

LIQUIDITY MEASUREMENT AND MONITORING for 12.2018

\*\*The list and free-float coefficients of the MICEX Index stocks as of 21.09.2018, total stocks outstanding as of the corresponding business day of 12.2018. 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	SBER	<b>0,030</b>	0,0571	17	SNGS	<b>0,079</b>	0,0217	33	UPRO	<b>0,159</b>	0,0042
2	GAZP	<b>0,032</b>	0,0510	18	MGNT	<b>0,080</b>	2,8571	34	TRMK	<b>0,170</b>	0,0929
3	SBERP	<b>0,037</b>	0,0610	19	MTLR	<b>0,081</b>	0,0657	35	FIVE	<b>0,188</b>	3,142857
4	RTKM	<b>0,046</b>	0,0329	20	NVTK	<b>0,087</b>	0,9667	36	CBOM	<b>0,196</b>	0,0100
5	MOEX	<b>0,049</b>	0,0414	21	IRAO	<b>0,088</b>	0,0035	37	TRNFP	<b>0,203</b>	340,4762
6	ALRS	<b>0,051</b>	0,0500	22	MTSS	<b>0,093</b>	0,2214	38	PIKK	<b>0,229</b>	0,8286
7	CHMF	<b>0,058</b>	0,5476	23	YNDX	<b>0,098</b>	1,8571	39	RUAL	<b>0,301</b>	0,0831
8	ROSN	<b>0,063</b>	0,2667	24	TATN	<b>0,099</b>	0,7286	40	SFIN	<b>0,425</b>	2,3524
9	GMKN	<b>0,064</b>	8,1905	25	LKOH	<b>0,106</b>	5,4048	41	RNFT	<b>0,558</b>	2,9619
10	SNGSP	<b>0,066</b>	0,0255	26	TATNP	<b>0,110</b>	0,5762	42	UWGN	<b>0,772</b>	3,0667
11	MAGN	<b>0,066</b>	0,0293	27	DSKY	<b>0,116</b>	0,1067				
12	HYDR	<b>0,068</b>	0,000333	28	PLZL	<b>0,119</b>	6,0476				
13	FEES	<b>0,068</b>	0,000105	29	POLY	<b>0,135</b>	0,9571				
14	VTBR	<b>0,069</b>	0,000025	30	AFKS	<b>0,137</b>	0,0111	<b>Total stocks</b>		<b>0,139</b>	-
15	NLMK	<b>0,069</b>	0,1076	31	PHOR	<b>0,143</b>	3,5714				
16	AFLT	<b>0,071</b>	0,0724	32	MVID	<b>0,149</b>	0,5952				

