

# Market Transparency Report

Monthly Guide to the U.S. Retail Fixed Income Markets

**October 2019**

[www.tradeweb.com](http://www.tradeweb.com)

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## Overview

### About the Market Transparency Report

The data and analysis contained in this monthly report are intended to provide transparency into the dynamics of the U.S. Fixed Income markets for retail investors. The report presents the important trends in the market, including trade volumes, most active issuers, yield/spread movements and buy/sell ratios. Retail trades are defined as odd-lot transactions under 100 bonds (i.e. less than \$100,000 par value). The retail market is much smaller than the institutional market on a par value basis, but it accounts for more than 2/3 of the trades that occur in the marketplace.

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## Market Commentary

Monthly Change Table for October 2019

|           | Median Yield (bps) | Daily Trade Volume | Buy/Sell Ratio |
|-----------|--------------------|--------------------|----------------|
| Agency    | -10                | 5.5%               | 0.1            |
| CD        | -13                | 4.3%               | 0.5            |
| Corp      | -10                | -4.2%              | 0.1            |
| Municipal | 6                  | -1.1%              | 0.0            |
| Treasury  | -24                | -12.0%             | -1.1           |

For monthly security trend data, see slides 5, 6 and 7

# Yield Matrix

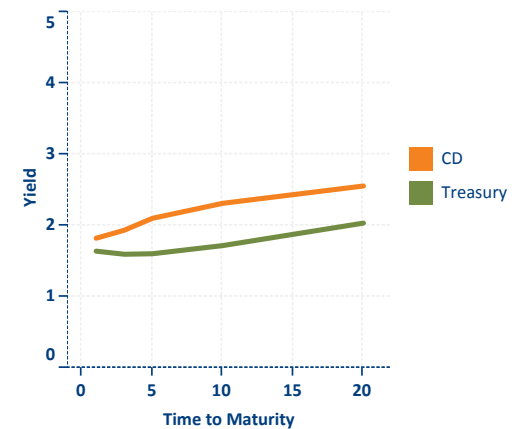
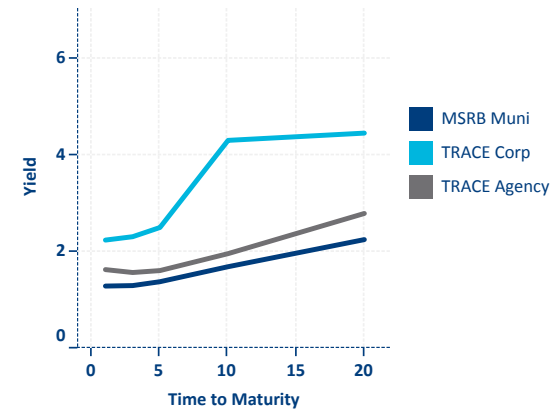
## Average Yield, % for October 2019

| Market       | TTM |     |     |     |     | Median Maturity (Years) |
|--------------|-----|-----|-----|-----|-----|-------------------------|
|              | 1   | 3   | 5   | 10  | 20  |                         |
| MSRB Muni    | 1.3 | 1.3 | 1.4 | 1.7 | 2.3 | 11                      |
| TRACE Corp   | 2.2 | 2.3 | 2.5 | 4.3 | 4.5 | 3                       |
| TRACE Agency | 1.6 | 1.6 | 1.6 | 2.0 | 2.8 | 3                       |
| CD           | 1.8 | 1.9 | 2.1 | 2.4 | 2.6 | 1                       |
| Treasury     | 1.6 | 1.6 | 1.6 | 1.7 | 2.0 | 1                       |

