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RUSFAR:
the fair value of money

RUSFAR FEATURES

Russian
Secured
Funding
Average
Rate

➢ **Counterparty risks do not affect the price**
All trades are cleared via the central counterparty; this mitigates the impact of counterparty quality on the price

➢ **No security specific factor**
By contrast to repos in a specific security, there is no security shortage in GCC repos affecting the rate

➢ **Transparency**
All orders are executed anonymously on the order books available to all participants

➢ **Single money market**
The market is open to non-financial businesses depositing assets with the CCP, alongside professional participants and banks

➢ **Tradability**
Positions in RUSFAR may be closed out both on the GCC repo order book (any professional market participant, bank or non-financial business) and through the futures contract or other interest derivative on RUSFAR

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# A NEW LINE OF BENCHMARKS TO EVALUATE SECURED FUNDING

Background

- The global trend towards market data-based measures rather than those based on questionnaire-based surveys
- Introduction of universal collateral (GCC) intended only for repo transactions
- The concentration of liquidity in one order book
- Support from market makers across all terms
- An option for executing long-term repo transactions
- Guarantees from the central counterparty minimizes the impact of market and credit risks on the rate

RUSFAR (Russian Secured Funding Average Rate) is based on trades and orders submitted to the order books for GCC repos with the relevant term. It is calculated by the method similar to that applied to the MOEX USD/RUB fixing.

The common methodology allows constructing the secured money value curve for standard terms O/N, 1W, 2W, 1M, 2M and 3M, which can be used in executing trades with unregular terms within this range

Liquidity is supported on the whole curve from O/N to 3M

- MAX SPREAD for MMs

ON — 0,5%
1W — 0,75%
2W — 0,8%
1M — 0,9%
2M — 1,0%
3M — 1,1%

New!
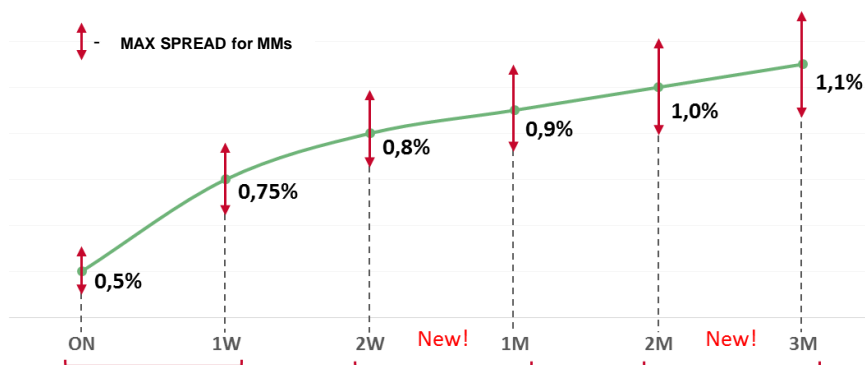
12 market makers submit prices for 1D and 7D programs

Live orders and trades occurred from 11:30 to 12:30 are included in calculation

Term	Name	MM spread
ON	RUSFAR	0,5 %
1W	RUSFAR 1W	0,75 %
2W	RUSFAR 2W	0,8 %
1M	RUSFAR 1M	0,9 %
2M	RUSFAR 2M	1,0 %
3M	RUSFAR 3M	1,1 %

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NEW MARKET MAKING PROGRAMS*

Programs

2W-3M terms	2M-3M terms

Terms of quotation

- Instrument: GCC Bonds
- Quotation period: **11:30-12:30 MSK**
- Minimum volume of orders of a MM: **RUB 100 mn**
- Minimum volume of trades: RUB 300 mn (in total for two terms)
- Maximum (absolute) spread:
  - 2 weeks   –   0.8
  - 1 month   –   0.9
  - 2 months –   1.0
  - 3 months –   1.1
- Minimum requirement for the number of days the MM has to quote: >= **80%**

Incentives

Fixed payment: RUB 300,000	+	A 100% rebate on fees for passive trades executed throughput the trading day, but maximum RUB 700,000 per month

* Preliminary terms

EXAMPLE OF CHANGES IN THE 2W ORDER BOOK IN THE CALCULATION PERIOD

1200 s

(k_i)	(v_i)	(r_i)		
1/16	800,000	7.85		
1/8	100,000	7.76		
1/4	202,000	7.75		
1/2	500,000	7.74		
1	200,000	7.73		
		7.72	468,670	1
		7.71	900,000	1/2
		7.7	2,401,000	1/4
		7.69	900,000	1/8
		7.68	2,700,000	1/16
		(r_i)	(v_i)	(k_i)

600 s

(k_i)	(v_i)	(r_i)		
1/32	2,000,000	7.9		
1/16	800,000	7.86		
1/8	100,000	7.85		
1/4	100,000	7.83		
1/2	300,000	7.82		
1	100,000	7.81		
		7.77	2,000,000	1
		7.76	1,500,000	1/2
		7.7	2,401,000	1/4
		7.69	900,000	1/8
		7.68	2,700,000	1/16
		(r_i)	(v_i)	(k_i)

1800 s

(k_i)	(v_i)	(r_i)		
1/16	800,000	7.87		
1/8	100,000	7.86		
1/4	1,200,000	7.85		
1/2	1,500,000	7.8		
1	20,000	7.79		
		7.75	300,000	1
		7.74	500,000	1/2
		7.72	3,000,000	1/4
		7.7	600,000	1/8
		7.65	2,500,000	1/16
		7.6	800,000	1/32
		(r_i)	(v_i)	(k_i)

11:30   ~   ~   12:30

Order book snapshots every seconds

60 * 60 = 3,600 s

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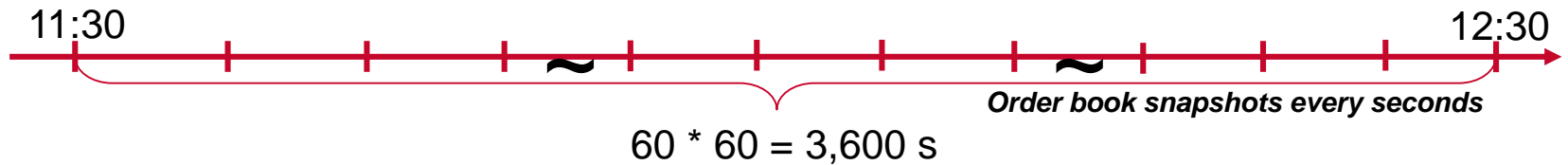
Calculations with orders

1. An order book with quotations for a certain term is built.

2. Each row (*i*) in the order book is given (separately for cash-driven and securities-driven orders) coefficient (*k_i*): 1, 1/2, 1/4, … 1/2^m, by going respectively from the best to the worst rate.

3. The order book snapshots are taken every second from **11:30:01** to **12:30:00** (*sr <= 3,600*)

   - If a snapshot does not give any bids or offers, it is omitted.

Then the average order book rate (*R_{bid} R_{ask} R_{mid}*) is calculated for every order book snapshot (*j*) as follows:

$$R_{ask} = \frac{\sum_{i=1}^{m} r_i v_i k_i}{\sum_{i=1}^{m} v_i k_i} \; ; \; R_{bid} = \frac{\sum_{i=1}^{n} r_i v_i k_i}{\sum_{i=1}^{n} v_i k_i} \; ; \; Rmid_j = \frac{Rask + Rbid}{2}$$

(kᵢ)	(vᵢ)	(rᵢ)		
1/32	2,000,000	7.9		
1/16	800,000	7.86		
1/8	100,000	7.85		
1/4	100,000	7.83		
1/2	300,000	7.82		
1	100,000	7.81		
		7.77	2,000,000	1
		7.76	1,500,000	1/2
		7.7	2,401,000	1/4
		7.69	900,000	1/8
		7.68	2,700,000	1/16
		(rᵢ)	(vᵢ)	(kᵢ)

In our example,

R_{ask} = 7.836563

R_{bid} = 7.749704

$Rmid_j$ = 7.793133

Calculation of the total rate for orders

The average rate (*R_{orders}*) is calculated based on all average order books (*R_{mid}*):

$$R_{orders} = \frac{\sum Rmid_j}{j}$$

$Rmid_1$ = 7.723883 … $Rmid_{1201}$ = 7.793133 …
$Rmid_{1801}$ = 7.76892

R_{orders} = 7.730171

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Calculations with trades; calculation of the benchmark value

The average rate (R_{trades}) for trades executed by all participants from **11:30:00** to **12:30:00 MSK** is also calculated as follows:

$$R_{trades} = \frac{\sum r_t v_t}{\sum v_t}$$

, where (r_t) – the rate for the trade, (v_t) – the trade size

(r_i)	(v_i)
7.76	100,000
7.75	202,000
7.74	500,000
7.73	200,000
7.77	2,000,000

In our example,
$R_{trades} = 7.76066$

Fixing calculation

- The weighted average of (R_{orders}) and (R_{trades}) is calculated,
- To this end, the average daily trading volume **Q** from **11:30** to **12:30** is calculated for every term on the GCC Bonds order books:

$$Q = \max(\text{ADTV from } 11:30 \text{ to } 12:30 \text{ over the quarter; RUB 1 billion})$$

To calculate ADTV over the previous quarter, only days showing **non-zero** volumes are considered

- Then, the weight for (R_{trades}) is calculated as follows:

$$q = \frac{\sum v_t}{\sum v_t + Q}$$

- The final value is calculated for every term:

$$R = R_{orders} * (1 - q) + R_{trades} * q$$

In our example,
Q = RUB 1.7 bln
q = 0.638452
R = 7.749637

RUSFAR2W = 7.75

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VALIDITY TEST

- RUSFAR is not calculated:
    1. On the last trading day of the year,
    2. On non-business trading days,
    3. On Saturdays and Sundays that are business days.

- The following analytical measure is used to evaluate the need for testing the validity of the rate:

    $$|Rorders/Rtrades - 1| * 100\% > 5\%,$$

- If the benchmark value for a certain date and term is found to be inadequate, it is considered to not be calculated, i.e. the value will not impact instruments linked to RUSFAR.

Disclaimer

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