

LIQUIDITY MEASUREMENT AND MONITORING for 05.2019

\*\*The list and free-float coefficients of the MICEX Index stocks as of 22.03.2019, total stocks outstanding as of the corresponding business day of 05.2019. Free-float coefficients are estimated by the Moscow Exchange.\*\*

**1. Trading costs**

		Percentage spread, %	Absolute spread, rubles			Percentage spread, %	Absolute spread, rubles			Percentage spread, %	Absolute spread, rubles
1	GAZP	<b>0,024</b>	0,0476	17	AFLT	<b>0,064</b>	0,0590	33	CBOM	<b>0,148</b>	0,0088
2	SBER	<b>0,028</b>	0,0652	18	HYDR	<b>0,066</b>	0,000357	34	LNTA	<b>0,156</b>	0,3619
3	MOEX	<b>0,030</b>	0,0257	19	YNDX	<b>0,067</b>	1,5905	35	TRMK	<b>0,159</b>	0,0933
4	SBERP	<b>0,034</b>	0,0695	20	AFKS	<b>0,069</b>	0,0061	36	FIVE	<b>0,159</b>	3,071429
5	CHMF	<b>0,040</b>	0,4000	21	MAGN	<b>0,070</b>	0,0312	37	PIKK	<b>0,184</b>	0,7000
6	VTBR	<b>0,044</b>	0,000016	22	NVTK	<b>0,076</b>	0,9524	38	TRNFP	<b>0,191</b>	307,1429
7	NLMK	<b>0,045</b>	0,0733	23	RUAL	<b>0,078</b>	0,0193	39	MVID	<b>0,215</b>	0,9048
8	GMKN	<b>0,051</b>	7,0476	24	FEES	<b>0,079</b>	0,000136	40	RNFT	<b>0,603</b>	3,5048
9	ALRS	<b>0,051</b>	0,0476	25	POLY	<b>0,087</b>	0,5905	41	SFIN	<b>0,683</b>	3,4571
10	SNGS	<b>0,052</b>	0,0126	26	PHOR	<b>0,091</b>	2,1429				
11	LKOH	<b>0,052</b>	2,7381	27	RTKM	<b>0,091</b>	0,0719				
12	ROSN	<b>0,054</b>	0,2262	28	UPRO	<b>0,095</b>	0,0024				
13	MGNT	<b>0,056</b>	2,0714	29	PLZL	<b>0,095</b>	4,7381				
14	MTSS	<b>0,063</b>	0,1619	30	TATN	<b>0,099</b>	0,7095	<b>Total stocks</b>		<b>0,112</b>	-
15	IRAO	<b>0,063</b>	0,0025	31	DSKY	<b>0,100</b>	0,0886				
16	SNGSP	<b>0,064</b>	0,0255	32	TATNP	<b>0,130</b>	0,7762				

## 2. Trading activity

		Trading volume, %	Trading volume (adjusted for free-float), %	FF	Trading volume, units of securities			Trading volume, %	Trading volume (adjusted for free-float), %	FF	Trading volume, units of securities
1	SBERP	<b>0,494</b>	0,494	1,00	1 000 716 264	24	RUAL	<b>0,066</b>	0,411	0,16	245 675 141
2	MOEX	<b>0,421</b>	0,725	0,58	838 010 641	25	YNDX	<b>0,061</b>	0,063	0,96	419 507 628
3	TATNP	<b>0,397</b>	0,397	1,00	347 118 486	26	MAGN	<b>0,061</b>	0,380	0,16	301 609 695
4	AFLT	<b>0,301</b>	0,735	0,41	309 556 296	27	DSKY	<b>0,059</b>	0,174	0,34	38 232 914
5	SNGSP	<b>0,256</b>	0,350	0,73	784 411 832	28	SFIN	<b>0,058</b>	0,146	0,40	33 310 517
6	SBER	<b>0,227</b>	0,473	0,48	11 307 806 193	29	NLMK	<b>0,058</b>	0,364	0,16	578 805 222
7	MGNT	<b>0,218</b>	0,307	0,71	823 329 978	30	PLZL	<b>0,050</b>	0,311	0,16	331 849 026
8	GAZP	<b>0,217</b>	0,472	0,46	10 047 504 784	31	TRMK	<b>0,047</b>	0,156	0,30	28 558 073
9	MVID	<b>0,202</b>	0,631	0,32	153 768 044	32	SNGS	<b>0,042</b>	0,168	0,25	366 529 249
10	VTBR	<b>0,185</b>	0,686	0,27	886 315 032	33	FIVE	<b>0,038</b>	0,093	0,41	198 476 821
11	LKOH	<b>0,182</b>	0,331	0,55	7 138 363 940	34	UPRO	<b>0,031</b>	0,196	0,16	50 387 365
12	ALRS	<b>0,140</b>	0,412	0,34	943 585 741	35	NVTK	<b>0,031</b>	0,148	0,21	1 173 151 338
13	IRAO	<b>0,130</b>	0,394	0,33	543 250 140	36	PHOR	<b>0,030</b>	0,122	0,25	92 897 375
14	AFKS	<b>0,105</b>	0,317	0,33	90 199 904	37	ROSN	<b>0,030</b>	0,277	0,11	1 365 995 141
15	TATN	<b>0,104</b>	0,325	0,32	1 618 116 462	38	CBOM	<b>0,016</b>	0,091	0,18	26 573 277
16	TRNFP	<b>0,099</b>	0,310	0,32	244 170 419	39	LNTA	<b>0,013</b>	0,045	0,28	14 398 067
17	RTKM	<b>0,092</b>	0,286	0,32	184 407 593	40	PIKK	<b>0,011</b>	0,063	0,18	28 790 905
18	FEES	<b>0,091</b>	0,507	0,18	200 773 037	41	RNFT	<b>0,008</b>	0,042	0,20	14 514 940
19	CHMF	<b>0,090</b>	0,451	0,20	764 653 386						
20	MTSS	<b>0,089</b>	0,198	0,45	457 258 875						
21	GMKN	<b>0,081</b>	0,214	0,38	1 776 707 781						
22	POLY	<b>0,077</b>	0,204	0,38	246 457 446						
23	HYDR	<b>0,077</b>	0,407	0,19	177 853 678		<b>Total stocks</b>	<b>0,122</b>	0,314		

### 3. Elasticity\*

		HH			HH
1	SBERP	0,003	24	POLY	0,037
2	MOEX	0,004	25	TATN	0,039
3	SNGSP	0,006	26	RTKM	0,039
4	AFLT	0,006	27	RUAL	0,040
5	MGNT	0,009	28	PLZL	0,042
6	SBER	0,009	29	UPRO	0,047
7	TATNP	0,010	30	YNDX	0,048
8	ALRS	0,013	31	PHOR	0,062
9	VTBR	0,015	32	TRMK	0,062
10	GAZP	0,016	33	CBOM	0,062
11	LKOH	0,017	34	MVID	0,063
12	MTSS	0,018	35	SFIN	0,066
13	HYDR	0,019	36	ROSN	0,069
14	CHMF	0,020	37	NVTK	0,089
15	GMKN	0,020	38	FIVE	0,095
16	FEES	0,023	39	PIKK	0,147
17	IRAO	0,023	40	LNTA	0,168
18	AFKS	0,023	41	RNFT	0,298
19	DSKY	0,027			
20	SNGS	0,031	43		
21	TRNFP	0,031	44		
22	MAGN	0,035	45		
23	NLMK	0,036	<b>Total stocks</b>		<b>0,046</b>

\* From 10.2015 performance in the elasticity dimension is assessed through the HUI-HEUBEL Liquidity Ratio (hereinafter HH).

	Most liquid	Spread, %	Volume, %	HH	Least liquid	Spread, %	Volume, %	HH
12.2018	1	<b>SBER</b>	<b>AFLT</b>	<b>SBERP</b>	1	<b>PIKK</b>	<b>NVTK</b>	TATN
12.2018	2	<b>GAZP</b>	<b>SBERP</b>	<b>MOEX</b>	2	<b>RUAL</b>	<b>PIKK</b>	FIVE
12.2018	3	<b>SBERP</b>	<b>MOEX</b>	<b>AFLT</b>	3	<b>SFIN</b>	<b>TRMK</b>	UWGN
12.2018	4	<b>RTKM</b>	<b>SBER</b>	<b>SBER</b>	4	<b>RNFT</b>	<b>RUAL</b>	<b>RNFT</b>
12.2018	5	<b>MOEX</b>	<b>MGNT</b>	<b>SNGSP</b>	5	<b>UWGN</b>	<b>RNFT</b>	<b>RUAL</b>
01.2019	1	<b>SBER</b>	<b>MOEX</b>	<b>SBERP</b>	1	<b>TRNFP</b>	<b>PHOR</b>	<b>TRMK</b>
01.2019	2	<b>SBERP</b>	<b>SBERP</b>	<b>MOEX</b>	2	<b>PIKK</b>	<b>UPRO</b>	<b>PIKK</b>
01.2019	3	<b>ROSN</b>	<b>MGNT</b>	<b>AFLT</b>	3	<b>UPRO</b>	<b>CBOM</b>	<b>UPRO</b>
01.2019	4	<b>GAZP</b>	<b>AFLT</b>	<b>SBER</b>	4	<b>SFIN</b>	<b>NVTK</b>	<b>RUAL</b>
01.2019	5	<b>MOEX</b>	<b>MTLR</b>	<b>SNGSP</b>	5	<b>RNFT</b>	<b>PIKK</b>	<b>RNFT</b>
02.2019	1	<b>SBER</b>	<b>AFLT</b>	<b>AFLT</b>	1	<b>CBOM</b>	<b>NVTK</b>	<b>LNTA</b>
02.2019	2	<b>GAZP</b>	<b>SBERP</b>	<b>SBERP</b>	2	<b>TRNFP</b>	<b>UPRO</b>	<b>UPRO</b>
02.2019	3	<b>ROSN</b>	<b>MOEX</b>	<b>MOEX</b>	3	<b>PIKK</b>	<b>CBOM</b>	<b>NVTK</b>
02.2019	4	<b>LKOH</b>	<b>SBER</b>	<b>SBER</b>	4	<b>SFIN</b>	<b>PIKK</b>	<b>PIKK</b>
02.2019	5	<b>SNGSP</b>	<b>MGNT</b>	<b>MGNT</b>	5	<b>RNFT</b>	<b>RNFT</b>	<b>RNFT</b>
03.2019	1	<b>SBER</b>	<b>SBERP</b>	<b>SBERP</b>	1	<b>LNTA</b>	<b>PHOR</b>	<b>PIKK</b>
03.2019	2	<b>MOEX</b>	<b>AFLT</b>	<b>MOEX</b>	2	<b>TRMK</b>	<b>CBOM</b>	<b>PHOR</b>
03.2019	3	<b>LKOH</b>	<b>MOEX</b>	<b>AFLT</b>	3	<b>PIKK</b>	<b>NVTK</b>	<b>FIVE</b>
03.2019	4	<b>SBERP</b>	<b>MTLR</b>	<b>SBER</b>	4	<b>RNFT</b>	<b>PIKK</b>	<b>NVTK</b>
03.2019	5	<b>GAZP</b>	<b>SBER</b>	<b>SNGSP</b>	5	<b>SFIN</b>	<b>RNFT</b>	<b>RNFT</b>
04.2019	1	<b>SBER</b>	<b>SBERP</b>	<b>SBERP</b>	1	<b>LNTA</b>	<b>CBOM</b>	<b>FIVE</b>
04.2019	2	<b>LKOH</b>	<b>MVID</b>	<b>MOEX</b>	2	<b>FIVE</b>	<b>NVTK</b>	<b>NVTK</b>
04.2019	3	<b>ROSN</b>	<b>MOEX</b>	<b>SBER</b>	3	<b>PIKK</b>	<b>PHOR</b>	<b>PHOR</b>
04.2019	4	<b>MOEX</b>	<b>SBER</b>	<b>SNGSP</b>	4	<b>SFIN</b>	<b>PIKK</b>	<b>PIKK</b>
04.2019	5	<b>SBERP</b>	<b>MGNT</b>	<b>AFLT</b>	5	<b>RNFT</b>	<b>RNFT</b>	<b>RNFT</b>
05.2019	1	<b>GAZP</b>	<b>SBERP</b>	<b>SBERP</b>	1	<b>PIKK</b>	<b>ROSN</b>	<b>NVTK</b>
05.2019	2	<b>SBER</b>	<b>MOEX</b>	<b>MOEX</b>	2	<b>TRNFP</b>	<b>CBOM</b>	<b>FIVE</b>
05.2019	3	<b>MOEX</b>	<b>TATNP</b>	<b>SNGSP</b>	3	<b>MVID</b>	<b>LNTA</b>	<b>PIKK</b>
05.2019	4	<b>SBERP</b>	<b>AFLT</b>	<b>AFLT</b>	4	<b>RNFT</b>	<b>PIKK</b>	<b>LNTA</b>
05.2019	5	<b>CHMF</b>	<b>SNGSP</b>	<b>MGNT</b>	5	<b>SFIN</b>	<b>RNFT</b>	<b>RNFT</b>

The table to the left provides statistics on liquidity at a level of an individual stock.

Among the most liquid stocks within a half-year period of 12.2018 - 05.2019:

1. Stocks, appearing at least once in the top-5 list of the most liquid stocks in the three dimensions simultaneously (highlighted in red in the table):

**MOEX, SBER, SBERP.**

Stocks, appearing no less than 5-6 months in the top-5 list of the most liquid stocks in any of the dimensions (displayed in red bold font in the table):

**GAZP, MOEX, SBER, SBERP (trading costs) AFLT, MOEX, SBERP (trading activity), AFLT, MOEX, SBER, SBERP, SNGSP (elasticity).**

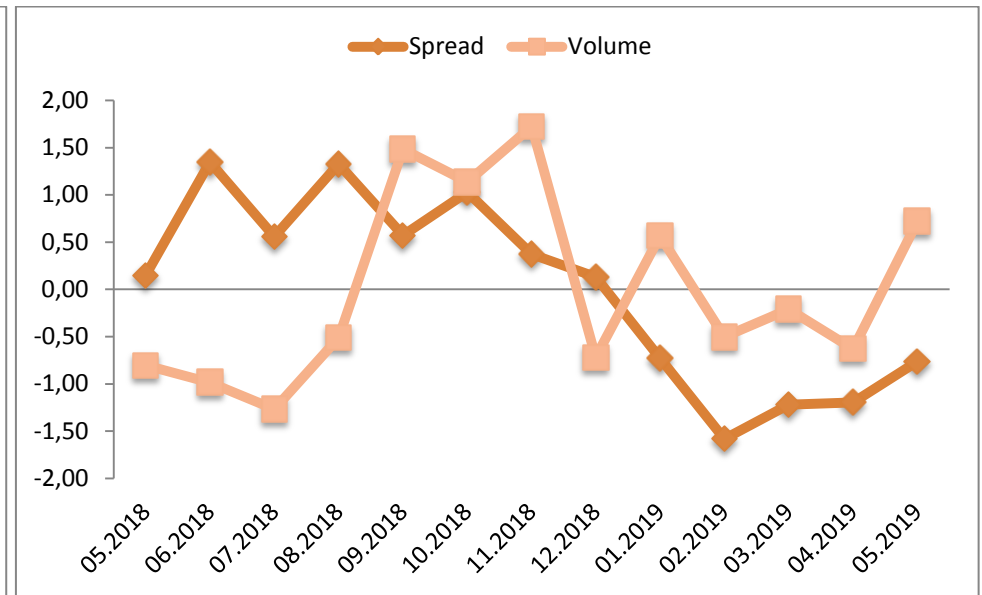
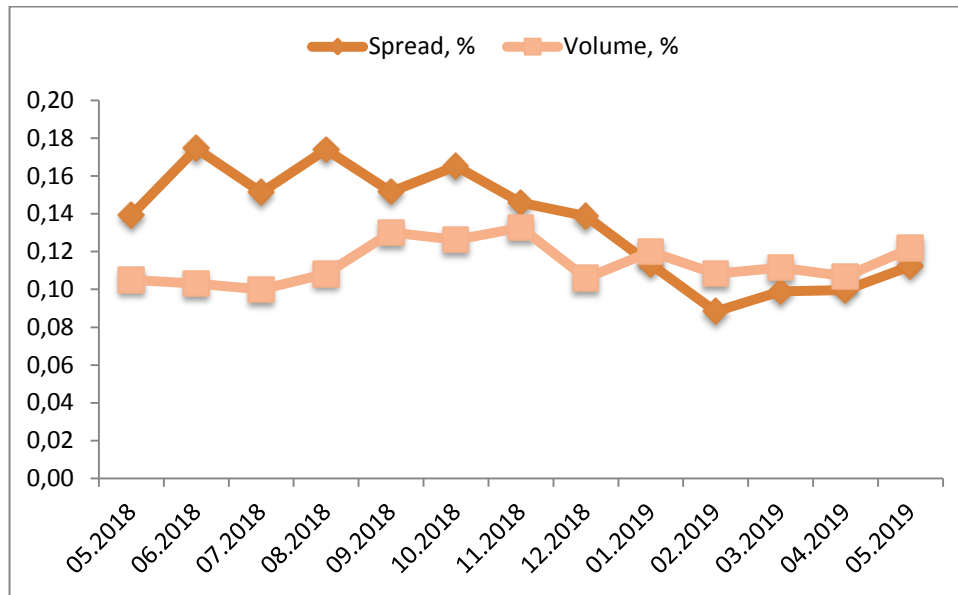
Among the least liquid stocks within a half-year period of 12.2018 - 05.2019:

1. Stocks, appearing at least once in the list of the 5 least liquid stocks in the three dimensions simultaneously (highlighted in blue in the table):

**PIKK, RNFT, RUAL, UPRO.**

2. Stocks, appearing no less than 5-6 months in the list of the 5 least liquid stocks in any of the dimensions (displayed in blue bold font in the table):

**PIKK, RNFT, SFIN (trading costs), CBOM, NVTK, PIKK, RNFT (trading activity), PIKK, RNFT (elasticity).**



The figures above provide liquidity dynamics **at an aggregate level**. The left figure displays dynamics of the two liquidity dimensions *in original numerical values*. Trading costs measured by average percentage daily spread in May 2019 increased compared to the previous month to 0.112%. Trading activity measured by average percentage daily trading volume in May 2019 also increased compared to the previous month to 0.122%. In May 2019 liquidity was in a disequilibrium state: the trading activity metric and the trading costs metric moved in the same direction.

The right figure displays dynamics of the two liquidity dimensions *in standardized numerical values*. In May 2019 trading costs were below while trading volume was above the average level over a 1-year period.