## Asset Class

| Market     | Category (Filtered) | Rating Key | 1    | 3   | 5   | 10  | 20   | Median Maturity (Years) |  |
|------------|---------------------|------------|------|-----|-----|-----|------|-------------------------|--|
| TRACE Corp | Financial           | AA         | 1.8  | 1.7 |     |     |      | 1                       |  |
|            |                     | A          | 1.9  | 2.0 | 2.2 | 2.6 | 3.5  | 3                       |  |
|            |                     | BBB        | 2.3  | 2.6 | 2.8 | 3.5 | 4.5  | 4                       |  |
|            |                     | HY         | 2.3  | 3.0 | 4.1 | 6.8 | 5.3  | 8                       |  |
|            |                     | AAA        | 1.6  | 1.9 | 1.5 | 2.3 | 2.9  | 1                       |  |
|            | Non-Financial       | AA         | 1.6  | 1.8 | 1.9 | 2.8 | 3.0  | 1                       |  |
|            |                     | A          | 1.7  | 1.9 | 2.3 | 2.6 | 3.4  | 4                       |  |
|            |                     | BBB        | 2.1  | 2.7 | 2.8 | 3.9 | 4.5  | 5                       |  |
|            |                     | HY         | 13.7 | 7.7 | 6.6 | 7.6 | 18.5 | 7                       |  |
|            |                     |            |      |     |     |     |      |                         |  |
| MSRB Muni  | GO                  | AAA        | 1.2  | 1.2 | 1.2 | 1.5 | 2.0  | 8                       |  |
|            |                     | AA         | 1.3  | 1.3 | 1.3 | 1.7 | 2.2  | 9                       |  |
|            |                     | A          | 1.3  | 1.4 | 1.5 | 1.8 | 2.1  | 8                       |  |
|            |                     | BBB        | 2.2  | 2.3 | 2.3 | 2.6 | 2.8  | 10                      |  |
|            |                     | HY         | 3.3  | 3.0 | 3.5 | 2.8 | 2.9  | 12                      |  |
|            |                     | AAA        | 1.3  | 1.2 | 1.3 | 1.6 | 2.0  | 9                       |  |
|            | Revenue             | AA         | 1.3  | 1.3 | 1.3 | 1.6 | 2.0  | 10                      |  |
|            |                     | A          | 1.3  | 1.4 | 1.4 | 1.7 | 2.1  | 14                      |  |
|            |                     | BBB        | 1.6  | 1.8 | 2.1 | 2.2 | 2.8  | 20                      |  |
|            |                     | HY         | 3.5  | 2.7 | 4.7 | 4.1 | 3.9  | 12                      |  |
|            |                     |            |      |     |     |     |      |                         |  |
|            |                     |            |      |     |     |     |      |                         |  |

## Average Yield, %



WA Yield = "Weighted Average Yield"

Source: TRACE, RTRS (MSRB's Real-time Transactional Reporting System) and Tradeweb Direct

-The yields in each cell for Corporate/Agency/Municipal are the weighted average yield based on odd-lot customer buy transactions reported in TRACE/MSRB.

-The yields in each cell for Treasury/CD are the weighted average yield based on buy transactions on the Tradeweb Direct Platform.

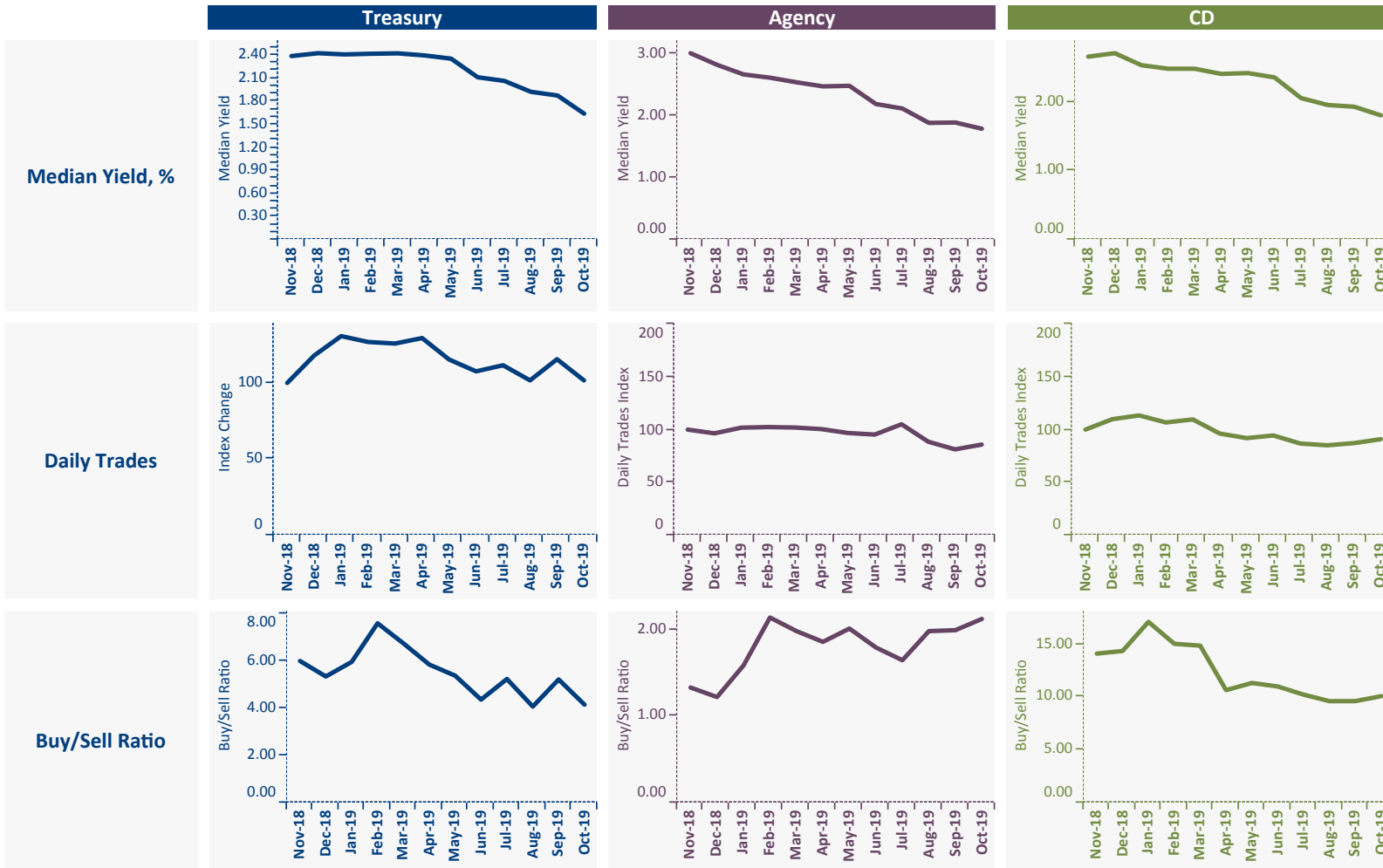
-The weights are based on transaction size.