## 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	AFLT	<b>0,466</b>	1,036	0,45	540 517 983	24	POLY	<b>0,064</b>	0,168	0,38	201 501 725
2	SBERP	<b>0,350</b>	0,350	1,00	585 237 723	25	MVID	<b>0,063</b>	0,198	0,32	45 566 450
3	MOEX	<b>0,295</b>	0,509	0,58	571 772 269	26	YNDX	<b>0,060</b>	0,063	0,96	333 301 631
4	SBER	<b>0,254</b>	0,530	0,48	10 412 758 561	27	TATN	<b>0,057</b>	0,178	0,32	912 972 296
5	MGNT	<b>0,249</b>	0,371	0,67	912 079 716	28	DSKY	<b>0,055</b>	0,160	0,34	37 413 604
6	SNGSP	<b>0,215</b>	0,295	0,73	638 512 327	29	NLMK	<b>0,046</b>	0,286	0,16	427 507 308
7	HYDR	<b>0,209</b>	1,101	0,19	442 090 812	30	PLZL	<b>0,038</b>	0,239	0,16	257 371 987
8	TATNP	<b>0,200</b>	0,200	1,00	152 705 903	31	FIVE	<b>0,036</b>	0,088	0,41	164 556 950
9	MTLR	<b>0,200</b>	0,399	0,50	67 567 431	32	SNGS	<b>0,035</b>	0,141	0,25	347 394 595
10	VTBR	<b>0,126</b>	0,468	0,27	584 889 882	33	ROSN	<b>0,034</b>	0,309	0,11	1 523 195 491
11	SFIN	<b>0,124</b>	0,426	0,29	77 514 832	34	UWGN	<b>0,033</b>	0,122	0,27	15 026 250
12	MTSS	<b>0,120</b>	0,251	0,48	567 160 757	35	PHOR	<b>0,030</b>	0,118	0,25	95 086 242
13	ALRS	<b>0,112</b>	0,330	0,34	807 935 214	36	CBOM	<b>0,024</b>	0,133	0,18	33 213 238
14	LKOH	<b>0,112</b>	0,243	0,46	4 802 882 571	37	UPRO	<b>0,024</b>	0,148	0,16	39 241 638
15	AFKS	<b>0,106</b>	0,296	0,36	83 277 020	38	NVTK	<b>0,019</b>	0,070	0,27	643 182 680
16	MAGN	<b>0,097</b>	0,608	0,16	490 016 019	39	PIKK	<b>0,018</b>	0,101	0,18	42 974 175
17	GAZP	<b>0,089</b>	0,193	0,46	3 280 983 533	40	TRMK	<b>0,018</b>	0,060	0,30	10 247 457
18	GMKN	<b>0,078</b>	0,206	0,38	1 594 964 943	41	RUAL	<b>0,015</b>	0,096	0,16	70 260 747
19	CHMF	<b>0,078</b>	0,390	0,20	622 635 330	42	RNFT	<b>0,012</b>	0,058	0,20	17 913 519
20	TRNFP	<b>0,074</b>	0,233	0,32	192 980 557						
21	RTKM	<b>0,072</b>	0,226	0,32	132 900 435						
22	FEES	<b>0,071</b>	0,393	0,18	137 944 833						
23	IRAO	<b>0,070</b>	0,212	0,33	288 089 428	<b>Total stocks</b>		<b>0,106</b>	0,286		

### 3. Elasticity\*

		HH			HH
1	SBERP	0,005	24	YNDX	0,045
2	MOEX	0,006	25	IRAO	0,047
3	AFLT	0,006	26	NLMK	0,051
4	SBER	0,009	27	SFIN	0,061
5	SNGSP	0,009	28	SNGS	0,067
6	HYDR	0,011	29	POLY	0,068
7	MGNT	0,011	30	CBOM	0,075
8	MTLR	0,014	31	PIKK	0,078
9	VTBR	0,015	32	ROSN	0,083
10	TATNP	0,017	33	PHOR	0,098
11	RTKM	0,022	34	PLZL	0,111
12	AFKS	0,024	35	UPRO	0,123
13	GAZP	0,025	36	NVTK	0,132
14	ALRS	0,025	37	TRMK	0,144
15	FEES	0,027	38	TATN	0,150
16	MTSS	0,028	39	FIVE	0,160
17	DSKY	0,029	40	UWGN	0,375
18	CHMF	0,030	41	RNFT	0,491
19	LKOH	0,031	42	RUAL	0,678
20	GMKN	0,031	43		
21	TRNFP	0,034	44		
22	MVID	0,035	45		
23	MAGN	0,041	<b>Total stocks</b>		<b>0,084</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
07.2018	1	<b>SBER</b>	<b>SBERP</b>	<b>AFLT</b>	1	TRMK	<b>RNFT</b>	<b>UWGN</b>
07.2018	2	<b>GAZP</b>	<b>AFLT</b>	<b>SBERP</b>	2	NMTP	<b>PIKK</b>	<b>RNFT</b>
07.2018	3	LKOH	MOEX	MOEX	3	<b>UWGN</b>	RUAL	AGRO
07.2018	4	<b>SBERP</b>	<b>MGNT</b>	<b>SNGSP</b>	4	<b>RNFT</b>	AGRO	<b>RUAL</b>
07.2018	5	VTBR	<b>SBER</b>	<b>MGNT</b>	5	<b>SFIN</b>	FEES	NMTP
08.2018	1	<b>SBER</b>	<b>SBERP</b>	<b>SBERP</b>	1	MVID	<b>PIKK</b>	<b>UWGN</b>
08.2018	2	<b>GAZP</b>	<b>AFLT</b>	MOEX	2	CBOM	TRMK	TRMK
08.2018	3	MOEX	<b>SBER</b>	<b>SNGSP</b>	3	<b>SFIN</b>	<b>RNFT</b>	<b>NMTP</b>
08.2018	4	GMKN	<b>MGNT</b>	<b>MGNT</b>	4	<b>UWGN</b>	NMTP	<b>RNFT</b>
08.2018	5	LKOH	SNGSP	<b>AFLT</b>	5	<b>RNFT</b>	<b>RUAL</b>	<b>RUAL</b>
09.2018	1	LKOH	<b>SBERP</b>	<b>SBERP</b>	1	MVID	UPRO	<b>UWGN</b>
09.2018	2	<b>SBERP</b>	<b>SBER</b>	MOEX	2	PLZL	CBOM	TRMK
09.2018	3	<b>GAZP</b>	<b>MGNT</b>	<b>SNGSP</b>	3	<b>SFIN</b>	TRMK	<b>RUAL</b>
09.2018	4	MOEX	MTLR	<b>MGNT</b>	4	<b>UWGN</b>	<b>PIKK</b>	SFIN
09.2018	5	<b>SBER</b>	SNGSP	<b>SBER</b>	5	<b>RNFT</b>	<b>RNFT</b>	<b>RNFT</b>
10.2018	1	<b>GAZP</b>	<b>SBERP</b>	<b>MOEX</b>	1	PIKK	PHOR	NVTK
10.2018	2	<b>SBER</b>	<b>MGNT</b>	<b>SBERP</b>	2	FIVE	<b>PIKK</b>	<b>UWGN</b>
10.2018	3	<b>MOEX</b>	<b>MOEX</b>	<b>MGNT</b>	3	<b>UWGN</b>	CBOM	SFIN
10.2018	4	ROSN	<b>AFLT</b>	<b>SNGSP</b>	4	<b>RNFT</b>	<b>RUAL</b>	<b>RNFT</b>
10.2018	5	ALRS	<b>SBER</b>	<b>AFLT</b>	5	<b>SFIN</b>	<b>RNFT</b>	<b>RUAL</b>
11.2018	1	<b>SBER</b>	<b>AFLT</b>	<b>SBERP</b>	1	<b>RUAL</b>	CBOM	UPRO
11.2018	2	VTBR	<b>SBERP</b>	<b>AFLT</b>	2	PIKK	TRMK	<b>UWGN</b>
11.2018	3	LKOH	MOEX	<b>SNGSP</b>	3	<b>UWGN</b>	UPRO	FIVE
11.2018	4	ALRS	<b>SBER</b>	<b>MGNT</b>	4	<b>RNFT</b>	<b>RNFT</b>	<b>RNFT</b>
11.2018	5	<b>GAZP</b>	POLY	<b>MOEX</b>	5	<b>SFIN</b>	<b>RUAL</b>	<b>RUAL</b>
12.2018	1	<b>SBER</b>	<b>AFLT</b>	<b>SBERP</b>	1	PIKK	NVTK	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>	MOEX	<b>AFLT</b>	3	<b>SFIN</b>	TRMK	<b>UWGN</b>
12.2018	4	RTKM	<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>

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 07.2018 - 12.2018:

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.**

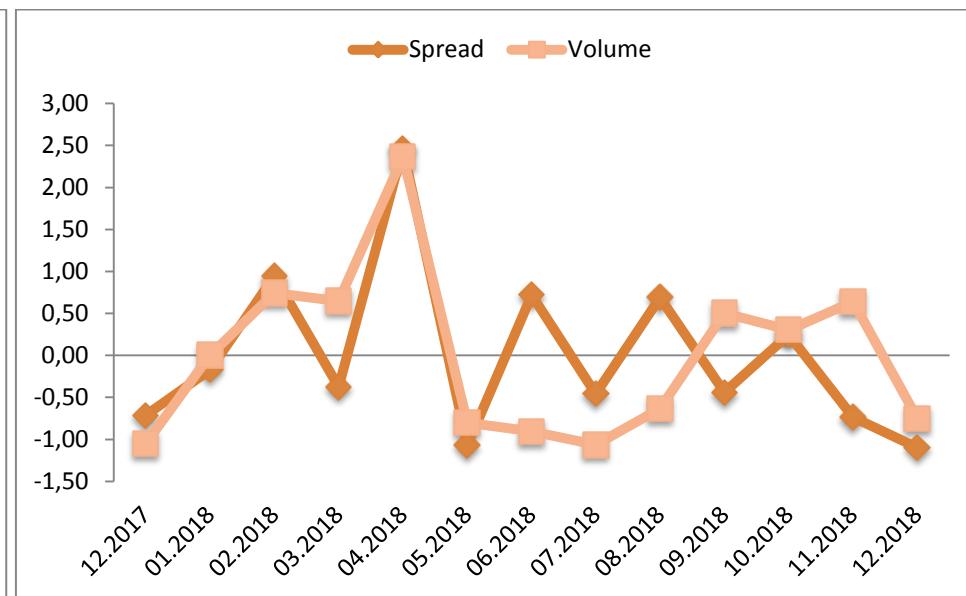
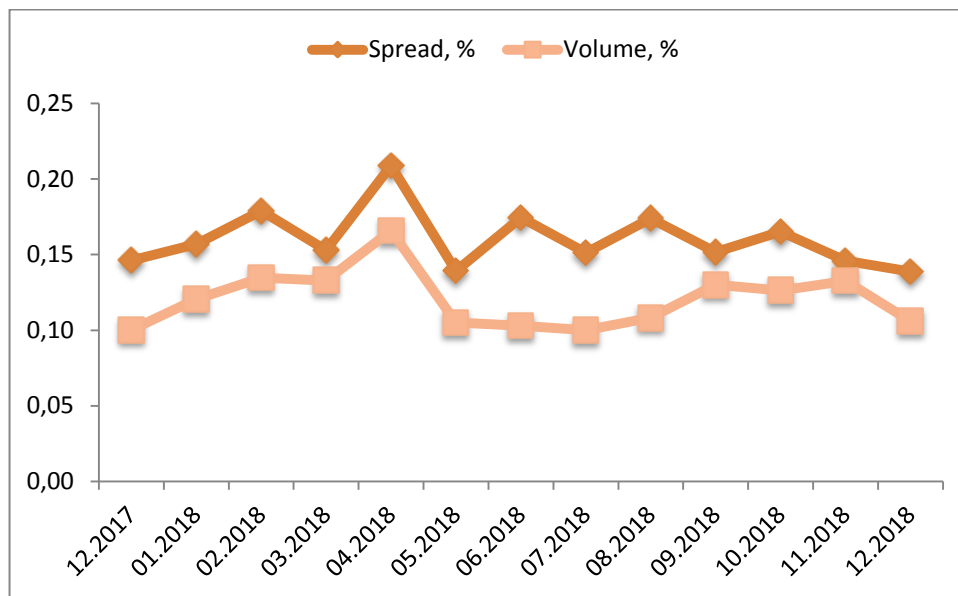
Stocks, appearing no less than 5-6 months in the top-5 list of the most liquid stocks in any of the dimensions (displayed in red bold font in the table):

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

Among the least liquid stocks within a half-year period of 07.2018 - 12.2018:

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): **RNFT, RUAL.**

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): **RNFT, SFIN, UWGN (trading costs), PIKK, RNFT, RUAL (trading activity), RNFT, RUAL, UWGN (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 December 2018 decreased compared to the previous month to 0.139%. Trading activity measured by average percentage daily trading volume in December 2018 also decreased to 0.106%. In December 2018 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 December 2018 trading costs and trading activity were significantly below the yearly average level.