

Отчет

Данный отчет содержит данные по кредитным спредам облигации RU000A0JU682 и гистограмму значений спредов. Таблица и график показывают спреды доходности до погашения для облигаций без оферты и до оферты для облигаций с офертой.

Данная таблица содержит спреды между доходностями до погашения из базы и расчетными безрисковыми доходностями облигации RU000A0JU682 с 2014-01-06 до 2015-10-30:

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
|-----|----------------|---------------------|-----------|-----------|---------------------|---------------------|
| 458 | 2014-01-06 | 2014-01-06 00:00:00 | 9.1196 | 9.5183 | 2.230145 | 2.628845 |
| 457 | 2014-01-08 | 2014-01-08 00:00:00 | NaN | 9.6263 | NaN | 2.755517 |
| 456 | 2014-01-09 | 2014-01-09 00:00:00 | 9.0973 | 9.4968 | 2.218216 | 2.617716 |
| 455 | 2014-01-10 | 2014-01-10 00:00:00 | 9.0973 | 9.4968 | 2.234991 | 2.634491 |
| 454 | 2014-01-13 | 2014-01-13 00:00:00 | 9.0749 | 9.4978 | 2.233348 | 2.656248 |
| 453 | 2014-01-14 | 2014-01-14 00:00:00 | 9.0963 | 9.2295 | 2.270407 | 2.403607 |
| 452 | 2014-01-15 | 2014-01-15 00:00:00 | 9.0963 | 9.2519 | 2.250747 | 2.406347 |
| 451 | 2014-01-16 | 2014-01-16 00:00:00 | 9.2295 | 9.2742 | 2.356050 | 2.400750 |
| 450 | 2014-01-17 | 2014-01-17 00:00:00 | 9.2072 | 9.2519 | 2.319314 | 2.364014 |
| 449 | 2014-01-20 | 2014-01-20 00:00:00 | 9.1848 | 9.2295 | 2.322231 | 2.366931 |
| 448 | 2014-01-21 | 2014-01-21 00:00:00 | 9.1848 | 9.1848 | 2.294626 | 2.294626 |
| 447 | 2014-01-22 | 2014-01-22 00:00:00 | 9.1177 | 9.1848 | 2.221028 | 2.288128 |
| 446 | 2014-01-23 | 2014-01-23 00:00:00 | 9.0730 | 9.1848 | 2.170708 | 2.282508 |
| 445 | 2014-01-24 | 2014-01-24 00:00:00 | 9.2072 | 9.2249 | 2.249938 | 2.267638 |
| 444 | 2014-01-27 | 2014-01-27 00:00:00 | 9.2975 | 9.3376 | 2.217351 | 2.257451 |
| 443 | 2014-01-28 | 2014-01-28 00:00:00 | 9.2975 | 9.2072 | 2.277915 | 2.187615 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
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| 442 | 2014-01-29 | 2014-01-29 00:00:00 | 9.1401 | 9.2528 | 1.944033 | 2.056733 |
| 441 | 2014-01-30 | 2014-01-30 00:00:00 | 9.2975 | 9.1848 | 1.900753 | 1.788053 |
| 440 | 2014-01-31 | 2014-01-31 00:00:00 | 9.2342 | 9.4111 | 1.804574 | 1.981474 |
| 439 | 2014-02-03 | 2014-02-03 00:00:00 | 9.2295 | 9.5034 | 1.754181 | 2.028081 |
| 438 | 2014-02-04 | 2014-02-04 00:00:00 | 9.2984 | 9.3888 | 1.940756 | 2.031156 |
| 437 | 2014-02-05 | 2014-02-05 00:00:00 | 9.2528 | 9.2752 | 2.016448 | 2.038848 |
| 436 | 2014-02-06 | 2014-02-06 00:00:00 | 9.2528 | 9.2984 | 2.041918 | 2.087518 |
| 435 | 2014-02-07 | 2014-02-07 00:00:00 | 9.2528 | 9.2938 | 2.077483 | 2.118483 |
| 434 | 2014-02-10 | 2014-02-10 00:00:00 | 9.1988 | 9.2621 | 2.044072 | 2.107372 |
| 433 | 2014-02-11 | 2014-02-11 00:00:00 | 9.1615 | 9.4959 | 1.973639 | 2.308039 |
| 432 | 2014-02-12 | 2014-02-12 00:00:00 | 9.1848 | 9.5015 | 2.063021 | 2.379721 |
| 431 | 2014-02-13 | 2014-02-13 00:00:00 | 9.2575 | 9.2994 | 2.026214 | 2.068114 |
| 430 | 2014-02-14 | 2014-02-14 00:00:00 | 9.1895 | 9.2994 | 1.912004 | 2.021904 |
| 429 | 2014-02-17 | 2014-02-17 00:00:00 | 9.1895 | 9.4978 | 2.000259 | 2.308559 |
| 428 | 2014-02-18 | 2014-02-18 00:00:00 | 9.2081 | 9.2947 | 1.996043 | 2.082643 |
| 427 | 2014-02-19 | 2014-02-19 00:00:00 | 9.2081 | 9.5034 | 1.780961 | 2.076261 |
| 426 | 2014-02-20 | 2014-02-20 00:00:00 | 9.2081 | 9.3003 | 1.734915 | 1.827115 |
| 425 | 2014-02-21 | 2014-02-21 00:00:00 | 9.2081 | 9.5415 | 1.811249 | 2.144649 |
| 424 | 2014-02-24 | 2014-02-24 00:00:00 | 9.2081 | 9.5099 | 1.803080 | 2.104880 |
| 423 | 2014-02-25 | 2014-02-25 00:00:00 | 9.2081 | 9.1941 | 1.813762 | 1.799762 |
| 422 | 2014-02-26 | 2014-02-26 00:00:00 | 9.1159 | 9.4409 | 1.604695 | 1.929695 |
| 421 | 2014-02-27 | 2014-02-27 00:00:00 | 9.3012 | 9.4409 | 1.775127 | 1.914827 |
| 420 | 2014-02-28 | 2014-02-28 00:00:00 | 9.2314 | 9.4875 | 1.733050 | 1.989150 |
| 419 | 2014-03-03 | 2014-03-03 00:00:00 | 9.3022 | 9.5127 | 1.252370 | 1.462870 |
| 418 | 2014-03-04 | 2014-03-04 00:00:00 | 9.5127 | 9.9868 | 1.575670 | 2.049770 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
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| 417 | 2014-03-05 | 2014-03-05 00:00:00 | 9.4195 | 9.4195 | 1.384458 | 1.384458 |
| 416 | 2014-03-06 | 2014-03-06 00:00:00 | 9.3068 | 9.7688 | 1.065276 | 1.527276 |
| 415 | 2014-03-07 | 2014-03-07 00:00:00 | 9.3310 | 9.3217 | 0.990161 | 0.980861 |
| 414 | 2014-03-11 | 2014-03-11 00:00:00 | 9.3320 | 9.7772 | 0.684587 | 1.129787 |
| 413 | 2014-03-12 | 2014-03-12 00:00:00 | 9.5872 | 9.5164 | 0.404349 | 0.333549 |
| 412 | 2014-03-13 | 2014-03-13 00:00:00 | 9.7064 | 9.8983 | 0.736447 | 0.928347 |
| 411 | 2014-03-14 | 2014-03-14 00:00:00 | 10.1162 | 10.1404 | 0.564148 | 0.588348 |
| 410 | 2014-03-17 | 2014-03-17 00:00:00 | 10.1190 | 10.5829 | 1.107619 | 1.571519 |
| 409 | 2014-03-18 | 2014-03-18 00:00:00 | 10.1200 | 10.5847 | 1.307272 | 1.771972 |
| 408 | 2014-03-19 | 2014-03-19 00:00:00 | 10.1209 | 10.1935 | 1.464909 | 1.537509 |
| 407 | 2014-03-20 | 2014-03-20 00:00:00 | 9.7837 | 10.0734 | 0.920504 | 1.210204 |