-Yield summaries for Corporate and Agency exclude transactions in callable or floating-rate coupon bonds.

-Yield summaries for Municipal exclude transactions in taxable bonds.

-See appendix for the definition of maturity and rating buckets.

# Treasury, Agency, CD Transaction Trend Summary



Daily Trades: First month = 100

Source: TRACE and Tradeweb Direct

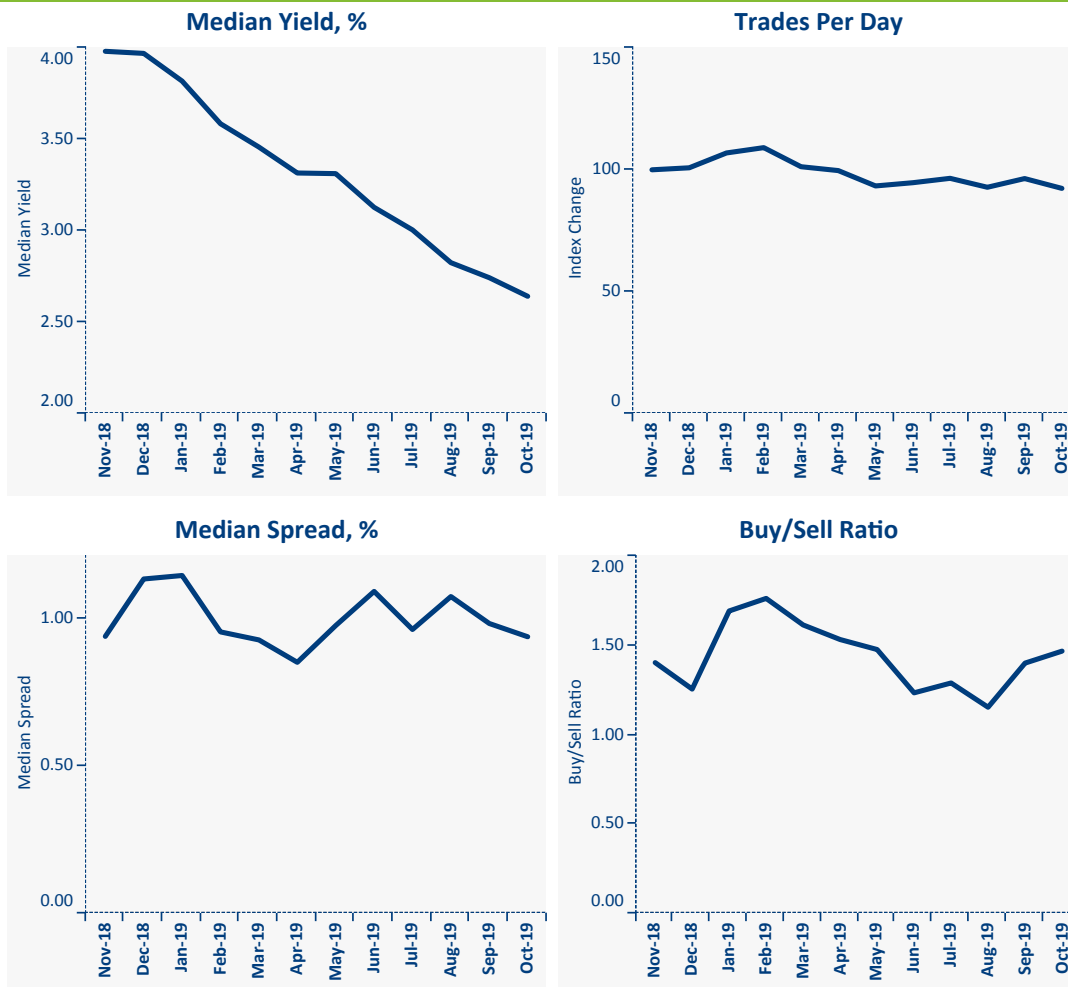
-Treasury and CD are based on transactions on the Tradeweb Direct Platform. Median yields are based on all customer buy transactions.

-Agency is based on odd-lot customer transactions (<100M) reported in TRACE. Median yields are based on all odd-lot customer buy transactions.

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# Corporate Bonds: Odd-Lot Customer Transaction Trend Summary



Daily Trades: First month = 100

Source: TRACE and Tradeweb Direct

-Based on odd-lot customer transactions (<100M) reported in TRACE.

-Median yields and spreads are based on all odd-lot customer buy transactions...

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# Municipal Bonds: Odd-Lot Customer Transaction Trend Summary



Daily Trades: First month = 100

Source: RTRS (MSRB's Real-time Transaction Reporting System) and Tradeweb Direct

-Based on odd-lot customer transactions (<100M) reported in MSRB.

-Median yields and spreads are based on all odd-lot customer buy transactions.

-Spread for each transaction is calculated against the Treasury yield for the same maturity.

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## Corporate Bonds: Top 20 Most Active Issuers

October 2019

| Index | Ticker | Company                                  | Rating Key (Med) | Issues Traded | % of Total Trades | Trades | Buy/Sell Ratio | Dollar Vol. Traded (MM) | 1Y Yield (Buy) | 3Y Yield (Buy) | 5Y Yield (Buy) | 10Y Yield (Buy) | 20Y Yield (Buy) |
|-------|--------|--|------------------|---------------|-------------------|--------|----------------|-------------------------|----------------|----------------|----------------|-----------------|-----------------|
| 1     | JPM    | JP MORGAN CHASE                          | BBB              | 686           | 3.2%              | 16,224 | 1.4            | 353                     | 1.9            | 2.1            | 2.3            | 2.8             | 3.3             |
| 2     | GS     | GOLDMAN SACHS                            | BBB              | 929           | 2.9%              | 14,750 | 1.4            | 307                     | 2.0            | 2.2            | 2.5            | 3.2             | 4.0             |
| 3     | BAC    | BANK OF AMERICA                          | A                | 411           | 2.4%              | 11,844 | 1.5            | 260                     | 1.9            | 2.1            | 2.4            | 2.7             | 3.7             |
| 4     | C      | CITIGROUP                                | BBB              | 453           | 2.2%              | 11,168 | 1.4            | 246                     | 1.9            | 2.1            | 2.6            | 3.1             | 3.3             |
| 5     | GE     | GENERAL ELEC CAP CORP MEDIUM TERM NTS BO | BBB              | 323           | 2.1%              | 10,624 | 1.6            | 208                     | 2.3            | 2.6            | 3.1            | 4.0             | 4.4             |
| 6     | WFC    | WELLS FARGO                              | A                | 220           | 1.8%              | 8,766  | 1.4            | 193                     | 1.9            | 2.2            | 2.3            | 2.8             | 3.5             |
| 7     | MS     | MORGAN STANLEY                           | BBB              | 767           | 1.6%              | 7,791  | 1.1            | 168                     | 2.0            | 2.2            | 2.4            | 3.0             | 3.0             |
| 8     | T      | AT&T                                     | BBB              | 115           | 1.4%              | 7,086  | 1.0            | 157                     | 1.9            | 2.0            | 2.4            | 3.0             | 4.1             |
| 9     | GM     | GENERAL MOTORS FINANCIAL COMPANY INC     | BBB              | 109           | 1.4%              | 6,930  | 2.0            | 160                     | 2.2            | 2.7            | 3.2            | 3.9             | 5.0             |
| 10    | AAPL   | APPLE INC                                | AA               | 52            | 1.2%              | 6,243  | 1.2            | 137                     | 1.7            | 1.8            | 1.9            | 2.3             | 3.1             |
| 11    | F      | FORD                                     | BBB              | 269           | 1.2%              | 5,804  | 1.9            | 134                     | 2.8            | 3.1            | 4.0            | 5.3             | 5.9             |
| 12    | CVS    | CVS CAREMARK CORP                        | BBB              | 44            | 1.0%              | 4,904  | 1.7            | 109                     | 2.0            | 2.2            | 2.5            | 3.2             | 3.9             |
| 13    | BRK    | BERKSHIRE HATHAWAY                       | A                | 154           | 0.9%              | 4,600  | 1.2            | 121                     | 1.7            | 1.8            | 2.6            | 2.8             | 4.4             |
| 14    | VZ     | VERIZON                                  | BBB              | 133           | 0.9%              | 4,501  | 1.0            | 93                      | 1.8            | 2.0            | 2.1            | 2.6             | 3.2             |
| 15    | CMCS   | COMCAST                                  | A                | 59            | 0.8%              | 4,136  | 1.2            | 91                      | 1.8            | 1.8            | 2.1            | 2.5             | 3.2             |
| 16    | PEMX   | PETROLEOS MEXICANOS                      | BBB              | 40            | 0.8%              | 4,100  | 1.3            | 141                     | 2.4            | 3.3            | 4.3            | 5.8             | 6.7             |
| 17    | GPOR   | GULFPORT ENERGY CORP                     | B                | 4             | 0.8%              | 3,863  | 7.4            | 37                      |                | 15.9           | 16.7           |                 |                 |
| 18    | ORCL   | ORACLE CORP                              | A                | 27            | 0.7%              | 3,705  | 1.4            | 73                      | 1.7            | 1.9            | 2.0            | 2.3             | 3.0             |
| 19    | BUD    | ANHEUSER BUSCH INBEV WORLDWIDE INC       | BBB              | 45            | 0.7%              | 3,634  | 0.7            | 68                      | 1.7            | 1.9            | 2.1            | 2.7             | 3.5             |
| 20    | MSFT   | MICROSOFT CORP                           | AAA              | 36            | 0.7%              | 3,460  | 1.1            | 77                      | 1.6            | 1.7            | 1.7            |                 | 2.7             |

Source: TRACE and Tradeweb Direct

-Based on odd-lot customer transactions (<100M) reported in TRACE.

-Issuer ratings are based on median rating of traded bonds from each issuer. Bond ratings are from Moody's and S&P.

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## Corporate Bonds: Top 20 Issuers with Highest Buy/Sell Ratio

October 2019

| Index | Ticker | Company                                 | Rating Key (Med) | Issues Traded | % of Total Trades | Trades | Trades (Buy) | Trades (Sell) | Buy/Sell Ratio | Dollar Vol. Traded (MM) | 1Y Yield (Buy) | 3Y Yield (Buy) | 5Y Yield (Buy) | 10Y Yield (Buy) | 20Y Yield (Buy) |
|-------|--------|---|------------------|---------------|-------------------|--------|--------------|---------------|----------------|-------------------------|----------------|----------------|----------------|-----------------|-----------------|
| 1     | PYPL   | Null                                    | BBB              | 4             | 0.3%              | 1,400  | 1,358        | 42            | 32.3           | 23                      |                | 2.0            | 2.2            | 2.8             |                 |
| 2     | EQT    | EQT CORP                                | BBB              | 11            | 0.5%              | 2,323  | 2,145        | 178           | 12.1           | 49                      | 2.4            | 4.2            | 4.6            | 5.8             |                 |
| 3     | APA    | APACHE CORP                             | BBB              | 13            | 0.2%              | 1,155  | 1,058        | 97            | 10.9           | 28                      | 2.2            | 2.4            |                | 4.3             | 5.2             |
| 4     | UNT    | UNIT CORP                               | B                | 1             | 0.5%              | 2,362  | 2,151        | 211           | 10.2           | 21                      |                |                |                |                 |                 |
| 5     | HPT    | HOSPITALITY PPTYS TR                    | BBB              | 12            | 0.3%              | 1,443  | 1,311        | 132           | 9.9            | 34                      | 2.5            | 3.2            | 3.8            | 4.8             |                 |
| 6     | GPOR   | GULFPORT ENERGY CORP                    | B                | 4             | 0.8%              | 3,863  | 3,403        | 460           | 7.4            | 37                      |                | 15.9           | 16.7           |                 |                 |
| 7     | CC     | Null                                    | BB               | 3             | 0.3%              | 1,310  | 1,087        | 223           | 4.9            | 24                      |                | 7.1            | 7.9            | 7.5             |                 |
| 8     | CAH    | CARDINAL HEALTH INC                     | BBB              | 15            | 0.2%              | 1,210  | 985          | 225           | 4.4            | 28                      | 2.0            | 2.2            | 2.7            | 3.3             | 4.6             |
| 9     | GEO    | GEO GROUP INC                           | B                | 4             | 0.3%              | 1,261  | 1,026        | 235           | 4.4            | 15                      |                | 8.9            | 9.9            |                 |                 |
| 10    | EBAY   | EBAY INC                                | BBB              | 10            | 0.4%              | 2,226  | 1,805        | 421           | 4.3            | 43                      | 1.9            | 2.2            | 2.4            | 3.0             | 4.2             |
| 11    | FDX    | FEDEX CORP                              | BBB              | 23            | 0.4%              | 2,079  | 1,674        | 405           | 4.1            | 42                      |                | 2.1            | 2.3            | 3.0             | 4.0             |
| 12    | X      | UNITED STS STL CORP NEW                 | B                | 3             | 0.5%              | 2,418  | 1,926        | 492           | 3.9            | 42                      |                |                | 9.4            |                 | 9.7             |
| 13    | ETFC   | E TRADE FINL CORP                       | BB               | 5             | 0.3%              | 1,639  | 1,262        | 377           | 3.4            | 44                      |                | 2.3            |                | 3.2             |                 |
| 14    | EIX    | EDISON MISSION                          | BBB              | 35            | 0.3%              | 1,513  | 1,148        | 365           | 3.2            | 35                      | 2.2            | 2.7            | 2.5            | 3.9             | 3.8             |
| 15    | PNC    | PNC FDG CORP                            | A                | 36            | 0.5%              | 2,275  | 1,726        | 549           | 3.1            | 45                      | 1.8            | 1.9            | 2.1            | 2.6             |                 |
| 16    | BPL    | BUCKEYE PARTNERS                        | BB               | 9             | 0.4%              | 1,863  | 1,371        | 492           | 2.8            | 33                      | 3.0            | 3.9            | 4.6            | 5.6             | 7.0             |
| 17    | TRP    | TRANSCANADA PIPELINES LTD               | BBB              | 31            | 0.3%              | 1,272  | 912          | 360           | 2.5            | 28                      | 2.0            | 2.0            | 2.8            | 2.8             | 3.9             |
| 18    | ANTM   | Null                                    | A                | 24            | 0.3%              | 1,682  | 1,198        | 484           | 2.5            | 38                      | 1.9            | 2.1            | 2.3            | 2.9             | 4.0             |
| 19    | BBT    | BB&T CORP SR MEDIUM TERM NTS BOOK ENTRY | A                | 29            | 0.4%              | 1,798  | 1,273        | 525           | 2.4            | 44                      | 1.9            | 2.1            | 2.2            | 2.7             |                 |
| 20    | BTI    | BAT INTERNATIONAL FINANCE PLC           | BBB              | 30            | 0.3%              | 1,404  | 994          | 410           | 2.4            | 36                      | 2.0            | 2.4            | 2.9            | 3.5             | 4.6             |

Source: TRACE and Tradeweb Direct

-Based on odd-lot customer transactions (<100M) reported in TRACE.

-The top 20 issuers are selected among the top 100 most active issuers in odd-lot TRACE.

-Issuer ratings are based on median rating of traded bonds from each issuer. Bond ratings are from Moody's and S&P.

## Corporate Bonds: Top 20 Issuers with Lowest Buy/Sell Ratio

October 2019

| Index | Ticker | Company                            | Rating Key (Med) | Issues Traded | % of Total Trades | Trades | Trades (Buy) | Trades (Sell) | Buy/Sell Ratio | Dollar Vol. Traded (MM) | 1Y Yield (Sell) | 3Y Yield (Sell) | 5Y Yield (Sell) | 10Y Yield (Sell) | 20Y Yield (Sell) |
|-------|--------|------------------------------------|------------------|---------------|-------------------|--------|--------------|---------------|----------------|-------------------------|-----------------|-----------------|-----------------|------------------|------------------|
| 1     | STX    | SEAGATE HDD CAYMAN                 | BBB              | 6             | 0.3%              | 1,556  | 564          | 992           | 0.57           | 43                      |                 | 3.2             | 3.8             | 4.3              | 5.6              |
| 2     | FTR    | FRONTIER COMMUNICATIONS CORP       | C                | 26            | 0.3%              | 1,256  | 470          | 786           | 0.60           | 16                      | 155.6           | 43.2            | 30.4            | 8.1              | 18.6             |
| 3     | PTRB   | PETROBRAS                          | BB               | 21            | 0.4%              | 2,003  | 753          | 1,250         | 0.60           | 82                      | 2.6             | 3.0             | 3.4             | 4.4              | 5.6              |
| 4     | CTL    | CENTURYLINK                        | B                | 31            | 0.6%              | 2,850  | 1,156        | 1,694         | 0.68           | 73                      | 3.1             | 3.4             | 4.4             | 6.3              | 7.7              |
| 5     | QCOM   | QUALCOMM                           | A                | 11            | 0.3%              | 1,277  | 523          | 754           | 0.69           | 28                      | 2.1             | 2.0             | 2.3             | 2.6              | 3.2              |
| 6     | BUD    | ANHEUSER BUSCH INBEV WORLDWIDE INC | BBB              | 45            | 0.7%              | 3,634  | 1,548        | 2,086         | 0.74           | 68                      | 2.3             | 2.0             | 2.1             | 2.7              | 3.5              |
| 7     | VIA    | VIACOM INC NEW                     | BBB              | 37            | 0.3%              | 1,473  | 642          | 831           | 0.77           | 32                      | 2.3             | 2.4             | 2.6             | 3.2              | 4.3              |
| 8     | CS     | CREDIT SUISSE                      | N/R              | 384           | 0.3%              | 1,540  | 682          | 858           | 0.79           | 31                      | 2.3             | 2.5             | 2.9             | 3.6              | 3.6              |
| 9     | HPQ    | HEWLETT PACKARD                    | BBB              | 18            | 0.4%              | 1,875  | 828          | 1,047         | 0.79           | 45                      | 2.2             | 2.0             | 2.8             | 4.5              | 4.6              |
| 10    | BCS    | BARCLAYS                           | N/R              | 556           | 0.4%              | 1,917  | 877          | 1,040         | 0.84           | 42                      | 2.8             | 2.9             | 3.0             | 3.1              | 3.7              |
| 11    | EDP    | ENTERPRISE PRODS OPER LLC          | BBB              | 34            | 0.3%              | 1,414  | 692          | 722           | 0.96           | 30                      | 2.1             | 2.1             | 2.3             | 2.8              | 4.0              |
| 12    | KMI    | KINDER MORGAN ENERGY PARTNERS L P  | BBB              | 63            | 0.4%              | 1,765  | 874          | 891           | 0.98           | 37                      | 2.2             | 2.3             | 2.6             | 3.9              | 4.6              |
| 13    | T      | AT&T                               | BBB              | 115           | 1.4%              | 7,086  | 3,526        | 3,560         | 0.99           | 157                     | 2.1             | 2.1             | 2.5             | 3.2              | 4.1              |
| 14    | CSCO   | CISCO                              | AA               | 14            | 0.3%              | 1,470  | 735          | 735           | 1.00           | 25                      | 1.8             | 1.8             | 1.9             |                  | 3.0              |
| 15    | VZ     | VERIZON                            | BBB              | 133           | 0.9%              | 4,501  | 2,271        | 2,230         | 1.02           | 93                      | 1.9             | 2.0             | 2.2             | 2.8              | 3.4              |
| 16    | RDS    | SHELL                              | AA               | 24            | 0.3%              | 1,603  | 823          | 780           | 1.06           | 36                      | 1.9             | 1.8             | 2.0             | 2.3              | 3.2              |
| 17    | UTX    | UNITED TECHNOLOGIES CORP           | BBB              | 35            | 0.3%              | 1,614  | 834          | 780           | 1.07           | 39                      | 2.1             | 2.0             | 2.2             | 2.4              | 3.3              |
| 18    | MS     | MORGAN STANLEY                     | BBB              | 767           | 1.6%              | 7,791  | 4,051        | 3,740         | 1.08           | 168                     | 2.1             | 2.3             | 2.4             | 3.2              | 3.5              |
| 19    | HBC    | HSBC                               | N/R              | 463           | 0.5%              | 2,644  | 1,381        | 1,263         | 1.09           | 53                      | 2.2             | 2.1             | 2.9             | 3.7              | 3.5              |
| 20    | PEP    | PEPSICO                            | A                | 33            | 0.3%              | 1,560  | 813          | 747           | 1.09           | 36                      | 1.9             | 1.8             | 1.9             | 2.2              | 3.1              |

Source: TRACE and Tradeweb Direct

-Based on odd-lot customer transactions (<100M) reported in TRACE.

-The top 20 issuers are selected among top 100 most active issuers in odd-lot TRACE.

-Issuer ratings are based on median rating of traded bonds from each user. Bond ratings are from Moody's and S&P.

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## Corporate Bonds: Top 20 Most Bought Issues

October 2019

| Index | Ticker | Company                                  | Maturity | Rating Key (Med) | Coupon | Trades (Buy) | Trades (Sell) | Trades | Dollar Vol. Traded (MM) | Yield (Buy) | Yield (Sell) | Price (Buy) | Price (Sell) |
|-------|--------|--|----------|------------------|--------|--------------|---------------|--------|-------------------------|-------------|--------------|-------------|--------------|
| 1     | GPOR   | GULFPORT ENERGY CORP                     | May-23   | B                | 6.625  | 3,286        | 413           | 3,699  | 36                      | 15.9        | 16.2         | 75.7        | 75.1         |
| 2     | UNT    | UNIT CORP                                | May-21   | B                | 6.625  | 2,151        | 211           | 2,362  | 21                      | 29.8        | 31.0         | 72.4        | 71.5         |
| 3     | GE     | GENERAL ELEC CAP CORP MEDIUM TERM NTS BO | Null     | BBB              | 5.000  | 1,822        | 765           | 2,587  | 42                      | 5.2         | 5.3          | 95.5        | 94.3         |
| 4     | X      | UNITED STS STL CORP NEW                  | Aug-25   | B                | 6.875  | 1,014        | 286           | 1,300  | 23                      | 9.4         | 9.7          | 88.8        | 87.6         |
| 5     | EBAY   | EBAY INC                                 | Mar-22   | BBB              | 3.800  | 994          | 55            | 1,049  | 14                      | 2.2         | 2.2          | 103.7       | 103.5        |
| 6     | PNC    | PNC FDG CORP                             | Apr-29   | A                | 3.450  | 991          | 36            | 1,027  | 19                      | 2.6         | 2.6          | 107.2       | 107.0        |
| 7     | MET    | METLIFE                                  | Jun-27   | BBB              | 3.700  | 942          | 105           | 1,047  | 26                      | 3.8         | 4.0          | 99.2        | 98.1         |
| 8     | DUK    | DUKE ENERGY                              | Dec-49   | BBB              | 4.875  | 940          | 18            | 958    | 26                      |             |              | 104.8       | 103.7        |
| 9     | AKAM   | Null                                     | May-25   | N/R              | 0.125  | 824          | 50            | 874    | 4                       |             |              | 114.7       | 113.8        |
| 10    | PYPL   | Null                                     | Oct-26   | BBB              | 2.650  | 755          | 10            | 765    | 9                       | 2.4         | 2.5          | 101.6       | 100.7        |
| 11    | ETFC   | E TRADE FINL CORP                        | Null     | BB               | 5.300  | 727          | 187           | 914    | 24                      | 5.4         | 5.6          | 97.9        | 95.1         |
| 12    | WDC    | WESTERN DIGITAL CORP                     | Feb-24   | BBB              | 1.500  | 725          | 36            | 761    | 3                       | 2.3         | 2.5          | 96.7        | 96.0         |
| 13    | EQT    | EQT CORP                                 | Oct-22   | BBB              | 3.000  | 713          | 88            | 801    | 13                      | 4.3         | 4.5          | 96.4        | 95.8         |
| 14    | JPM    | JP MORGAN CHASE                          | Dec-49   | BBB              | 5.000  | 699          | 30            | 729    | 22                      | 4.8         | 4.9          | 104.0       | 103.0        |
| 15    | CC     | Null                                     | May-25   | BB               | 7.000  | 692          | 130           | 822    | 15                      | 7.9         | 8.2          | 95.8        | 94.8         |
| 16    | X      | UNITED STS STL CORP NEW                  | Mar-26   | B                | 6.250  | 677          | 120           | 797    | 12                      | 10.2        | 10.2         | 81.8        | 81.7         |
| 17    | F      | FORD                                     | Dec-26   | BBB              | 4.346  | 670          | 278           | 948    | 27                      | 4.3         | 4.4          | 100.5       | 99.8         |
| 18    | AOI    | ALLIANCE ONE INTL INC                    | Jul-21   | C                | 9.875  | 651          | 259           | 910    | 8                       | 37.9        | 40.3         | 66.2        | 64.4         |
| 19    | BPL    | BUCKEYE PARTNERS                         | Oct-24   | BB               | 4.350  | 633          | 129           | 762    | 8                       | 4.6         | 4.6          | 98.8        | 98.9         |
| 20    | PYPL   | Null                                     | Oct-24   | BBB              | 2.400  | 549          | 9             | 558    | 12                      | 2.2         | 2.3          | 100.9       | 100.4        |

Source: TRACE and Tradeweb Direct

-Based on odd-lot customer transactions (<100M) reported in TRACE.

-Ratings (AAA, AA, A, BBB, BB, B, C) are based on aggregate ratings from Moody's and S&P (when available).

## Corporate Bonds: Top 20 Most Sold Issues

October 2019

| Index | Ticker | Company                                  | Maturity | Rating Key (Med) | Coupon | Trades (Buy) | Trades (Sell) | Trades | Dollar Vol. Traded (MM) | Yield (Buy) | Yield (Sell) | Price (Buy) | Price (Sell) |
|-------|--------|--|----------|------------------|--------|--------------|---------------|--------|-------------------------|-------------|--------------|-------------|--------------|
| 1     | GE     | GENERAL ELEC CAP CORP MEDIUM TERM NTS BO | Null     | BBB              | 5.000  | 1,822        | 765           | 2,587  | 42                      | 5.2         | 5.3          | 95.5        | 94.3         |
| 2     | JPM    | JP MORGAN CHASE                          | Null     | BBB              | 0.000  | 238          | 645           | 883    | 8                       | 5.7         | 5.7          | 100.8       | 100.5        |
| 3     | BUD    | ANHEUSER BUSCH INBEV WORLDWIDE INC       | Feb-21   | BBB              | 3.526  | 49           | 527           | 576    | 6                       |             |              | 101.7       | 101.3        |
| 4     | BUD    | ANHEUSER BUSCH INBEV WORLDWIDE INC       | Feb-23   | BBB              | 3.300  | 127          | 440           | 567    | 8                       | 1.9         | 2.0          | 104.1       | 103.9        |
| 5     | GPOR   | GULFPORT ENERGY CORP                     | May-23   | B                | 6.625  | 3,286        | 413           | 3,699  | 36                      | 15.9        | 16.2         | 75.7        | 75.1         |
| 6     | STX    | SEAGATE HDD CAYMAN                       | Dec-34   | BBB              | 5.750  | 200          | 362           | 562    | 18                      | 5.4         | 5.6          | 103.1       | 101.3        |
| 7     | CTL    | CENTURYLINK                              | Sep-39   | B                | 7.600  | 154          | 359           | 513    | 14                      | 7.5         | 7.6          | 100.9       | 99.9         |
| 8     | AAPL   | APPLE INC                                | May-23   | AA               | 2.400  | 353          | 358           | 711    | 14                      | 1.8         | 1.9          | 101.9       | 101.8        |
| 9     | JPM    | JP MORGAN CHASE                          | Oct-26   | A                | 2.950  | 324          | 347           | 671    | 7                       | 2.5         | 2.5          | 102.7       | 102.6        |
| 10    | VZ     | VERIZON                                  | Nov-24   | BBB              | 3.500  | 241          | 344           | 585    | 6                       | 2.1         | 2.2          | 106.3       | 106.1        |
| 11    | COH    | