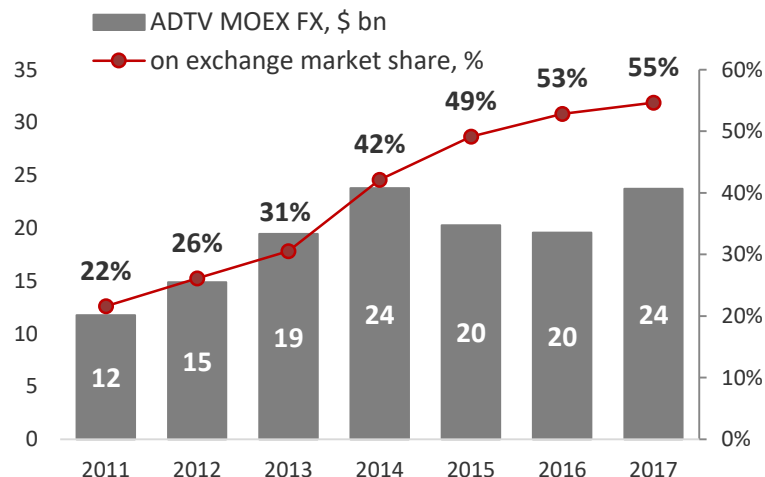
Accessing Russian market is easy

- ✓ No restrictions on investments in Russian local securities
 - ✓ No approval is required to start investing
 - ✓ RUB is fully convertible since 2006
 - ✓ RUB can be acquired on MOEX for USD and CNY
-
- Opening an account with a global custodian and Russian broker is necessary
 - The account may be opened at Russian subsidiaries of Chinese banks: Industrial and Commercial Bank of China (ICBC) and Bank of China (ELUOSI)
 - Access through a broker to MOEX may allow to trade all asset classes

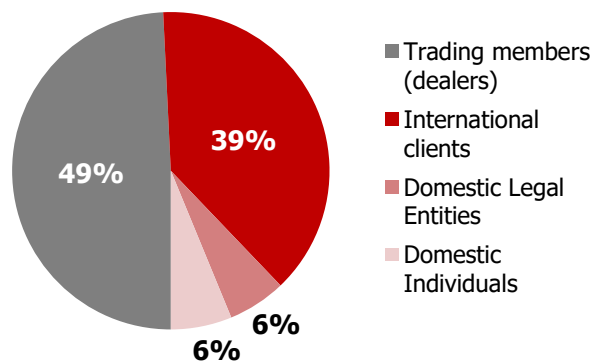


MOSCOW EXCHANGE FX MARKET (ADTV 2017: USD 24 BN)

FX Market Turnover



FX spot share by flow origin (Prop + clients) in total volume %



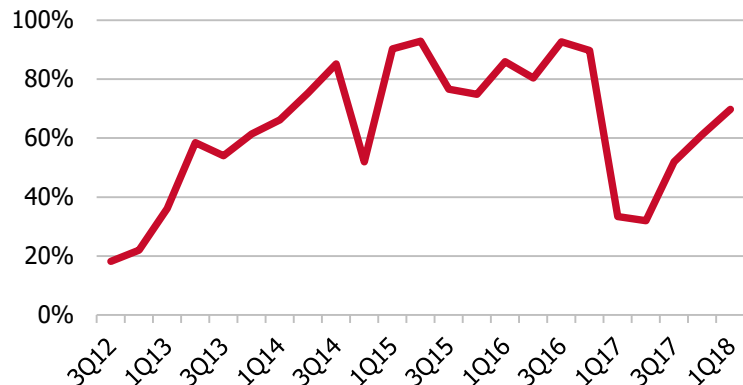
Facts and Figures

- MOEX FX Market is a dominant Ruble liquidity pool and largest in the world FX venue for Ruble FX:
 - USD/RUB - 82% of the market volume
 - EUR/RUB - 14% of the market volume
 - EUR/USD, CNY/RUB, GBP/RUB, CHF/RUB, HKD/RUB, BYN/RUB, KZT/RUB - 4% of the market volume
- DMA (Direct Market Access) и SMA (Sponsored Market Access)
- 450+ of market participants and 1.2 mn registered accounts from more than 100 countries all over the world
- Bank of America and ICBC Standard – first international Clearing member on MOEX (ICM)
- MOEX USD/RUB FX FIXING recognized by ISDA FX Definitions, annually supervised in accordance with the IOSCO principals, used as an underlying for future contracts at CME
- Unique Order Matching Service (launched in 2017) for all those who matches the deal based on MOEX FX FIXING level



FACTS ABOUT FX PAIR CNY/RUB on MOEX

MOEX' market share in a total CFETS volumes on CNY/RUB, %



- In 2017: 25% for spot FX trading, 75% of the volume for swap FX deals
- Record ADTV was noticed in August 2015 (137 mn USD)
- >170 market participants
- 9 market-makers: Bank of China, ICBC, VTB, Raiffeisen Bank, Open Broker, Renaissance Capital, Vesta, Metalloinvestbank
- In 2017 share of trading in total CFETS was 46% and during Jan-Feb 2018 has grown to 70%

Moscow Exchange is only one exchange outside of Mainland of China who provide an infrastructure to trade on-Exchange **CNY/RUB**

Trades with the FX pair CNY/RUB started in December 15th, 2010:

- T+0 and T+1 swap instruments with the various maturity, up to 6MO
- Trades are open till 11:50 pm Moscow time
- Multi-market account and marginal trading
- MOEX FX FIXING CNY/RUB (CNYFIXME) @12:30 is IOSCO Compliant

MOEX market share on CNY interbank market, %

	CNY(total*)	CNY/RUB
2012	17%	62%
2016	40%	76%
2018	39%	95%

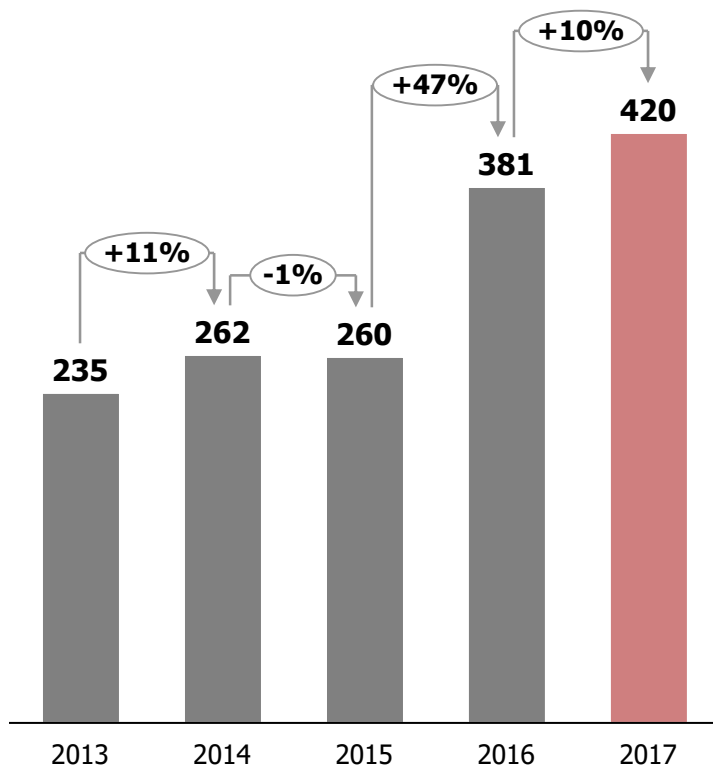
* Including CNY/USD



MOSCOW EXCHANGE MONEY MARKET (ADTV 2017: USD 29 BN)

Money market trading value

RUB trln

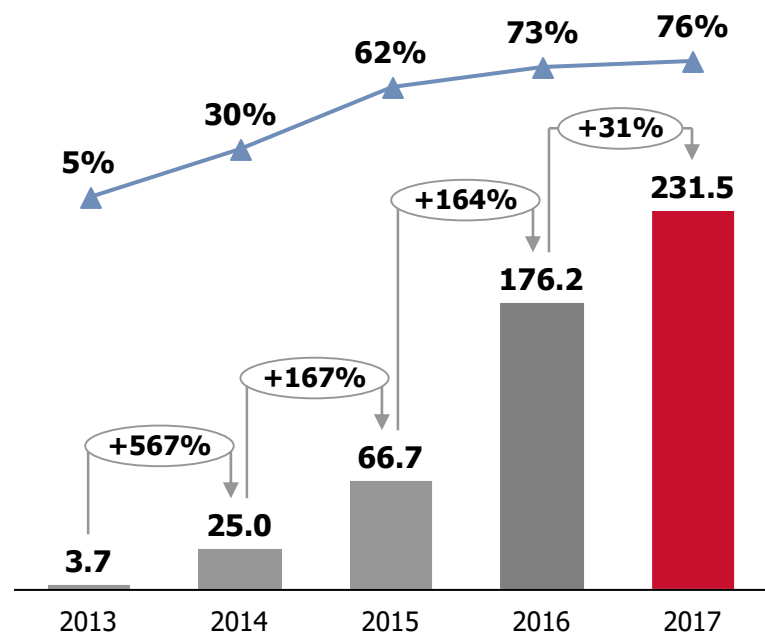


REPO with CCP trading value

RUB trln, %

▲ Share of REPO with CCP in interdealer REPO and REPO with CCP

■ REPO with CCP trading value, RUB trln



- Eligible collateral for REPO transactions:
 - Shares, DRs and shares of foreign issuers
 - Sovereign, corporate and Eurobonds
 - General collateral certificates

Source: Moscow Exchange

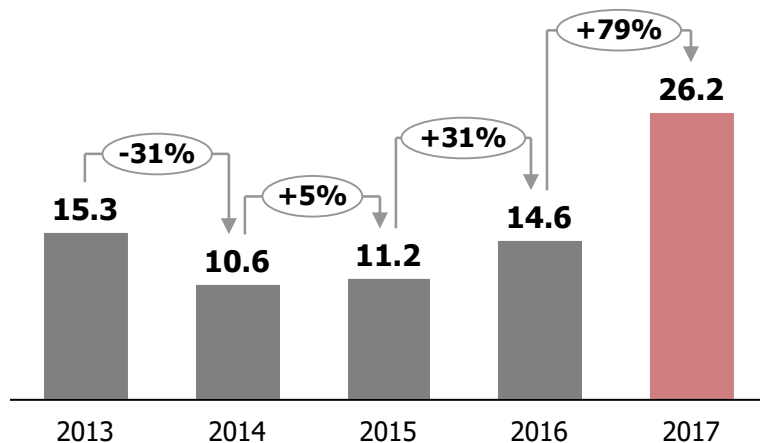


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MOSCOW EXCHANGE **BOND MARKET (ADTV 2017: USD 1.8 BN)**

Bonds trading value

RUB trln

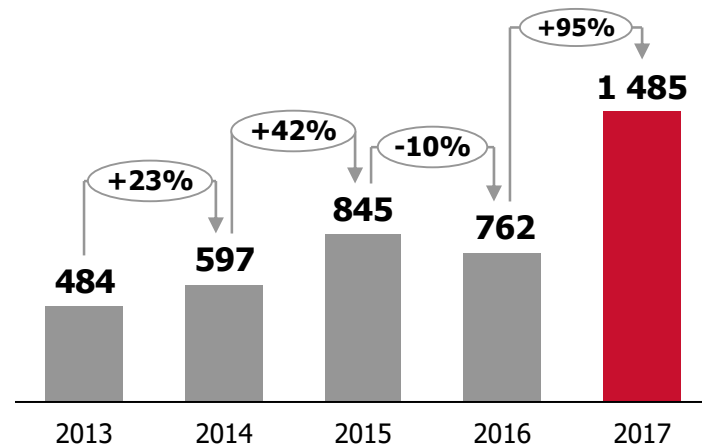


Onshore bond market

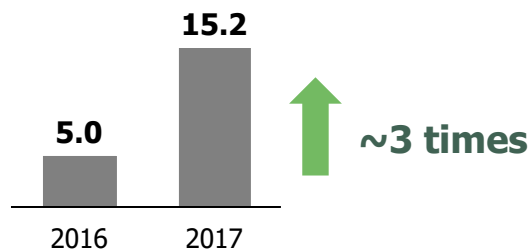
✓ Almost 100% listed and RUB denominated

Retail investors trading value

RUB bln



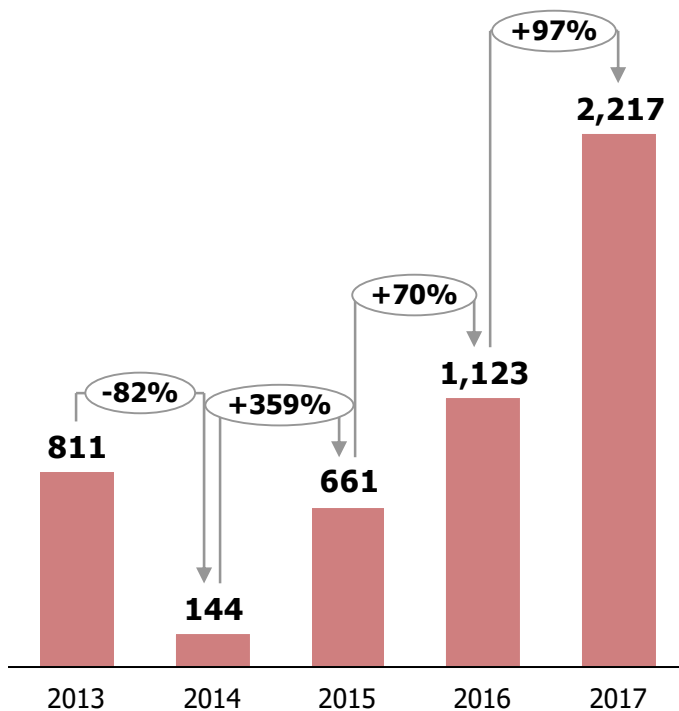
Bonds primary market,
RUB trln



BONDS PRIMARY MARKET

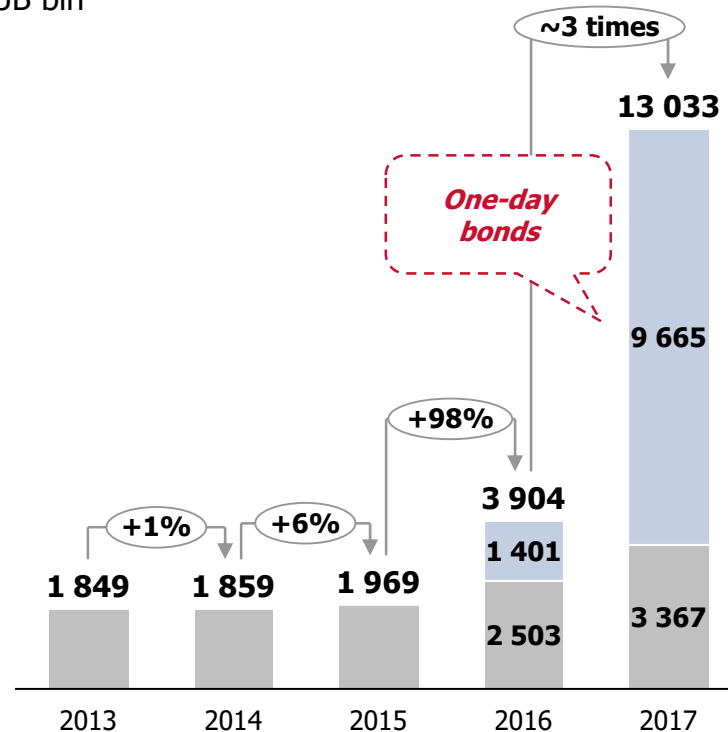
Sovereign bonds primary market

RUB bln



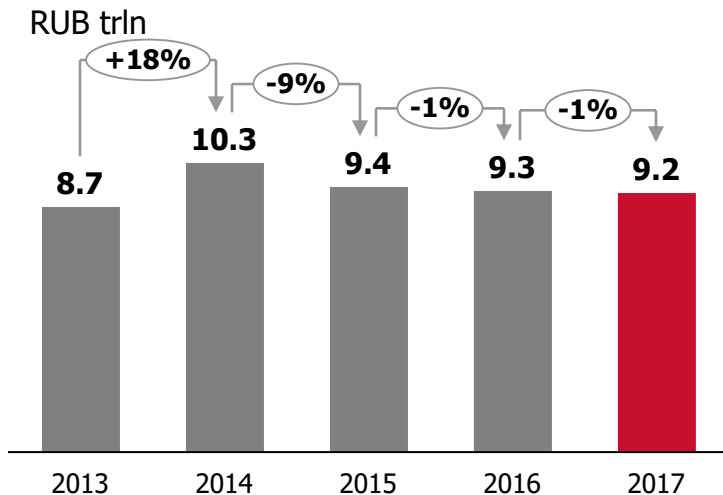
Corporate and municipal bonds primary market

RUB bln



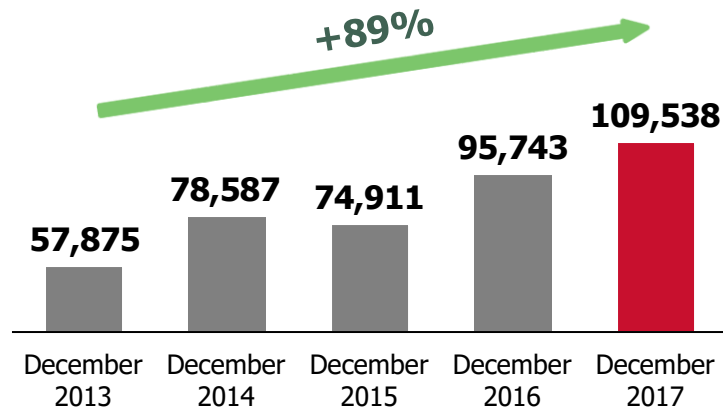
MOSCOW EXCHANGE EQUITY MARKET (ADTV 2017: USD 625 MLN)

Equities trading value

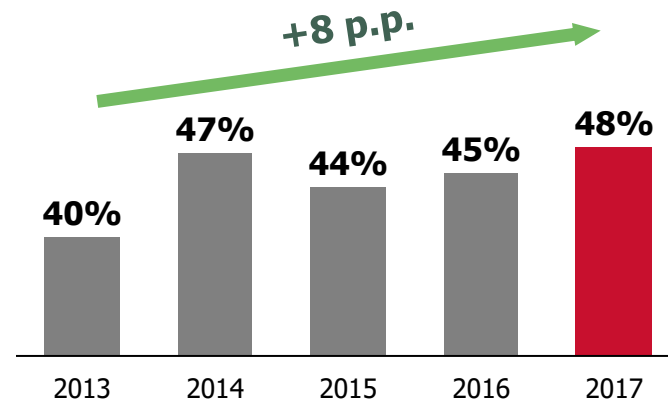


- More than 230 issuers from key sectors of the Russian economy
- Traded instruments: shares, depositary receipts, mutual funds, ETFs

Number of active retail client accounts



Non-residents share in trading value

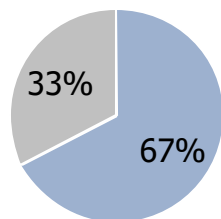


Source: Moscow Exchange



RUSSIAN EQUITY AND BONDS MARKET PARTICIPANTS

Participants structure



- Banks
- Brokers & prop. Traders

- **371** market participants:
 - **249** banks
 - **122** brokers & prop traders

Foreign banks and brokers access MOEX via Russian subsidiaries

- **25** foreign subsidiaries have access to MOEX
- **15** of them got DMA access
- Major foreign participants are:

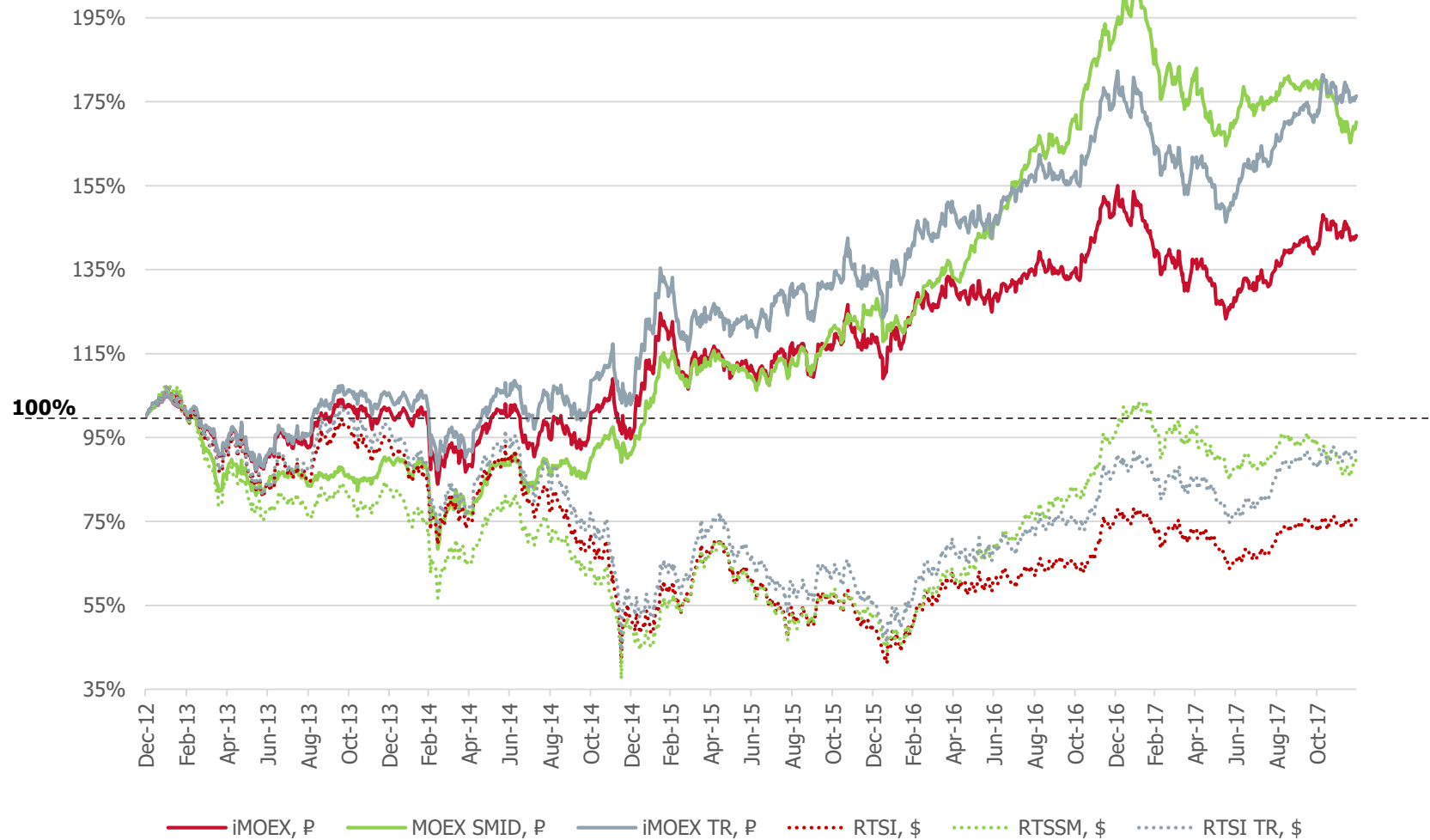
- *Barclays Capital*
- *BNP Paribas*
- *Citigroup*
- *Credit Suisse*
- *Deutsche Bank*
- *Goldman Sachs*
- *HSBC*
- *JP Morgan*
- *Merril Lynch*
- *Morgan Stanley*
- *Nordea Bank*
- *Raffaisenbank*
- *UBS*

For reference:

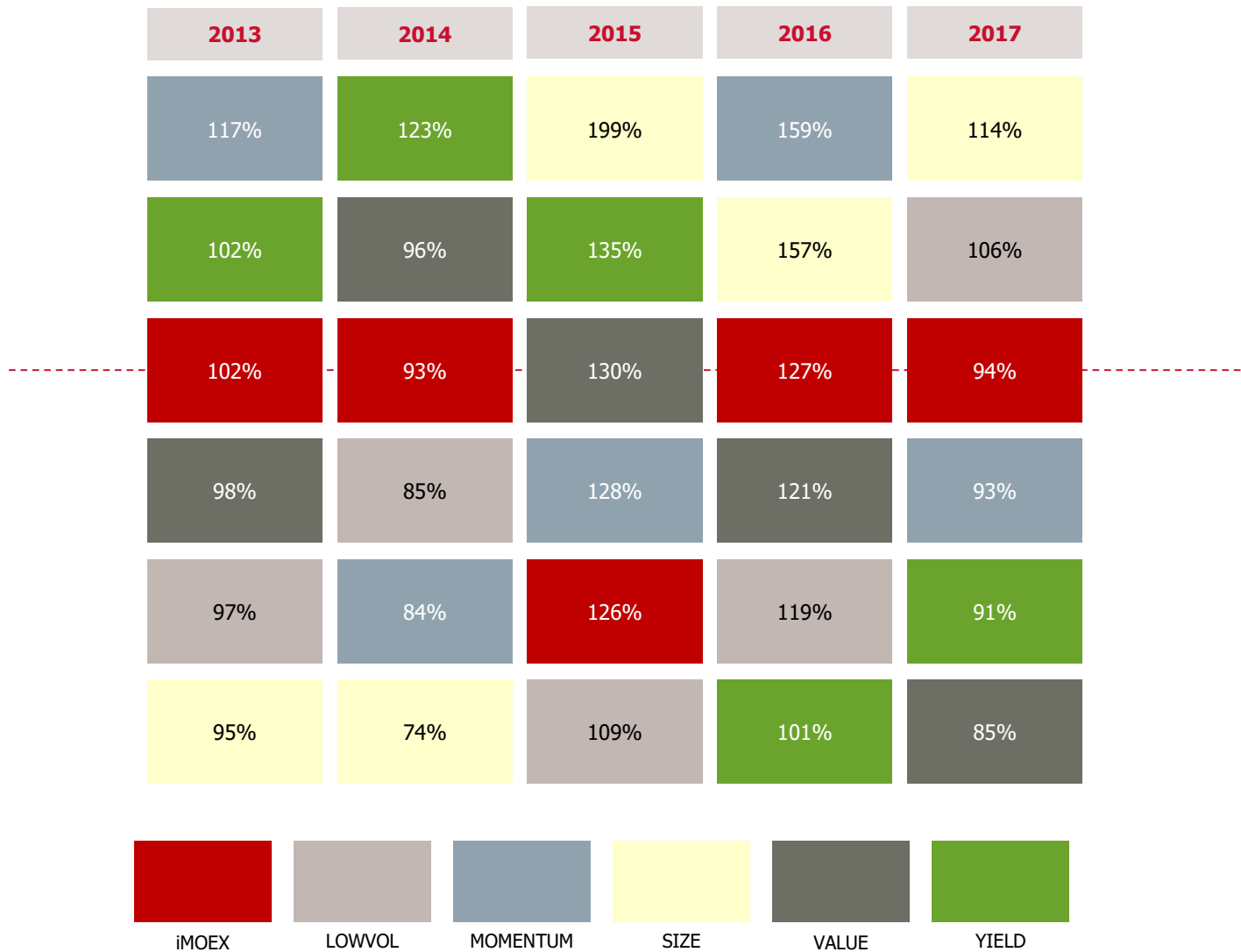
- *69 banks-foreign subsidiaries in Russia*



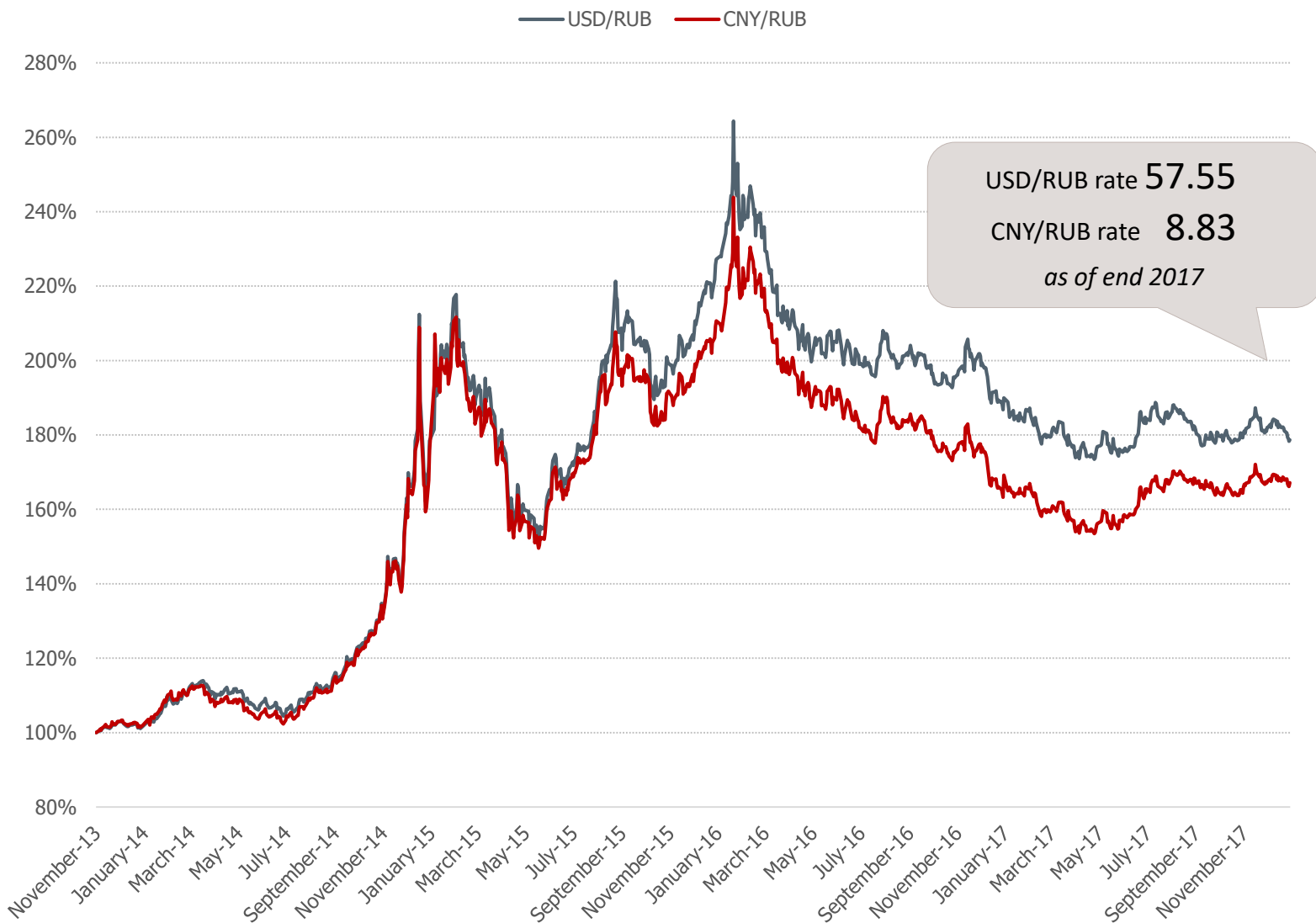
EQUITY MARKET – 5Y HISTORY IN FIGURES



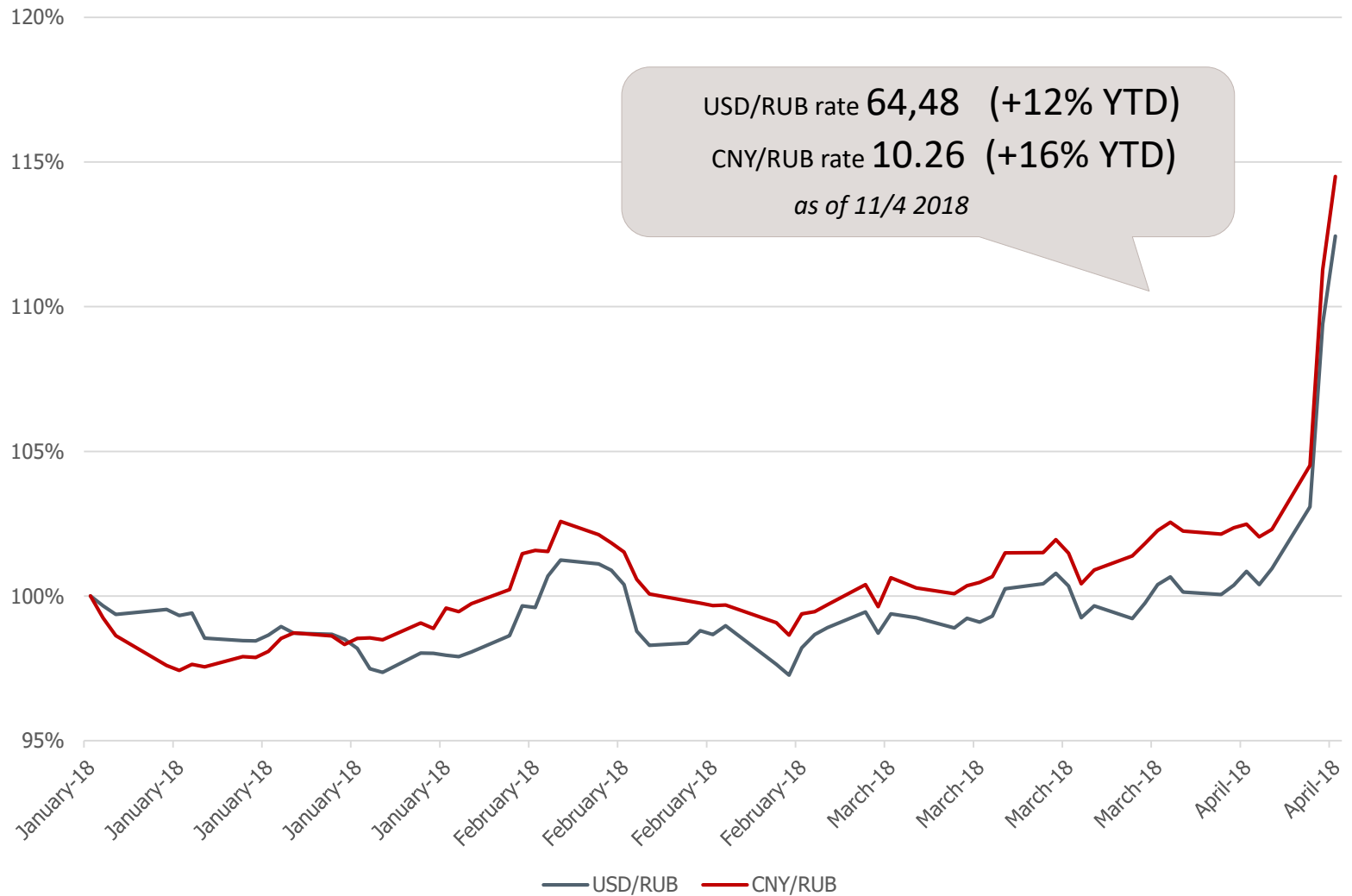
FACTOR-BASED INVESTMENTS WORKS (BACK-TESTING)



RUSSIAN FX's PATH



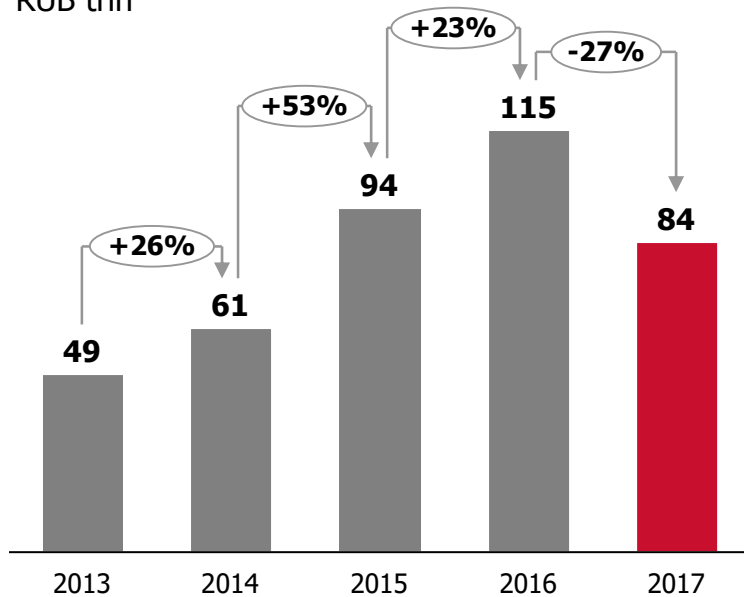
MELT "10-11/4" (FX)



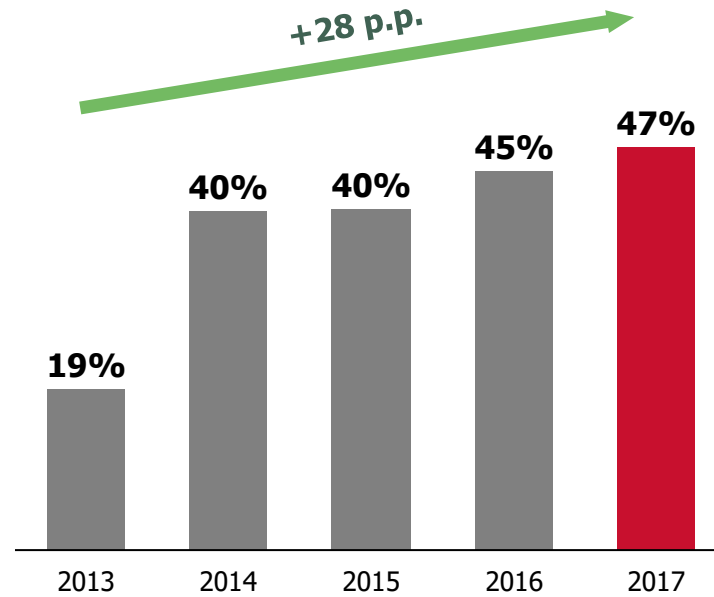
MOSCOW EXCHANGE DERIVATIVES MARKET (ADTV 2017: USD 6 BN)

Derivatives trading value

RUB trln



Non-residents share in trading value



- 90 derivatives products:
 - 57 futures
 - 33 options

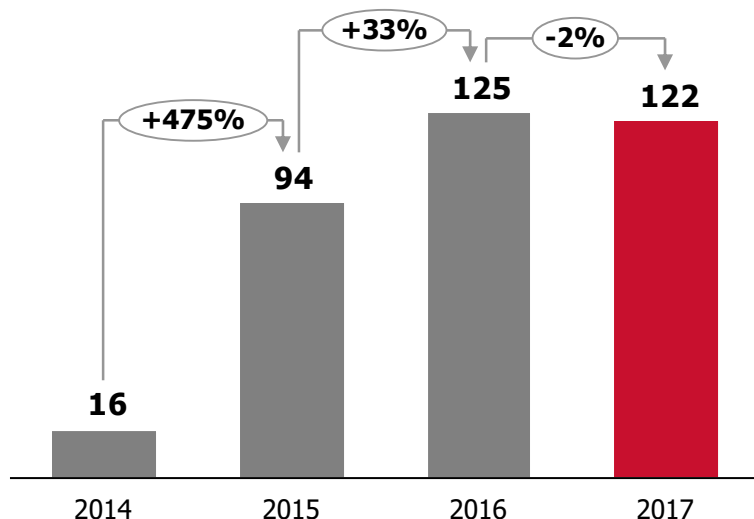
- Top products:
 - USD/RUB futures
 - RTS Index futures
 - Brent futures



MOSCOW EXCHANGE COMMODITIES MARKET

Precious metals market

RUB bln



- Launched in October 2013
 - Spot and swap trading in gold and silver
 - Gold and silver are traded on the FX Market platform using a unified system of margining and risk management. Trading collateral is accepted in RUB, USD, EUR and CNY, as well as precious metals
 - The National Clearing Centre (NCC) acts as the central counterparty and clearing house

Grain and Sugar markets



- Launched in December 2015
- Trading in deliverable forward contracts and swaps with wheat as the underlying asset
- Trading is carried out as a bilateral anonymous auction
- National Logistics Company organises transportation, alongside survey companies. The grain is stored in accredited grain elevators
- CCP NCC acts as a central counterparty to the trades, as well as the operator of commodities deliveries, for which purpose it has obtained the relevant accreditation from the Bank of Russia



- Launched in March 2017
- Trading in deliverable forward contracts with sugar as the underlying asset

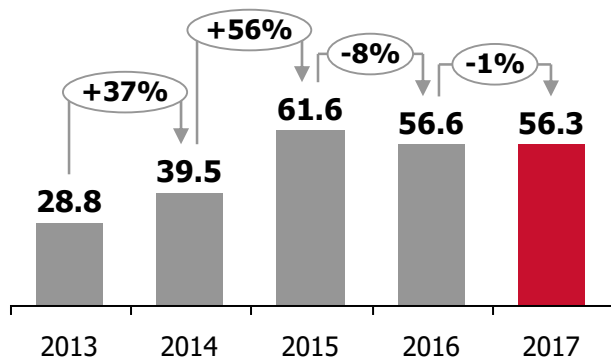


POST-TRADE INFRASTRUCTURE: CENTRAL COUNTERPARTY (CCP) AND CENTRAL SECURITIES DEPOSITORY (CSD)

CCP NCC

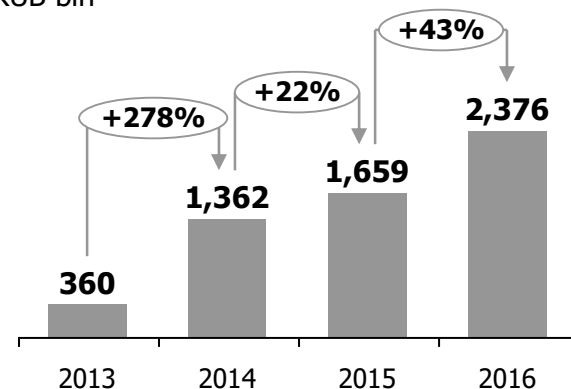
CCP NCC own funds (capital)

RUB bln



CCP NCC assets

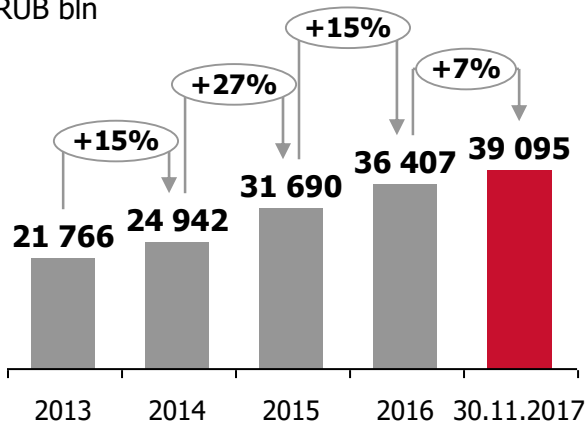
RUB bln



National Settlement Depository

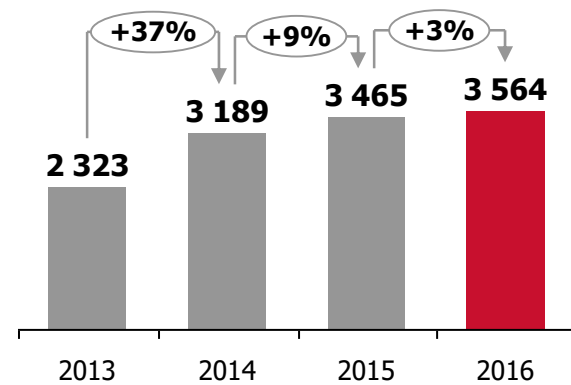
Assets on deposit

RUB bln



Fee & commission income from depository and settlement services

RUB mln



NSD: CORNERSTONE COMPONENT OF THE FINANCIAL INFRASTRUCTURE

- The largest settlement depository **in Central and Eastern Europe**
- The Russian CSD and an operator of **systemically important depository, repository and payment system**
- **Links with** other CSDs and **ICSDs**
- Stable and **recurring revenue source**, which is less depended on the market environment

CSD

- ✓ Safekeeping
- ✓ Settlement (FOP, DVP)
- ✓ Corporate actions
- ✓ Tax agent services

Clearing & Tri-party services

- ✓ Clearing
- ✓ Collateral management (tri-party services)

Payment service provider

- ✓ Cash settlement services
- ✓ FX services

Repository

- ✓ OTC derivatives reporting
- ✓ Clearing, CMS and information services

Corporate Information Center

- ✓ Comprehensive source of corporate information
- ✓ Valuation center
- ✓ Pricing center

Key initiatives

- Completion of the ongoing corporate actions reform to further simplify market access and reduce costs for market participants
- Development of the corporate information center and a recognized pricing center, which are set to become a comprehensive and authoritative source of reliable information on securities and corporate actions
- Further trade repository development to make OTC derivatives market more transparent and better understand risks associated with the market

MOEX PLATFORM PROVIDING **VALUE ADDED SERVICES ALONG THE CHAIN**



- Pre-order validation and risk management solutions
- Market data, real-time information and indexes

- Direct market access (DMA) and co-location, also for international clients
- Partial pre-funding
- T+2 settlement cycle

Clearing

- Well capitalized National Clearing Centre as CCP
- Unified risk management model
- Broad range of collateral (cash, FX, securities)
- Centralized Clearing of OTC derivatives

Settlement & Depository via CSD

- DVP/PVP settlement
- Omnibus accounts
- Foreign nominee accounts
- Euroclear & Clearstream accounts with CSD
- Repo collateral management
- Depository services (safekeeping and settlement)
- Repository for OTC trades



MOEX DATA LANDSCAPE

INDEX DATA



- Indices values
- Indices baskets
- Indicators
- Yield curve values

MARKET DATA



- Prices
- Volumes
- Quantities
- Aggregators [WAP] [Market Price] [Spreads]

LISTING NEWSLINE



- Notifications on [start] [suspension] [resume] [stop] [trading] and/or changes of [parameters] [listing levels]
- Corporate actions Shareholders [meetings] [dividends] [announcement]

REFERENCE DATA



- Class of instrument (asset)
- Ticker (trading IDs)
- ISIN / CFI code
- Nominal (face) value
- Issue size
- State registration number and date of issuance
- Listing level
- Duration (for bonds)
- Coupon value (for bonds)

YOUR BEST WAY TO DISCOVER THE ADVANTAGES OF THE RUSSIAN MARKET



MOEX DATA COMPOSITION



BY MARKET

- ✓ Currencies (FX) market
- ✓ Equities market (shares, mutual investment funds, ETF, DR)
- ✓ Bonds market (corporate, municipal, federal bond, eurobonds)
- ✓ Derivatives market (futures, options)
- ✓ Money market (repo deals, deposits with CCP deals)
- ✓ Commodities market (grain, precious metals*, sugar)
* - on the trading platform of Currencies (FX) market



BY USER INTERFACE

- ✓ Web-sites of the MOEX Group member companies:
 - [<https://www.moex.com/en/orders>]
 - [<https://nsddata.ru/en/products>]
- ✓ MOEX proprietary program interfaces:
 - **API** to MOEX Informational & Statistical Server (ISS) [<https://www.moex.com/a2920>]
 - "MOEX Trade Info" **viewing terminal** [<https://www.moex.com/a1501>]
 - MOEX **mobile applications** [<https://www.moex.com/a3840>]
- ✓ Terminals and program interfaces of local, regional and International data vendors (Bloomberg, Thomson Reuters, SIX Financial, Interfax, Prime)



BY TIME FACTOR

- ✓ Real time streaming data
- ✓ Delayed streaming data (15 min delay)
- ✓ End of day data (daily official aggregated trading statistics)
- ✓ Historical data (full order-logs, top of the book, trade logs, since 2000 year)



BY DATA TRANSMITTING FORMAT OF

-- FAST (FIX) ==
-- HTML ==
-- XML ==
-- CSV ==
-- JSON ==



THE HISTORY OF OUR NEIGHBOURLY RELATIONS, 2015 – 2017

Nov-2015 – 1st annual MOEX Forum in Shanghai



MOSCOW
EXCHANGE



Dec-2016 – 2nd annual MOEX Forum in Shanghai

Nov-2017 – Round of Open Events in Shanghai, Beijing and Shenzhen



MOUs [exchanges]

- Strategic partnership with Shanghai Stock Exchange
- Dalian Commodity Exchange
- CFFEX

MOUs [financial institutions]

- BOC
- ICBC

MOUs [brokerages]

- China Galaxy Securities
- CITIC Securities

MOUs and Certificates
[data providers/vendors]

- SSE Infonet Ltd. Company (MOU)
- East Money, EMoney, Great Wisdom and Wind (officially certified)

Number of meetings: CFETS, Shenzhen Stock Exchange, CITIC, CICC, BOC, ICBC, Dalian Commodity Exchange

Oct-2017 - Joint conference of MOEX and Shanghai Clearing House (SHCH) in Moscow



Plans on **MOUs** with Shanghai Gold Exchange, Shenzhen Stock Exchange, **FX-link to CFETS**, **cross-boarding ETFs**, **joint open conferences in Russia and China**



МОСКОВСКАЯ
БИРЖА

谢谢 !

FOR THE FURTHER QUESTIONS AND ASSISTANCE:

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INDEXES

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BUSINESS DEVELOPMENT

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–perception of market services offered by the Company and its subsidiaries;

–volatility (a) of the Russian economy and the securities market and (b) sectors with a high level of competition that the Company and its subsidiaries operate;

–changes in (a) domestic and international legislation and tax regulation and (b) state policies related to financial markets and securities markets;

–competition increase from new players on the Russian market;

–the ability to keep pace with rapid changes in science and technology environment, including the ability to use advanced features that are popular with the Company's and its subsidiaries' customers;

–the ability to maintain continuity of the process of introduction of new competitive products and services, while keeping the competitiveness;

–the ability to attract new customers on the domestic market and in foreign jurisdictions;

–the ability to increase the offer of products in foreign jurisdictions.

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