| 406 | 2014-03-21 | 2014-03-21 00:00:00 | 9.7362 | 10.0743 | 0.750261 | 1.088361 |
| 405 | 2014-03-24 | 2014-03-24 00:00:00 | 9.9802 | 10.0771 | 1.158875 | 1.255775 |
| 401 | 2014-03-28 | 2014-03-28 00:00:00 | 9.7893 | 9.9355 | 1.234202 | 1.380402 |
| 400 | 2014-03-31 | 2014-03-31 00:00:00 | 9.7465 | 10.0836 | 1.496391 | 1.833491 |
| 399 | 2014-04-01 | 2014-04-01 00:00:00 | 9.7465 | 9.7902 | 1.365066 | 1.408766 |
| 398 | 2014-04-02 | 2014-04-02 00:00:00 | 9.7465 | 10.0846 | 1.343875 | 1.681975 |
| 397 | 2014-04-03 | 2014-04-03 00:00:00 | 9.7465 | 10.0846 | 1.323243 | 1.661343 |
| 396 | 2014-04-04 | 2014-04-04 00:00:00 | 9.0945 | 9.5229 | 0.727544 | 1.155944 |
| 395 | 2014-04-07 | 2014-04-07 00:00:00 | 9.7427 | 9.9635 | 1.345696 | 1.566496 |
| 394 | 2014-04-08 | 2014-04-08 00:00:00 | 9.6990 | 10.4608 | 1.391445 | 2.153245 |
| 393 | 2014-04-09 | 2014-04-09 00:00:00 | 9.7185 | 10.7384 | 1.425120 | 2.445020 |
| 392 | 2014-04-10 | 2014-04-10 00:00:00 | 9.0917 | 10.7850 | 0.917737 | 2.611037 |
| 391 | 2014-04-11 | 2014-04-11 00:00:00 | 9.0628 | 10.2578 | 0.821096 | 2.016096 |
| 390 | 2014-04-14 | 2014-04-14 00:00:00 | 10.2904 | 10.0212 | 1.873639 | 1.604439 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
|-----|----------------|---------------------|-----------|-----------|---------------------|---------------------|
| 389 | 2014-04-15 | 2014-04-15 00:00:00 | 10.2913 | 10.9647 | 1.740345 | 2.413745 |
| 388 | 2014-04-16 | 2014-04-16 00:00:00 | 9.0898 | 11.6074 | 0.643556 | 3.161156 |
| 387 | 2014-04-17 | 2014-04-17 00:00:00 | 9.0889 | 17.1773 | 0.618936 | 8.707336 |
| 386 | 2014-04-18 | 2014-04-18 00:00:00 | 9.0889 | 17.1233 | 0.729933 | 8.764333 |
| 385 | 2014-04-21 | 2014-04-21 00:00:00 | 9.1112 | 10.2708 | 0.736385 | 1.895985 |
| 384 | 2014-04-22 | 2014-04-22 00:00:00 | 10.1200 | 10.0948 | 1.693657 | 1.668457 |
| 383 | 2014-04-23 | 2014-04-23 00:00:00 | 9.0861 | 17.1559 | 0.610838 | 8.680638 |
| 382 | 2014-04-24 | 2014-04-24 00:00:00 | 10.0464 | 10.2224 | 1.433249 | 1.609249 |
| 381 | 2014-04-25 | 2014-04-25 00:00:00 | 10.0464 | 17.1773 | 1.092268 | 8.223168 |
| 380 | 2014-04-28 | 2014-04-28 00:00:00 | 10.0482 | 10.1488 | 1.015667 | 1.116267 |
| 379 | 2014-04-29 | 2014-04-29 00:00:00 | 10.0492 | 12.3898 | 1.042515 | 3.383115 |
| 378 | 2014-04-30 | 2014-04-30 00:00:00 | 10.0492 | 18.2913 | 1.007126 | 9.249226 |
| 377 | 2014-05-02 | 2014-05-02 00:00:00 | NaN | 11.0942 | NaN | 1.956011 |
| 376 | 2014-05-05 | 2014-05-05 00:00:00 | 10.0575 | 11.2041 | 0.960487 | 2.107087 |
| 375 | 2014-05-06 | 2014-05-06 00:00:00 | 10.1088 | 11.5972 | 1.061875 | 2.550275 |
| 374 | 2014-05-07 | 2014-05-07 00:00:00 | 10.2829 | 11.3392 | 1.397914 | 2.454214 |
| 373 | 2014-05-08 | 2014-05-08 00:00:00 | 10.1404 | 11.1725 | 1.378218 | 2.410318 |
| 372 | 2014-05-12 | 2014-05-12 00:00:00 | 10.0874 | 10.8483 | 1.246003 | 2.006903 |
| 371 | 2014-05-13 | 2014-05-13 00:00:00 | 10.0566 | 10.8548 | 1.293405 | 2.091605 |
| 370 | 2014-05-14 | 2014-05-14 00:00:00 | 10.0575 | 11.0979 | 1.268432 | 2.308832 |
| 369 | 2014-05-15 | 2014-05-15 00:00:00 | 10.0585 | 10.8735 | 1.275171 | 2.090171 |
| 368 | 2014-05-16 | 2014-05-16 00:00:00 | 10.0594 | 11.1548 | 1.201995 | 2.297395 |
| 367 | 2014-05-19 | 2014-05-19 00:00:00 | 10.0613 | 11.1920 | 1.277566 | 2.408266 |
| 366 | 2014-05-20 | 2014-05-20 00:00:00 | 10.0613 | 11.1939 | 1.335560 | 2.468160 |
| 365 | 2014-05-21 | 2014-05-21 00:00:00 | 10.0622 | 10.8455 | 1.342426 | 2.125726 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
|-----|----------------|---------------------|-----------|-----------|---------------------|---------------------|
| 364 | 2014-05-22 | 2014-05-22 00:00:00 | 10.0631 | 11.0001 | 1.419520 | 2.356520 |
| 363 | 2014-05-23 | 2014-05-23 00:00:00 | 10.0641 | 10.8427 | 1.456748 | 2.235348 |
| 362 | 2014-05-26 | 2014-05-26 00:00:00 | 10.0659 | 10.9489 | 1.558599 | 2.441599 |
| 361 | 2014-05-27 | 2014-05-27 00:00:00 | 10.0920 | 10.8539 | 1.397632 | 2.159532 |
| 360 | 2014-05-28 | 2014-05-28 00:00:00 | 10.1190 | 10.3277 | 1.423365 | 1.632065 |
| 359 | 2014-05-29 | 2014-05-29 00:00:00 | 10.0678 | NaN | 1.471445 | NaN |
| 358 | 2014-05-30 | 2014-05-30 00:00:00 | 10.0687 | 18.5763 | 1.487038 | 9.994638 |
| 357 | 2014-06-02 | 2014-06-02 00:00:00 | 10.0706 | 18.6061 | 1.448796 | 9.984296 |
| 356 | 2014-06-03 | 2014-06-03 00:00:00 | 10.0715 | 10.8651 | 1.486470 | 2.280070 |
| 355 | 2014-06-04 | 2014-06-04 00:00:00 | 10.0724 | 13.6500 | 1.481296 | 5.058896 |
| 354 | 2014-06-05 | 2014-06-05 00:00:00 | 10.0724 | 10.7831 | 1.533542 | 2.244242 |
| 353 | 2014-06-06 | 2014-06-06 00:00:00 | 10.0734 | 10.5968 | 1.646575 | 2.169975 |
| 352 | 2014-06-09 | 2014-06-09 00:00:00 | 10.2345 | 10.5903 | 1.757780 | 2.113580 |
| 351 | 2014-06-10 | 2014-06-10 00:00:00 | 10.0762 | 10.8222 | 1.650289 | 2.396289 |
| 350 | 2014-06-11 | 2014-06-11 00:00:00 | 10.0771 | 10.6034 | 1.648915 | 2.175215 |
| 349 | 2014-06-16 | 2014-06-16 00:00:00 | 10.2941 | 10.7459 | 1.722625 | 2.174425 |
| 348 | 2014-06-17 | 2014-06-17 00:00:00 | 10.2150 | 10.7691 | 1.683934 | 2.238034 |
| 347 | 2014-06-18 | 2014-06-18 00:00:00 | 10.2159 | 10.8465 | 1.693603 | 2.324203 |
| 346 | 2014-06-19 | 2014-06-19 00:00:00 | 10.2168 | 10.8427 | 1.763399 | 2.389299 |
| 345 | 2014-06-20 | 2014-06-20 00:00:00 | 10.2448 | 10.8604 | 1.719384 | 2.334984 |
| 344 | 2014-06-23 | 2014-06-23 00:00:00 | 10.3556 | 10.8604 | 1.887335 | 2.392135 |
| 343 | 2014-06-24 | 2014-06-24 00:00:00 | 10.0883 | 11.0374 | 1.711695 | 2.660795 |
| 342 | 2014-06-25 | 2014-06-25 00:00:00 | 10.9014 | 10.2494 | 2.561950 | 1.909950 |
| 341 | 2014-06-26 | 2014-06-26 00:00:00 | 10.3640 | 10.8977 | 1.985085 | 2.518785 |
| 340 | 2014-06-27 | 2014-06-27 00:00:00 | 10.3603 | 11.1808 | 1.995768 | 2.816268 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
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| 339 | 2014-06-30 | 2014-06-30 00:00:00 | 10.4450 | 10.5000 | 2.041050 | 2.096050 |
| 338 | 2014-07-01 | 2014-07-01 00:00:00 | 10.0995 | 11.1343 | 1.583646 | 2.618446 |
| 337 | 2014-07-02 | 2014-07-02 00:00:00 | 10.1004 | 11.1305 | 1.699441 | 2.729541 |
| 336 | 2014-07-03 | 2014-07-03 00:00:00 | 10.1013 | 11.4686 | 1.651719 | 3.019019 |
| 335 | 2014-07-04 | 2014-07-04 00:00:00 | 10.1023 | 11.1734 | 1.598291 | 2.669391 |
| 334 | 2014-07-07 | 2014-07-07 00:00:00 | 10.1106 | 11.1967 | 1.620222 | 2.706322 |
| 333 | 2014-07-08 | 2014-07-08 00:00:00 | 9.7753 | 11.0476 | 1.355182 | 2.627482 |
| 332 | 2014-07-09 | 2014-07-09 00:00:00 | 9.8573 | 11.0951 | 1.354572 | 2.592372 |
| 331 | 2014-07-10 | 2014-07-10 00:00:00 | 9.7390 | 11.0691 | 1.198374 | 2.528474 |
| 330 | 2014-07-11 | 2014-07-11 00:00:00 | 9.7828 | 10.8306 | 1.224924 | 2.272724 |
| 329 | 2014-07-14 | 2014-07-14 00:00:00 | 9.9476 | 11.7527 | 1.329147 | 3.134247 |
| 328 | 2014-07-15 | 2014-07-15 00:00:00 | 9.8228 | 10.8716 | 1.196470 | 2.245270 |
| 327 | 2014-07-16 | 2014-07-16 00:00:00 | 9.9001 | 10.9294 | 1.266627 | 2.295927 |
| 326 | 2014-07-17 | 2014-07-17 00:00:00 | 10.1032 | 10.3845 | 1.169506 | 1.450806 |
| 325 | 2014-07-18 | 2014-07-18 00:00:00 | 10.1535 | 13.8689 | 1.217509 | 4.932909 |
| 324 | 2014-07-21 | 2014-07-21 00:00:00 | 10.2839 | 11.4332 | 1.001924 | 2.151224 |
| 323 | 2014-07-22 | 2014-07-22 00:00:00 | 10.5307 | 10.9461 | 1.356815 | 1.772215 |
| 322 | 2014-07-23 | 2014-07-23 00:00:00 | 10.3146 | 10.3873 | 1.247151 | 1.319851 |
| 321 | 2014-07-24 | 2014-07-24 00:00:00 | 10.3211 | 11.2693 | 1.209280 | 2.157480 |
| 320 | 2014-07-25 | 2014-07-25 00:00:00 | 10.4171 | 11.2656 | 0.945470 | 1.793970 |
| 319 | 2014-07-28 | 2014-07-28 00:00:00 | 10.7198 | 11.3308 | 1.187569 | 1.798569 |
| 318 | 2014-07-29 | 2014-07-29 00:00:00 | 10.2606 | 11.8263 | 0.475287 | 2.040987 |
| 317 | 2014-07-30 | 2014-07-30 00:00:00 | 9.8387 | 11.9465 | 0.216734 | 2.324534 |
| 316 | 2014-07-31 | 2014-07-31 00:00:00 | 10.2913 | 11.1138 | 0.647709 | 1.470209 |
| 315 | 2014-08-01 | 2014-08-01 00:00:00 | 10.1246 | 11.8822 | 0.394519 | 2.152119 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
|-----|----------------|---------------------|-----------|-----------|---------------------|---------------------|
| 314 | 2014-08-04 | 2014-08-04 00:00:00 | 9.6542 | 11.9446 | -0.132504 | 2.157896 |
| 313 | 2014-08-05 | 2014-08-05 00:00:00 | 10.2979 | 11.9893 | 0.486777 | 2.178177 |
| 312 | 2014-08-06 | 2014-08-06 00:00:00 | 9.8778 | 11.9632 | -0.083698 | 2.001702 |
| 311 | 2014-08-07 | 2014-08-07 00:00:00 | 10.3966 | 12.2343 | 0.480259 | 2.317959 |
| 310 | 2014-08-08 | 2014-08-08 00:00:00 | 9.6170 | 13.9863 | -0.223542 | 4.145758 |
| 309 | 2014-08-11 | 2014-08-11 00:00:00 | 9.8647 | 12.0992 | 0.217035 | 2.451535 |
| 308 | 2014-08-12 | 2014-08-12 00:00:00 | 10.1200 | 11.9120 | 0.591261 | 2.383261 |
| 307 | 2014-08-13 | 2014-08-13 00:00:00 | 10.1209 | 11.8915 | 0.637648 | 2.408248 |
| 306 | 2014-08-14 | 2014-08-14 00:00:00 | 10.1442 | 11.8766 | 0.691245 | 2.423645 |
| 305 | 2014-08-15 | 2014-08-15 00:00:00 | 11.0029 | 11.7136 | 1.623115 | 2.333815 |
| 304 | 2014-08-18 | 2014-08-18 00:00:00 | 10.6024 | 11.7108 | 1.173643 | 2.282043 |
| 303 | 2014-08-19 | 2014-08-19 00:00:00 | 10.4599 | 11.7080 | 1.028204 | 2.276304 |
| 302 | 2014-08-20 | 2014-08-20 00:00:00 | 10.7338 | 11.7173 | 1.382581 | 2.366081 |
| 301 | 2014-08-21 | 2014-08-21 00:00:00 | 11.0281 | 11.7266 | 1.722493 | 2.420993 |
| 300 | 2014-08-22 | 2014-08-22 00:00:00 | 10.6155 | 10.2056 | 1.208956 | 0.799056 |
| 299 | 2014-08-25 | 2014-08-25 00:00:00 | 9.3608 | 11.6726 | 0.042788 | 2.354588 |
| 298 | 2014-08-26 | 2014-08-26 00:00:00 | 9.3329 | 11.6698 | -0.015815 | 2.321085 |
| 297 | 2014-08-27 | 2014-08-27 00:00:00 | 9.3562 | 11.6549 | -0.066506 | 2.232194 |
| 296 | 2014-08-28 | 2014-08-28 00:00:00 | 9.3618 | 11.1268 | -0.410216 | 1.354784 |
| 295 | 2014-08-29 | 2014-08-29 00:00:00 | 10.3016 | 11.8915 | 0.364927 | 1.954827 |
| 294 | 2014-09-01 | 2014-09-01 00:00:00 | 9.4139 | 10.3006 | -0.503289 | 0.383411 |
| 293 | 2014-09-02 | 2014-09-02 00:00:00 | 9.4205 | 12.2231 | -0.517784 | 2.284816 |
| 292 | 2014-09-03 | 2014-09-03 00:00:00 | 9.4493 | 12.0610 | -0.257907 | 2.353793 |
| 291 | 2014-09-04 | 2014-09-04 00:00:00 | 11.1389 | 11.9791 | 1.442269 | 2.282469 |
| 290 | 2014-09-05 | 2014-09-05 00:00:00 | 11.0635 | 11.9278 | 1.455445 | 2.319745 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
|-----|----------------|---------------------|-----------|-----------|---------------------|---------------------|
| 289 | 2014-09-08 | 2014-09-08 00:00:00 | 11.0411 | 11.8896 | 1.397873 | 2.246373 |
| 288 | 2014-09-09 | 2014-09-09 00:00:00 | 11.0309 | 11.8561 | 1.313147 | 2.138347 |
| 287 | 2014-09-10 | 2014-09-10 00:00:00 | 11.0393 | 11.8775 | 1.348216 | 2.186416 |
| 286 | 2014-09-11 | 2014-09-11 00:00:00 | 11.0663 | 11.9493 | 1.318548 | 2.201548 |
| 285 | 2014-09-12 | 2014-09-12 00:00:00 | 11.0691 | 11.9902 | 1.410147 | 2.331247 |
| 284 | 2014-09-15 | 2014-09-15 00:00:00 | 11.2274 | 12.0070 | 1.523884 | 2.303484 |
| 283 | 2014-09-16 | 2014-09-16 00:00:00 | 11.3830 | 12.0294 | 1.711998 | 2.358398 |
| 282 | 2014-09-17 | 2014-09-17 00:00:00 | 11.3857 | 11.7481 | 1.835193 | 2.197593 |
| 281 | 2014-09-18 | 2014-09-18 00:00:00 | 9.3515 | 11.6903 | -0.277500 | 2.061300 |
| 280 | 2014-09-19 | 2014-09-19 00:00:00 | 11.0802 | 11.6875 | 1.495755 | 2.103055 |
| 279 | 2014-09-22 | 2014-09-22 00:00:00 | 11.2777 | 11.6847 | 1.693851 | 2.100851 |
| 275 | 2014-09-26 | 2014-09-26 00:00:00 | 11.4137 | 12.9794 | 1.945908 | 3.511608 |
| 274 | 2014-09-29 | 2014-09-29 00:00:00 | 11.1417 | 12.3572 | 1.641005 | 2.856505 |
| 273 | 2014-09-30 | 2014-09-30 00:00:00 | 10.5559 | 10.6229 | 1.070209 | 1.137209 |
| 272 | 2014-10-01 | 2014-10-01 00:00:00 | 9.8992 | 13.0073 | 0.351206 | 3.459306 |
| 271 | 2014-10-02 | 2014-10-02 00:00:00 | 10.2001 | 11.5897 | 0.610258 | 1.999858 |
| 270 | 2014-10-03 | 2014-10-03 00:00:00 | 9.9122 | 11.7369 | 0.018762 | 1.843462 |
| 269 | 2014-10-06 | 2014-10-06 00:00:00 | 10.5205 | 11.7890 | 0.708530 | 1.977030 |
| 268 | 2014-10-07 | 2014-10-07 00:00:00 | 11.1268 | 11.8682 | 1.412798 | 2.154198 |
| 267 | 2014-10-08 | 2014-10-08 00:00:00 | 11.2842 | 11.7946 | 1.511093 | 2.021493 |
| 266 | 2014-10-09 | 2014-10-09 00:00:00 | 11.1305 | 11.8487 | 1.315956 | 2.034156 |
| 265 | 2014-10-10 | 2014-10-10 00:00:00 | 11.2889 | 11.8515 | 1.416714 | 1.979314 |
| 264 | 2014-10-13 | 2014-10-13 00:00:00 | 11.3271 | 11.9176 | 1.470494 | 2.060994 |
| 263 | 2014-10-14 | 2014-10-14 00:00:00 | 11.1408 | 11.9017 | 1.168936 | 1.929836 |
| 262 | 2014-10-15 | 2014-10-15 00:00:00 | 11.1492 | 11.9558 | 1.178063 | 1.984663 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
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| 260 | 2014-10-17 | 2014-10-17 00:00:00 | 11.1529 | 12.0005 | 1.334256 | 2.181856 |
| 259 | 2014-10-20 | 2014-10-20 00:00:00 | 11.7909 | 11.9968 | 1.891181 | 2.097081 |
| 258 | 2014-10-21 | 2014-10-21 00:00:00 | 11.9548 | 12.0973 | 2.107502 | 2.250002 |
| 257 | 2014-10-22 | 2014-10-22 00:00:00 | 11.9586 | 12.0359 | 2.177310 | 2.254610 |
| 256 | 2014-10-23 | 2014-10-23 00:00:00 | 11.9614 | 12.0526 | 2.091268 | 2.182468 |
| 255 | 2014-10-24 | 2014-10-24 00:00:00 | 11.9642 | 12.0750 | 2.016198 | 2.126998 |
| 254 | 2014-10-27 | 2014-10-27 00:00:00 | 11.6819 | 12.2818 | 1.739681 | 2.339581 |
| 253 | 2014-10-28 | 2014-10-28 00:00:00 | 11.6847 | 11.8151 | 1.570729 | 1.701129 |
| 252 | 2014-10-29 | 2014-10-29 00:00:00 | 11.6875 | 12.2100 | 1.443409 | 1.965909 |
| 251 | 2014-10-30 | 2014-10-30 00:00:00 | 11.7686 | 12.2138 | 1.442453 | 1.887653 |
| 250 | 2014-10-31 | 2014-10-31 00:00:00 | 11.7779 | 12.2175 | 1.335020 | 1.774620 |
| 249 | 2014-11-03 | 2014-11-03 00:00:00 | 11.7807 | 14.5432 | 1.356650 | 4.119150 |
| 248 | 2014-11-05 | 2014-11-05 00:00:00 | 11.7080 | 14.5432 | 1.274808 | 4.110008 |
| 247 | 2014-11-06 | 2014-11-06 00:00:00 | 11.7117 | 14.5572 | 1.051218 | 3.896718 |
| 246 | 2014-11-07 | 2014-11-07 00:00:00 | 11.7145 | 14.5563 | 1.050159 | 3.891959 |
| 245 | 2014-11-10 | 2014-11-10 00:00:00 | 11.7238 | 14.5842 | 1.191536 | 4.051936 |
| 244 | 2014-11-11 | 2014-11-11 00:00:00 | 11.8785 | 14.5917 | 1.268380 | 3.981580 |
| 243 | 2014-11-12 | 2014-11-12 00:00:00 | 11.9083 | 14.5917 | 1.306845 | 3.990245 |
| 242 | 2014-11-13 | 2014-11-13 00:00:00 | 11.9511 | 14.5982 | 1.315608 | 3.962708 |
| 241 | 2014-11-14 | 2014-11-14 00:00:00 | 12.0079 | 14.4985 | 1.293166 | 3.783766 |
| 240 | 2014-11-17 | 2014-11-17 00:00:00 | 13.6873 | 14.6336 | 2.966355 | 3.912655 |
| 239 | 2014-11-18 | 2014-11-18 00:00:00 | 12.5621 | 14.5907 | 1.840499 | 3.869099 |
| 238 | 2014-11-19 | 2014-11-19 00:00:00 | 13.2532 | 14.6476 | 2.460910 | 3.855310 |
| 237 | 2014-11-20 | 2014-11-20 00:00:00 | 13.2588 | 13.9509 | 2.563370 | 3.255470 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
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| 236 | 2014-11-21 | 2014-11-21 00:00:00 | 13.2635 | 13.9574 | 2.581349 | 3.275249 |
| 235 | 2014-11-24 | 2014-11-24 00:00:00 | 13.2802 | 14.6839 | 2.595782 | 3.999482 |
| 234 | 2014-11-25 | 2014-11-25 00:00:00 | 13.2849 | 14.6913 | 2.425423 | 3.831823 |
| 233 | 2014-11-26 | 2014-11-26 00:00:00 | 13.9891 | 14.6913 | 3.165326 | 3.867526 |
| 232 | 2014-11-27 | 2014-11-27 00:00:00 | 14.7137 | 14.3532 | 3.699179 | 3.338679 |
| 231 | 2014-11-28 | 2014-11-28 00:00:00 | 14.0086 | 14.1800 | 2.898124 | 3.069524 |
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| 228 | 2014-12-03 | 2014-12-03 00:00:00 | 14.7584 | 15.4886 | 3.086913 | 3.817113 |
| 227 | 2014-12-04 | 2014-12-04 00:00:00 | 14.7659 | 15.4970 | 2.747227 | 3.478327 |
| 226 | 2014-12-05 | 2014-12-05 00:00:00 | 14.9205 | 15.5063 | 2.449455 | 3.035255 |
| 225 | 2014-12-08 | 2014-12-08 00:00:00 | 16.2962 | 15.5324 | 2.644048 | 1.880248 |
| 224 | 2014-12-09 | 2014-12-09 00:00:00 | 16.3828 | 17.0692 | 2.483488 | 3.169888 |
| 223 | 2014-12-10 | 2014-12-10 00:00:00 | 18.2736 | 17.0804 | 4.568099 | 3.374899 |
| 222 | 2014-12-11 | 2014-12-11 00:00:00 | 19.0960 | 19.4984 | 5.650891 | 6.053291 |
| 221 | 2014-12-12 | 2014-12-12 00:00:00 | 19.1109 | 19.5217 | 4.750212 | 5.161012 |
| 220 | 2014-12-15 | 2014-12-15 00:00:00 | 19.1538 | 20.0172 | 4.347089 | 5.210489 |
| 219 | 2014-12-16 | 2014-12-16 00:00:00 | 20.4214 | 20.4214 | 0.356983 | 0.356983 |
| 218 | 2014-12-17 | 2014-12-17 00:00:00 | 20.4382 | 21.2858 | 3.667318 | 4.514918 |
| 217 | 2014-12-18 | 2014-12-18 00:00:00 | 20.4540 | 22.9809 | 3.560284 | 6.087184 |
| 216 | 2014-12-19 | 2014-12-19 00:00:00 | 20.4708 | 20.4708 | 3.359169 | 3.359169 |
| 215 | 2014-12-22 | 2014-12-22 00:00:00 | 20.5211 | 21.8232 | 4.165784 | 5.467884 |
| 214 | 2014-12-23 | 2014-12-23 00:00:00 | 26.0136 | 23.1756 | 9.335802 | 6.497802 |
| 213 | 2014-12-24 | 2014-12-24 00:00:00 | 23.7363 | 22.3047 | 6.993093 | 5.561493 |
| 212 | 2014-12-25 | 2014-12-25 00:00:00 | 25.0869 | 23.2268 | 8.676168 | 6.816068 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
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| 211 | 2014-12-26 | 2014-12-26 00:00:00 | 20.8480 | 24.1610 | 4.797583 | 8.110583 |
| 210 | 2014-12-29 | 2014-12-29 00:00:00 | 19.8775 | 20.6319 | 3.906794 | 4.661194 |
| 209 | 2014-12-30 | 2014-12-30 00:00:00 | 19.8085 | 16.7228 | 3.915689 | 0.829989 |
| 208 | 2015-01-05 | 2015-01-05 00:00:00 | 15.8100 | 24.1191 | -0.518460 | 7.790640 |
| 207 | 2015-01-06 | 2015-01-06 00:00:00 | 18.4012 | 23.9450 | 2.319340 | 7.863140 |
| 206 | 2015-01-08 | 2015-01-08 00:00:00 | 16.1313 | 23.9440 | 0.019578 | 7.832278 |
| 205 | 2015-01-09 | 2015-01-09 00:00:00 | 16.1257 | 23.9766 | -0.201628 | 7.649272 |
| 204 | 2015-01-12 | 2015-01-12 00:00:00 | 17.3272 | 24.0465 | -0.526111 | 6.193189 |
| 203 | 2015-01-13 | 2015-01-13 00:00:00 | 15.8901 | 24.0698 | -2.902252 | 5.277448 |
| 202 | 2015-01-14 | 2015-01-14 00:00:00 | 18.1627 | 24.0940 | 0.210019 | 6.141319 |
| 201 | 2015-01-15 | 2015-01-15 00:00:00 | 16.2217 | 24.0893 | -0.317777 | 7.549823 |
| 200 | 2015-01-16 | 2015-01-16 00:00:00 | 16.7246 | 24.0940 | 0.470899 | 7.840299 |
| 199 | 2015-01-19 | 2015-01-19 00:00:00 | 19.2711 | 24.1657 | 3.107479 | 8.002079 |
| 198 | 2015-01-20 | 2015-01-20 00:00:00 | 19.4686 | 22.8189 | 2.994199 | 6.344499 |
| 197 | 2015-01-21 | 2015-01-21 00:00:00 | 21.5074 | 21.6891 | 5.010507 | 5.192207 |
| 196 | 2015-01-22 | 2015-01-22 00:00:00 | 20.6273 | 24.2095 | 4.633974 | 8.216174 |
| 195 | 2015-01-23 | 2015-01-23 00:00:00 | 16.0670 | 19.3270 | 0.044368 | 3.304368 |
| 194 | 2015-01-26 | 2015-01-26 00:00:00 | 16.0596 | 20.2556 | -0.668073 | 3.527927 |
| 193 | 2015-01-27 | 2015-01-27 00:00:00 | 18.1013 | 20.7204 | 1.427846 | 4.046946 |
| 192 | 2015-01-28 | 2015-01-28 00:00:00 | 18.6368 | 21.1908 | 1.887895 | 4.441895 |
| 191 | 2015-01-29 | 2015-01-29 00:00:00 | 22.1296 | 21.5298 | 5.419668 | 4.819868 |
| 190 | 2015-01-30 | 2015-01-30 00:00:00 | 18.5819 | 19.0047 | 2.595504 | 3.018304 |
| 189 | 2015-02-02 | 2015-02-02 00:00:00 | 18.8352 | 19.6241 | 3.357556 | 4.146456 |
| 188 | 2015-02-03 | 2015-02-03 00:00:00 | 18.6769 | 22.2079 | 3.629289 | 7.160289 |
| 187 | 2015-02-04 | 2015-02-04 00:00:00 | 16.1257 | 20.8536 | 0.874105 | 5.602005 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
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| 186 | 2015-02-05 | 2015-02-05 00:00:00 | 16.1453 | 19.5422 | 1.299635 | 4.696535 |
| 185 | 2015-02-06 | 2015-02-06 00:00:00 | 16.1490 | 20.0768 | 1.641308 | 5.569108 |
| 184 | 2015-02-09 | 2015-02-09 00:00:00 | 16.3409 | 20.0051 | 2.047095 | 5.711295 |
| 183 | 2015-02-10 | 2015-02-10 00:00:00 | 16.6026 | 19.5841 | 2.311810 | 5.293310 |
| 182 | 2015-02-11 | 2015-02-11 00:00:00 | 16.6985 | 19.9967 | 2.395708 | 5.693908 |
| 181 | 2015-02-12 | 2015-02-12 00:00:00 | 16.6352 | 20.5686 | 2.480817 | 6.414217 |
| 180 | 2015-02-13 | 2015-02-13 00:00:00 | 16.2291 | 19.6362 | 2.301166 | 5.708266 |
| 179 | 2015-02-16 | 2015-02-16 00:00:00 | 16.2645 | 18.7337 | 2.735552 | 5.204752 |
| 178 | 2015-02-17 | 2015-02-17 00:00:00 | 16.3101 | 18.5725 | 2.982579 | 5.244979 |
| 177 | 2015-02-18 | 2015-02-18 00:00:00 | 16.6343 | 18.7663 | 3.680496 | 5.812496 |
| 176 | 2015-02-19 | 2015-02-19 00:00:00 | 16.3083 | 17.1326 | 2.844454 | 3.668754 |
| 175 | 2015-02-20 | 2015-02-20 00:00:00 | 16.3204 | 18.0221 | 2.827524 | 4.529224 |
| 174 | 2015-02-24 | 2015-02-24 00:00:00 | 16.3772 | 17.6439 | 1.806314 | 3.073014 |
| 173 | 2015-02-25 | 2015-02-25 00:00:00 | 16.5775 | 17.6579 | 1.889338 | 2.969738 |
| 172 | 2015-02-26 | 2015-02-26 00:00:00 | 16.4871 | 19.4313 | 1.822694 | 4.766894 |
| 171 | 2015-02-27 | 2015-02-27 00:00:00 | 16.4228 | 18.5642 | 1.389307 | 3.530707 |
| 170 | 2015-03-02 | 2015-03-02 00:00:00 | 15.5762 | 19.3391 | 0.421978 | 4.184878 |
| 169 | 2015-03-03 | 2015-03-03 00:00:00 | 15.5957 | 18.1814 | 1.022455 | 3.608155 |
| 168 | 2015-03-04 | 2015-03-04 00:00:00 | 16.4601 | 18.1888 | 1.984285 | 3.712985 |
| 167 | 2015-03-05 | 2015-03-05 00:00:00 | 16.4638 | 17.1596 | 2.224634 | 2.920434 |
| 166 | 2015-03-06 | 2015-03-06 00:00:00 | 16.0465 | 18.2205 | 2.088202 | 4.262202 |
| 165 | 2015-03-10 | 2015-03-10 00:00:00 | 16.1816 | 18.3024 | 2.006769 | 4.127569 |
| 164 | 2015-03-11 | 2015-03-11 00:00:00 | 15.7718 | 18.3183 | 1.651700 | 4.198200 |
| 163 | 2015-03-12 | 2015-03-12 00:00:00 | 15.3471 | 18.2354 | 1.653484 | 4.541784 |
| 162 | 2015-03-13 | 2015-03-13 00:00:00 | 15.4439 | 17.4511 | 1.454062 | 3.461262 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
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| 161 | 2015-03-16 | 2015-03-16 00:00:00 | 16.1695 | 17.4865 | 2.039725 | 3.356725 |
| 160 | 2015-03-17 | 2015-03-17 00:00:00 | 16.0950 | 16.9929 | 1.839586 | 2.737486 |
| 159 | 2015-03-18 | 2015-03-18 00:00:00 | 16.0205 | 16.5458 | 1.862649 | 2.387949 |
| 158 | 2015-03-19 | 2015-03-19 00:00:00 | 15.9888 | 16.2859 | 2.076842 | 2.373942 |
| 157 | 2015-03-20 | 2015-03-20 00:00:00 | 15.9571 | 16.5905 | 2.261583 | 2.894983 |
| 156 | 2015-03-23 | 2015-03-23 00:00:00 | 15.8193 | 16.7023 | 2.197175 | 3.080175 |
| 152 | 2015-03-27 | 2015-03-27 00:00:00 | 14.9521 | 15.8686 | 2.352512 | 3.269012 |
| 151 | 2015-03-30 | 2015-03-30 00:00:00 | 14.9801 | 18.1320 | 2.016996 | 5.168896 |
| 150 | 2015-03-31 | 2015-03-31 00:00:00 | 14.9894 | 15.1198 | 1.824209 | 1.954609 |
| 149 | 2015-04-01 | 2015-04-01 00:00:00 | 14.6075 | 18.5930 | 1.723924 | 5.709424 |
| 148 | 2015-04-02 | 2015-04-02 00:00:00 | 14.6168 | 18.6741 | 1.689030 | 5.746330 |
| 147 | 2015-04-03 | 2015-04-03 00:00:00 | 14.1846 | 15.5007 | 1.326847 | 2.642947 |
| 146 | 2015-04-06 | 2015-04-06 00:00:00 | 13.4041 | 15.0900 | 0.506244 | 2.192144 |
| 145 | 2015-04-07 | 2015-04-07 00:00:00 | 13.4526 | 15.0993 | 0.526374 | 2.173074 |
| 144 | 2015-04-08 | 2015-04-08 00:00:00 | 13.4600 | 22.7304 | 0.616243 | 9.886643 |
| 143 | 2015-04-09 | 2015-04-09 00:00:00 | 13.4498 | 16.9044 | 1.032186 | 4.486786 |
| 142 | 2015-04-10 | 2015-04-10 00:00:00 | 13.4730 | 16.9267 | 1.326566 | 4.780266 |
| 141 | 2015-04-13 | 2015-04-13 00:00:00 | 13.4945 | 16.0493 | 1.266287 | 3.821087 |
| 140 | 2015-04-14 | 2015-04-14 00:00:00 | 13.5010 | 22.8738 | 1.405339 | 10.778139 |
| 139 | 2015-04-15 | 2015-04-15 00:00:00 | 13.5168 | 17.9308 | 1.591204 | 6.005204 |
| 138 | 2015-04-16 | 2015-04-16 00:00:00 | 13.3082 | 22.9232 | 1.436673 | 11.051673 |
| 137 | 2015-04-17 | 2015-04-17 00:00:00 | 13.4358 | 14.3095 | 1.150669 | 2.024369 |
| 136 | 2015-04-20 | 2015-04-20 00:00:00 | 12.6208 | 14.7714 | 0.177809 | 2.328409 |
| 135 | 2015-04-21 | 2015-04-21 00:00:00 | 13.5951 | 13.9015 | 1.284950 | 1.591350 |
| 134 | 2015-04-22 | 2015-04-22 00:00:00 | 13.8214 | 15.6051 | 1.692226 | 3.475926 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
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| 133 | 2015-04-23 | 2015-04-23 00:00:00 | 13.4870 | 15.6255 | 1.403487 | 3.541987 |
| 132 | 2015-04-24 | 2015-04-24 00:00:00 | 12.6692 | 14.8003 | 0.616184 | 2.747284 |
| 131 | 2015-04-27 | 2015-04-27 00:00:00 | 12.6432 | 15.7532 | 0.477136 | 3.587136 |
| 130 | 2015-04-28 | 2015-04-28 00:00:00 | 13.5150 | 16.1360 | 1.705461 | 4.326461 |
| 129 | 2015-04-29 | 2015-04-29 00:00:00 | 13.5224 | 16.2421 | 1.735768 | 4.455468 |
| 128 | 2015-04-30 | 2015-04-30 00:00:00 | 10.9433 | 15.7876 | -0.274385 | 4.569915 |
| 127 | 2015-05-05 | 2015-05-05 00:00:00 | 12.6459 | 15.8472 | 1.606049 | 4.807349 |
| 126 | 2015-05-06 | 2015-05-06 00:00:00 | 12.5994 | 16.3306 | 1.602782 | 5.333982 |
| 125 | 2015-05-07 | 2015-05-07 00:00:00 | 12.6134 | 16.3344 | 1.640574 | 5.361574 |
| 124 | 2015-05-08 | 2015-05-08 00:00:00 | 12.6106 | 16.3567 | 1.774312 | 5.520412 |
| 123 | 2015-05-12 | 2015-05-12 00:00:00 | 12.6348 | 16.4089 | 1.644588 | 5.418688 |
| 122 | 2015-05-13 | 2015-05-13 00:00:00 | 12.6404 | 13.1778 | 1.767149 | 2.304549 |
| 121 | 2015-05-14 | 2015-05-14 00:00:00 | 12.2911 | 16.4359 | 1.186273 | 5.331073 |
| 120 | 2015-05-15 | 2015-05-15 00:00:00 | 11.9614 | 16.4499 | 0.845844 | 5.334344 |
| 119 | 2015-05-18 | 2015-05-18 00:00:00 | 12.0023 | 12.9868 | 1.090926 | 2.075426 |
| 118 | 2015-05-19 | 2015-05-19 00:00:00 | 12.5873 | 13.2113 | 1.520396 | 2.144396 |
| 117 | 2015-05-20 | 2015-05-20 00:00:00 | 11.9232 | 16.5178 | 0.682599 | 5.277199 |
| 116 | 2015-05-21 | 2015-05-21 00:00:00 | 12.6450 | 12.7801 | 1.601332 | 1.736432 |
| 115 | 2015-05-22 | 2015-05-22 00:00:00 | 12.4885 | 15.5855 | 1.468785 | 4.565785 |
| 114 | 2015-05-25 | 2015-05-25 00:00:00 | 12.3526 | 12.9896 | 1.349353 | 1.986353 |
| 113 | 2015-05-26 | 2015-05-26 00:00:00 | 11.9530 | 12.8592 | 0.750442 | 1.656642 |
| 112 | 2015-05-27 | 2015-05-27 00:00:00 | 12.3637 | 16.5169 | 1.218879 | 5.372079 |
| 111 | 2015-05-28 | 2015-05-28 00:00:00 | 11.9176 | 16.1080 | 0.650559 | 4.840959 |
| 110 | 2015-05-29 | 2015-05-29 00:00:00 | 11.9316 | 16.1406 | 0.718856 | 4.927856 |
| 109 | 2015-06-01 | 2015-06-01 00:00:00 | 11.9828 | 12.9459 | 0.738408 | 1.701508 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
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| 108 | 2015-06-02 | 2015-06-02 00:00:00 | 12.6292 | 12.9067 | 1.403314 | 1.680814 |
| 107 | 2015-06-03 | 2015-06-03 00:00:00 | 11.9474 | 13.7953 | 0.678044 | 2.525944 |
| 106 | 2015-06-04 | 2015-06-04 00:00:00 | 12.5957 | 13.1079 | 1.135614 | 1.647814 |
| 105 | 2015-06-05 | 2015-06-05 00:00:00 | 12.6022 | 13.1154 | 1.213582 | 1.726782 |
| 103 | 2015-06-09 | 2015-06-09 00:00:00 | 12.7223 | 13.0036 | 1.471964 | 1.753264 |
| 102 | 2015-06-10 | 2015-06-10 00:00:00 | 12.6348 | 13.0111 | 1.559193 | 1.935493 |
| 101 | 2015-06-11 | 2015-06-11 00:00:00 | 12.2212 | 12.9244 | 1.122040 | 1.825240 |
| 100 | 2015-06-15 | 2015-06-15 00:00:00 | 12.0107 | 12.9533 | 0.783751 | 1.726351 |
| 99 | 2015-06-16 | 2015-06-16 00:00:00 | 12.1095 | 13.9136 | 0.751075 | 2.555175 |
| 98 | 2015-06-17 | 2015-06-17 00:00:00 | 12.1150 | 13.9332 | 0.727534 | 2.545734 |
| 97 | 2015-06-18 | 2015-06-18 00:00:00 | 12.1216 | 13.9332 | 1.021800 | 2.833400 |
| 96 | 2015-06-19 | 2015-06-19 00:00:00 | 12.0331 | 13.9425 | 0.799127 | 2.708527 |
| 95 | 2015-06-22 | 2015-06-22 00:00:00 | 12.5258 | 13.9714 | 1.291631 | 2.737231 |
| 94 | 2015-06-23 | 2015-06-23 00:00:00 | 12.5323 | 12.9943 | 1.377107 | 1.839107 |
| 93 | 2015-06-24 | 2015-06-24 00:00:00 | 12.5388 | 13.9909 | 1.373685 | 2.825785 |
| 92 | 2015-06-25 | 2015-06-25 00:00:00 | 12.7866 | 12.9617 | 1.681738 | 1.856838 |
| 91 | 2015-06-26 | 2015-06-26 00:00:00 | 12.0722 | 14.0105 | 0.899127 | 2.837427 |
| 90 | 2015-06-29 | 2015-06-29 00:00:00 | 12.0899 | 12.7680 | 0.828705 | 1.506805 |
| 89 | 2015-06-30 | 2015-06-30 00:00:00 | 12.0955 | 13.8009 | 1.005156 | 2.710556 |
| 88 | 2015-07-01 | 2015-07-01 00:00:00 | 12.1020 | 13.8605 | 0.910620 | 2.669120 |
| 87 | 2015-07-02 | 2015-07-02 00:00:00 | 11.8664 | 14.0212 | 0.751260 | 2.906060 |
| 86 | 2015-07-03 | 2015-07-03 00:00:00 | 12.7978 | 14.0822 | 1.713410 | 2.997810 |
| 85 | 2015-07-06 | 2015-07-06 00:00:00 | 12.8201 | 13.0185 | 1.676340 | 1.874740 |
| 84 | 2015-07-07 | 2015-07-07 00:00:00 | 11.8943 | 14.1232 | 0.697221 | 2.926121 |
| 83 | 2015-07-08 | 2015-07-08 00:00:00 | 11.9092 | 14.1344 | 0.730119 | 2.955319 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
|----|----------------|---------------------|-----------|-----------|---------------------|---------------------|
| 82 | 2015-07-09 | 2015-07-09 00:00:00 | 12.1802 | 13.3846 | 1.200653 | 2.405053 |
| 81 | 2015-07-10 | 2015-07-10 00:00:00 | 11.9213 | 13.3929 | 1.029944 | 2.501544 |
| 80 | 2015-07-13 | 2015-07-13 00:00:00 | 11.9381 | 13.4302 | 1.054745 | 2.546845 |
| 79 | 2015-07-14 | 2015-07-14 00:00:00 | 12.1132 | 13.4293 | 1.306335 | 2.622435 |
| 78 | 2015-07-15 | 2015-07-15 00:00:00 | 12.7400 | 13.4386 | 1.992025 | 2.690625 |
| 77 | 2015-07-16 | 2015-07-16 00:00:00 | 12.0554 | 13.4479 | 1.537810 | 2.930310 |
| 76 | 2015-07-17 | 2015-07-17 00:00:00 | 12.2017 | 19.7154 | 1.606692 | 9.120392 |
| 75 | 2015-07-20 | 2015-07-20 00:00:00 | 11.2237 | 12.5249 | 0.584480 | 1.885680 |
| 74 | 2015-07-21 | 2015-07-21 00:00:00 | 11.3373 | 12.5221 | 0.798108 | 1.982908 |
| 72 | 2015-07-23 | 2015-07-23 00:00:00 | 12.1001 | 12.4960 | 1.487492 | 1.883392 |
| 71 | 2015-07-24 | 2015-07-24 00:00:00 | 12.2482 | 19.8747 | 1.542842 | 9.169342 |
| 69 | 2015-07-27 | 2015-07-27 00:00:00 | 12.0135 | 12.7838 | 1.158049 | 1.928349 |
| 68 | 2015-07-28 | 2015-07-28 00:00:00 | 12.2762 | 19.8570 | 1.362616 | 8.943416 |
| 67 | 2015-07-29 | 2015-07-29 00:00:00 | 11.9753 | 20.0004 | 1.408856 | 9.433956 |
| 66 | 2015-07-30 | 2015-07-30 00:00:00 | 11.8794 | 13.3315 | 1.253921 | 2.706021 |
| 65 | 2015-07-31 | 2015-07-31 00:00:00 | 11.5795 | 12.8164 | 0.856324 | 2.093224 |
| 64 | 2015-08-03 | 2015-08-03 00:00:00 | 12.1635 | 13.6249 | 1.302448 | 2.763848 |
| 63 | 2015-08-04 | 2015-08-04 00:00:00 | 11.4472 | 12.5873 | 0.679672 | 1.819772 |
| 62 | 2015-08-05 | 2015-08-05 00:00:00 | 11.8133 | 13.6351 | 1.027660 | 2.849460 |
| 61 | 2015-08-06 | 2015-08-06 00:00:00 | 12.3404 | 13.6454 | 1.519559 | 2.824559 |
| 60 | 2015-08-07 | 2015-08-07 00:00:00 | 11.8254 | 20.2361 | 0.962418 | 9.373118 |
| 59 | 2015-08-10 | 2015-08-10 00:00:00 | 11.8440 | 13.6994 | 1.036216 | 2.891616 |
| 58 | 2015-08-11 | 2015-08-11 00:00:00 | 11.8505 | 13.6994 | 1.034456 | 2.883356 |
| 57 | 2015-08-12 | 2015-08-12 00:00:00 | 11.8570 | 13.7096 | 1.060067 | 2.912667 |
| 56 | 2015-08-13 | 2015-08-13 00:00:00 | 11.8636 | 13.7320 | 1.041418 | 2.909818 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
|----|----------------|---------------------|-----------|-----------|---------------------|---------------------|
| 55 | 2015-08-14 | 2015-08-14 00:00:00 | 11.8701 | 13.7422 | 0.974372 | 2.846472 |
| 54 | 2015-08-17 | 2015-08-17 00:00:00 | 11.8896 | 13.7758 | 0.766610 | 2.652810 |
| 53 | 2015-08-18 | 2015-08-18 00:00:00 | 11.9064 | 13.7981 | 0.830171 | 2.721871 |
| 52 | 2015-08-19 | 2015-08-19 00:00:00 | 11.9027 | 13.7879 | 0.702523 | 2.587723 |
| 51 | 2015-08-20 | 2015-08-20 00:00:00 | 11.9632 | 13.8214 | 0.487797 | 2.345997 |
| 50 | 2015-08-21 | 2015-08-21 00:00:00 | 12.4680 | 13.8214 | 0.691060 | 2.044460 |
| 49 | 2015-08-24 | 2015-08-24 00:00:00 | 12.4923 | 20.7167 | 0.558937 | 8.783337 |
| 48 | 2015-08-25 | 2015-08-25 00:00:00 | 12.7652 | 17.0543 | 1.036828 | 5.325928 |
| 47 | 2015-08-26 | 2015-08-26 00:00:00 | 12.2892 | 17.0739 | 0.716879 | 5.501579 |
| 46 | 2015-08-27 | 2015-08-27 00:00:00 | 11.9576 | 13.2281 | 0.352604 | 1.623104 |
| 45 | 2015-08-28 | 2015-08-28 00:00:00 | 11.9753 | 12.2939 | 0.274100 | 0.592700 |
| 44 | 2015-08-31 | 2015-08-31 00:00:00 | 11.9968 | 20.9290 | 0.229835 | 9.162035 |
| 43 | 2015-09-01 | 2015-09-01 00:00:00 | 12.3255 | 13.1107 | 0.703002 | 1.488202 |
| 42 | 2015-09-02 | 2015-09-02 00:00:00 | 12.5686 | 14.8217 | 0.872929 | 3.126029 |
| 41 | 2015-09-03 | 2015-09-03 00:00:00 | 12.6338 | 14.8487 | 0.975611 | 3.190511 |
| 40 | 2015-09-04 | 2015-09-04 00:00:00 | 12.0256 | 14.8515 | 0.422374 | 3.248274 |
| 39 | 2015-09-07 | 2015-09-07 00:00:00 | 12.6702 | 12.9440 | 0.963157 | 1.236957 |
| 38 | 2015-09-08 | 2015-09-08 00:00:00 | 12.0564 | 13.1368 | 0.333678 | 1.414078 |
| 37 | 2015-09-09 | 2015-09-09 00:00:00 | 12.0526 | 12.6776 | 0.442307 | 1.067307 |
| 36 | 2015-09-10 | 2015-09-10 00:00:00 | 12.0601 | 12.6869 | 0.429681 | 1.056481 |
| 35 | 2015-09-11 | 2015-09-11 00:00:00 | 12.0675 | 14.9577 | 0.383775 | 3.273975 |
| 34 | 2015-09-14 | 2015-09-14 00:00:00 | 12.0908 | 12.6664 | 0.479228 | 1.054828 |
| 33 | 2015-09-15 | 2015-09-15 00:00:00 | 12.4448 | 12.5025 | 0.902164 | 0.959864 |
| 32 | 2015-09-16 | 2015-09-16 00:00:00 | 12.1067 | 12.6161 | 0.599235 | 1.108635 |
| 31 | 2015-09-17 | 2015-09-17 00:00:00 | 12.4857 | 12.6953 | 1.046800 | 1.256400 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
|----|----------------|---------------------|-----------|-----------|---------------------|---------------------|
| 30 | 2015-09-18 | 2015-09-18 00:00:00 | 12.2967 | 12.4718 | 0.672349 | 0.847449 |
| 29 | 2015-09-21 | 2015-09-21 00:00:00 | 12.4988 | 12.7344 | 0.956191 | 1.191791 |
| 25 | 2015-09-25 | 2015-09-25 00:00:00 | 11.7117 | 12.1821 | 0.130215 | 0.600615 |
| 24 | 2015-09-28 | 2015-09-28 00:00:00 | 11.7285 | 12.2026 | 0.112686 | 0.586786 |
| 23 | 2015-09-29 | 2015-09-29 00:00:00 | 11.7341 | 12.0899 | 0.120247 | 0.476047 |
| 22 | 2015-09-30 | 2015-09-30 00:00:00 | 11.9185 | 15.2725 | 0.445030 | 3.799030 |
| 21 | 2015-10-01 | 2015-10-01 00:00:00 | 11.8058 | 12.8257 | 0.532816 | 1.552716 |
| 20 | 2015-10-02 | 2015-10-02 00:00:00 | 11.6326 | 12.5919 | 0.159995 | 1.119295 |
| 19 | 2015-10-05 | 2015-10-05 00:00:00 | 11.7695 | 12.6171 | 0.684286 | 1.531886 |
| 18 | 2015-10-06 | 2015-10-06 00:00:00 | 11.7760 | 12.5025 | 0.629553 | 1.356053 |
| 17 | 2015-10-07 | 2015-10-07 00:00:00 | 11.6614 | 12.4494 | 0.697261 | 1.485261 |
| 16 | 2015-10-08 | 2015-10-08 00:00:00 | 11.6670 | 11.8365 | 0.601388 | 0.770888 |
| 15 | 2015-10-09 | 2015-10-09 00:00:00 | 11.5636 | 11.8542 | 0.751036 | 1.041636 |
| 14 | 2015-10-12 | 2015-10-12 00:00:00 | 11.6903 | 12.5398 | 0.858357 | 1.707857 |
| 13 | 2015-10-13 | 2015-10-13 00:00:00 | 11.6959 | 12.5603 | 0.692612 | 1.557012 |
| 12 | 2015-10-14 | 2015-10-14 00:00:00 | 11.3476 | 12.0601 | 0.318140 | 1.030640 |
| 11 | 2015-10-15 | 2015-10-15 00:00:00 | 11.7080 | 12.0796 | 0.808131 | 1.179731 |
| 10 | 2015-10-16 | 2015-10-16 00:00:00 | 11.1119 | 12.3358 | 0.556801 | 1.780701 |
| 9 | 2015-10-19 | 2015-10-19 00:00:00 | 11.3727 | 12.4094 | 0.690175 | 1.726875 |
| 8 | 2015-10-20 | 2015-10-20 00:00:00 | 11.7769 | 12.2287 | 1.025762 | 1.477562 |
| 7 | 2015-10-21 | 2015-10-21 00:00:00 | 11.7704 | 12.4392 | 1.101924 | 1.770724 |
| 6 | 2015-10-22 | 2015-10-22 00:00:00 | 11.7900 | 12.4345 | 1.056896 | 1.701396 |
| 5 | 2015-10-23 | 2015-10-23 00:00:00 | 11.7835 | 12.4429 | 1.100049 | 1.759449 |
| 4 | 2015-10-26 | 2015-10-26 00:00:00 | 11.8039 | 12.4811 | 1.027494 | 1.704694 |
| 3 | 2015-10-27 | 2015-10-27 00:00:00 | 11.8105 | 12.4252 | 0.888872 | 1.503572 |

| | time_timetuple | time_datetime | yield_ask | yield_bid | spread_maturity_ask | spread_maturity_bid |
|---|----------------|---------------------|-----------|-----------|---------------------|---------------------|
| 2 | 2015-10-28 | 2015-10-28 00:00:00 | 11.8170 | 12.4988 | 1.043129 | 1.724929 |
| 1 | 2015-10-29 | 2015-10-29 00:00:00 | 11.8626 | 12.5593 | 1.138249 | 1.834949 |
| 0 | 2015-10-30 | 2015-10-30 00:00:00 | 11.8440 | 12.3218 | 1.009215 | 1.487015 |

Гистограммы значений спредов между доходностями до погашения (Bid & Ask) из базы и расчетными безрисковыми доходностями облигации RU000A0JU682:

