

# Centre for Financial Research & Data Analytics (CFR&DA)

## NRU HSE

### LIQUIDITY MEASUREMENT AND MONITORING FOR 03.2021\*

\* The list and free-float coefficients of the MOEX Index stocks as of 18.12.2020, total stocks outstanding as of the corresponding business day of 03.2021. 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  | 0,021                | 0,0600                  | 17 | ALRS  | 0,046                | 0,0486                  | 33                  | DSKY  | 0,077                | 0,1073                  |
| 2  | POLY  | 0,027                | 0,4045                  | 18 | MGNT  | 0,048                | 2,4773                  | 34                  | OZON  | 0,081                | 3,3864                  |
| 3  | GAZP  | 0,028                | 0,0645                  | 19 | NLMK  | 0,048                | 0,1055                  | 35                  | LSRG  | 0,088                | 0,7364                  |
| 4  | MOEX  | 0,033                | 0,0550                  | 20 | VTBR  | 0,048                | 0,000018                | 36                  | PHOR  | 0,091                | 3,6818                  |
| 5  | YNDX  | 0,033                | 1,5909                  | 21 | NVTK  | 0,048                | 0,7091                  | 37                  | PIKK  | 0,106                | 0,8182                  |
| 6  | LKOH  | 0,033                | 2,0227                  | 22 | SNGSP | 0,050                | 0,0205                  | 38                  | FEES  | 0,109                | 0,000234                |
| 7  | MAIL  | 0,033                | 0,6091                  | 23 | CHMF  | 0,052                | 0,7455                  | 39                  | TCSG  | 0,109                | 4,6091                  |
| 8  | MAGN  | 0,034                | 0,0186                  | 24 | SNGS  | 0,053                | 0,0184                  | 40                  | QIWI  | 0,113                | 0,9091                  |
| 9  | AFLT  | 0,034                | 0,0236                  | 25 | RTKM  | 0,055                | 0,0600                  | 41                  | UPRO  | 0,113                | 0,0033                  |
| 10 | MTSS  | 0,039                | 0,1227                  | 26 | CBOM  | 0,056                | 0,0039                  | 42                  | TRNFP | 0,129                | 188,6364                |
| 11 | GMKN  | 0,039                | 8,8182                  | 27 | HYDR  | 0,058                | 0,0005                  |                     |       |                      |                         |
| 12 | SBERP | 0,039                | 0,1005                  | 28 | RUAL  | 0,064                | 0,0280                  |                     |       |                      |                         |
| 13 | ROSN  | 0,040                | 0,2250                  | 29 | FIVE  | 0,065                | 1,5909                  |                     |       |                      |                         |
| 14 | PLZL  | 0,041                | 5,7727                  | 30 | TATNP | 0,067                | 0,3727                  | <b>Total stocks</b> |       | <b>0,059</b>         | <b>-</b>                |
| 15 | IRAO  | 0,044                | 0,0022                  | 31 | AFKS  | 0,075                | 0,0260                  |                     |       |                      |                         |
| 16 | TATN  | 0,045                | 0,2682                  | 32 | RSTI  | 0,076                | 0,0012                  |                     |       |                      |                         |

## 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  | TATNP | 0,740             | 0,740                                       | 1,00 | 596 993 256                         | 24 | FIVE                | 0,182             | 0,444                                       | 0,41 | 1 227 153 967                       |
| 2  | AFLT  | 0,622             | 1,516                                       | 0,41 | 1 045 914 826                       | 25 | TCSG                | 0,181             | 0,312                                       | 0,58 | 1 485 946 259                       |
| 3  | SBERP | 0,559             | 0,559                                       | 1,00 | 1 452 312 113                       | 26 | NLMK                | 0,178             | 0,849                                       | 0,21 | 2 341 617 915                       |
| 4  | QIWI  | 0,517             | 0,907                                       | 0,57 | 215 085 092                         | 27 | CHMF                | 0,169             | 0,767                                       | 0,22 | 1 980 721 171                       |
| 5  | GMKN  | 0,410             | 1,079                                       | 0,38 | 14 841 806 656                      | 28 | GAZP                | 0,167             | 0,333                                       | 0,50 | 8 973 798 767                       |
| 6  | DSKY  | 0,393             | 0,531                                       | 0,74 | 401 257 828                         | 29 | IRAO                | 0,164             | 0,498                                       | 0,33 | 872 198 040                         |
| 7  | SNGSP | 0,390             | 0,534                                       | 0,73 | 1 216 919 601                       | 30 | TRNFP               | 0,162             | 0,439                                       | 0,37 | 370 568 164                         |
| 8  | MOEX  | 0,381             | 0,605                                       | 0,63 | 1 475 624 535                       | 31 | OZON                | 0,156             | 0,743                                       | 0,21 | 1 154 713 892                       |
| 9  | MGNT  | 0,375             | 0,552                                       | 0,68 | 1 993 408 513                       | 32 | RUAL                | 0,149             | 0,877                                       | 0,17 | 994 702 952                         |
| 10 | CBOM  | 0,292             | 1,460                                       | 0,20 | 608 618 050                         | 33 | HYDR                | 0,141             | 0,744                                       | 0,19 | 502 506 112                         |
| 11 | YNDX  | 0,276             | 0,285                                       | 0,97 | 4 324 005 294                       | 34 | FEES                | 0,108             | 0,598                                       | 0,18 | 292 563 800                         |
| 12 | AFKS  | 0,265             | 0,803                                       | 0,33 | 890 798 260                         | 35 | SNGS                | 0,107             | 0,428                                       | 0,25 | 1 330 744 826                       |
| 13 | SBER  | 0,261             | 0,544                                       | 0,48 | 16 038 122 893                      | 36 | RSTI                | 0,103             | 0,932                                       | 0,11 | 322 019 417                         |
| 14 | MAGN  | 0,259             | 1,621                                       | 0,16 | 1 612 885 162                       | 37 | PLZL                | 0,092             | 0,438                                       | 0,21 | 1 771 761 740                       |
| 15 | ALRS  | 0,256             | 0,753                                       | 0,34 | 1 995 072 986                       | 38 | PHOR                | 0,087             | 0,349                                       | 0,25 | 454 560 633                         |
| 16 | POLY  | 0,245             | 0,346                                       | 0,71 | 1 747 680 470                       | 39 | RTKM                | 0,084             | 0,289                                       | 0,29 | 297 913 000                         |
| 17 | TATN  | 0,244             | 0,762                                       | 0,32 | 3 135 434 109                       | 40 | ROSN                | 0,083             | 0,757                                       | 0,11 | 4 958 501 487                       |
| 18 | MAIL  | 0,238             | 0,449                                       | 0,53 | 908 388 407                         | 41 | NVTK                | 0,056             | 0,268                                       | 0,21 | 2 471 477 614                       |
| 19 | MTSS  | 0,230             | 0,512                                       | 0,45 | 1 461 866 878                       | 42 | PIKK                | 0,034             | 0,190                                       | 0,18 | 180 041 723                         |
| 20 | VTBR  | 0,215             | 0,798                                       | 0,27 | 1 093 572 618                       |    |                     |                   |                                             |      |                                     |
| 21 | LKOH  | 0,206             | 0,374                                       | 0,55 | 8 748 622 759                       |    |                     |                   |                                             |      |                                     |
| 22 | LSRG  | 0,199             | 0,474                                       | 0,42 | 172 090 321                         |    |                     |                   |                                             |      |                                     |
| 23 | UPRO  | 0,186             | 1,164                                       | 0,16 | 341 474 532                         |    | <b>Total stocks</b> | <b>0,242</b>      | 0,658                                       |      |                                     |

### 3. Elasticity\*

|    |       | HH    |              |       | HH    |
|----|-------|-------|--------------|-------|-------|
| 1  | AFLT  | 0,003 | 24           | UPRO  | 0,013 |
| 2  | SBERP | 0,003 | 25           | GAZP  | 0,013 |
| 3  | SNGSP | 0,004 | 26           | TRNFP | 0,013 |
| 4  | TATNP | 0,004 | 27           | LKOH  | 0,014 |
| 5  | MTSS  | 0,005 | 28           | FIVE  | 0,016 |
| 6  | MOEX  | 0,006 | 29           | NLMK  | 0,016 |
| 7  | MGNT  | 0,006 | 30           | FEES  | 0,016 |
| 8  | CBOM  | 0,007 | 31           | CHMF  | 0,017 |
| 9  | QIWI  | 0,007 | 32           | PLZL  | 0,024 |
| 10 | DSKY  | 0,007 | 33           | RUAL  | 0,025 |
| 11 | SBER  | 0,008 | 34           | RTKM  | 0,025 |
| 12 | GMKN  | 0,009 | 35           | SNGS  | 0,025 |
| 13 | AFKS  | 0,009 | 36           | PHOR  | 0,028 |
| 14 | IRAO  | 0,009 | 37           | ROSN  | 0,029 |
| 15 | POLY  | 0,009 | 38           | RSTI  | 0,030 |
| 16 | MAIL  | 0,010 | 39           | OZON  | 0,030 |
| 17 | VTBR  | 0,010 | 40           | TCSG  | 0,030 |
| 18 | YNDX  | 0,011 | 41           | NVTK  | 0,062 |
| 19 | ALRS  | 0,011 | 42           | PIKK  | 0,120 |
| 20 | HYDR  | 0,011 |              |       |       |
| 21 | MAGN  | 0,012 |              |       |       |
| 22 | TATN  | 0,013 |              |       |       |
| 23 | LSRG  | 0,013 | Total stocks |       | 0,017 |

\* The elasticity dimension is measured by the HUI-HEUBEL Liquidity Ratio (HH).

|         | Most liquid | Spread, %    | Volume, %    | HH           | Least liquid | Spread, %    | Volume, %   | HH          |
|---------|-------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|
| 10.2020 | 1           | <b>SBER</b>  | <b>AFLT</b>  | <b>AFLT</b>  | 1            | <b>PIKK</b>  | <b>ROSN</b> | <b>FIVE</b> |
| 10.2020 | 2           | <b>SBERP</b> | <b>TATNP</b> | <b>SBERP</b> | 2            | RSTI         | RUAL        | PHOR        |
| 10.2020 | 3           | <b>GAZP</b>  | <b>SBERP</b> | <b>TATNP</b> | 3            | LSRG         | PHOR        | <b>PIKK</b> |
| 10.2020 | 4           | <b>LKOH</b>  | <b>AFKS</b>  | MOEX         | 4            | TCSG         | <b>NVTK</b> | <b>NVTK</b> |
| 10.2020 | 5           | VTBR         | MOEX         | <b>SNGSP</b> | 5            | <b>TRNFP</b> | <b>PIKK</b> | RUAL        |
| 11.2020 | 1           | <b>SBER</b>  | <b>AFLT</b>  | <b>AFLT</b>  | 1            | TCSG         | LSRG        | PHOR        |
| 11.2020 | 2           | ROSN         | <b>TATNP</b> | <b>SBERP</b> | 2            | LSRG         | RTKM        | ROSN        |
| 11.2020 | 3           | <b>SBERP</b> | <b>AFKS</b>  | <b>TATNP</b> | 3            | <b>PIKK</b>  | PHOR        | RUAL        |
| 11.2020 | 4           | <b>LKOH</b>  | <b>SBERP</b> | MOEX         | 4            | RSTI         | <b>NVTK</b> | <b>NVTK</b> |
| 11.2020 | 5           | MOEX         | DSKY         | <b>SNGSP</b> | 5            | <b>TRNFP</b> | <b>PIKK</b> | <b>PIKK</b> |
| 12.2020 | 1           | <b>SBER</b>  | <b>AFLT</b>  | <b>AFLT</b>  | 1            | RSTI         | PHOR        | RSTI        |
| 12.2020 | 2           | <b>LKOH</b>  | DSKY         | DSKY         | 2            | LSRG         | RTKM        | RUAL        |
| 12.2020 | 3           | <b>GAZP</b>  | <b>SBERP</b> | <b>SBERP</b> | 3            | RUAL         | <b>ROSN</b> | ROSN        |
| 12.2020 | 4           | POLY         | <b>AFKS</b>  | <b>TATNP</b> | 4            | <b>TRNFP</b> | <b>NVTK</b> | <b>NVTK</b> |
| 12.2020 | 5           | CHMF         | <b>TATNP</b> | <b>SNGSP</b> | 5            | <b>PIKK</b>  | <b>PIKK</b> | <b>PIKK</b> |
| 01.2021 | 1           | <b>GAZP</b>  | <b>TATNP</b> | <b>TATNP</b> | 1            | RUAL         | RSTI        | RUAL        |
| 01.2021 | 2           | <b>LKOH</b>  | <b>AFLT</b>  | <b>AFLT</b>  | 2            | QIWI         | LSRG        | ROSN        |
| 01.2021 | 3           | <b>SBER</b>  | <b>SBERP</b> | <b>SBERP</b> | 3            | RTKM         | <b>ROSN</b> | OZON        |
| 01.2021 | 4           | MOEX         | <b>AFKS</b>  | <b>SNGSP</b> | 4            | TCSG         | <b>NVTK</b> | <b>NVTK</b> |
| 01.2021 | 5           | POLY         | DSKY         | DSKY         | 5            | <b>TRNFP</b> | <b>PIKK</b> | <b>PIKK</b> |
| 02.2021 | 1           | <b>SBER</b>  | QIWI         | <b>AFLT</b>  | 1            | OZON         | <b>ROSN</b> | ROSN        |
| 02.2021 | 2           | <b>GAZP</b>  | TCSG         | <b>SNGSP</b> | 2            | <b>PIKK</b>  | RTKM        | RSTI        |
| 02.2021 | 3           | <b>LKOH</b>  | <b>TATNP</b> | <b>TATNP</b> | 3            | QIWI         | TRNFP       | LSRG        |
| 02.2021 | 4           | SBERP        | <b>AFLT</b>  | <b>SBERP</b> | 4            | RSTI         | <b>NVTK</b> | <b>NVTK</b> |
| 02.2021 | 5           | POLY         | <b>AFKS</b>  | QIWI         | 5            | <b>TRNFP</b> | <b>PIKK</b> | <b>PIKK</b> |
| 03.2021 | 1           | <b>SBER</b>  | <b>TATNP</b> | <b>AFLT</b>  | 1            | FEES         | PHOR        | RSTI        |
| 03.2021 | 2           | POLY         | <b>AFLT</b>  | <b>SBERP</b> | 2            | TCSG         | RTKM        | OZON        |
| 03.2021 | 3           | <b>GAZP</b>  | <b>SBERP</b> | <b>SNGSP</b> | 3            | QIWI         | <b>ROSN</b> | TCSG        |
| 03.2021 | 4           | MOEX         | QIWI         | <b>TATNP</b> | 4            | UPRO         | <b>NVTK</b> | <b>NVTK</b> |
| 03.2021 | 5           | YNDX         | GMKN         | MTSS         | 5            | <b>TRNFP</b> | <b>PIKK</b> | <b>PIKK</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 10.2020 - 03.2021:

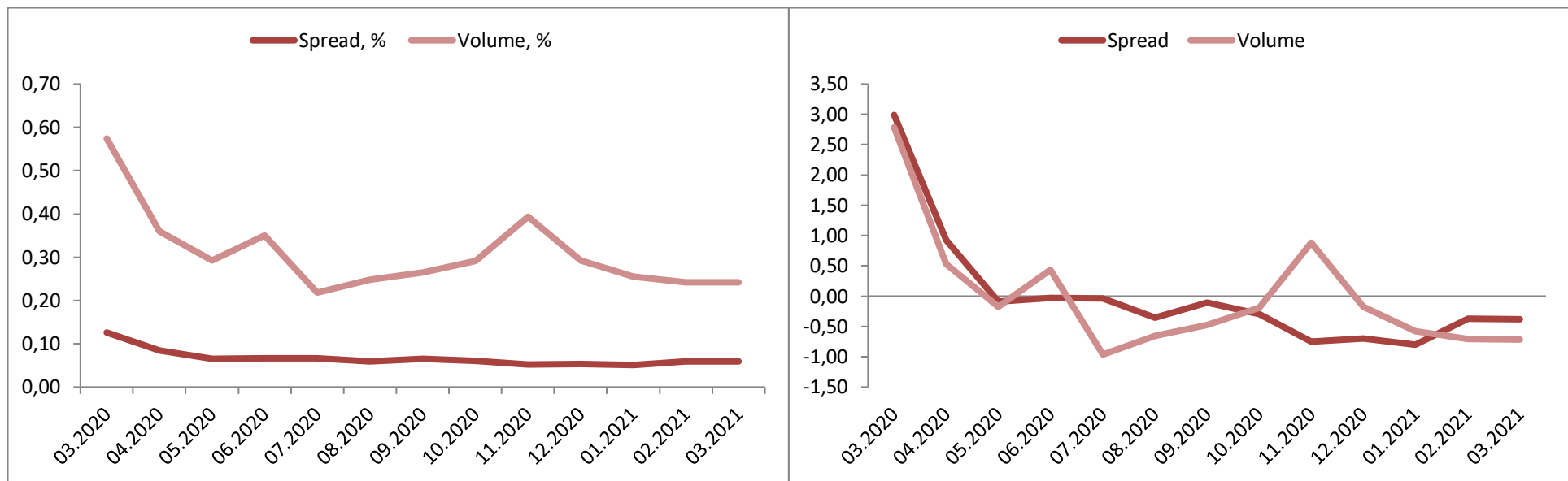
1. Stocks, appearing at least once in the top-5 list of the most liquid stocks in the three dimensions simultaneously (highlighted in red in the table): **SBERP**.

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, LKOH, SBER (trading costs), AFKS, AFLT, SBERP, TATNP (trading activity), AFLT, SBERP, SNGSP, TATNP (elasticity)**.

Among the least liquid stocks within a half-year period of 10.2020 - 03.2021:

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**.

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): **TRNFP (trading costs), NVTK, PIKK, ROSN (trading activity), NVTK, PIKK (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 March 2021 stayed at approximately the previous month's level and amounted to 0.059%. Trading activity measured by average percentage daily trading volume in March 2021 also stayed at approximately the previous month's level and amounted to 0.242%. In March 2021 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 March 2021 trading costs and trading activity stayed below the average level over a 1-year period.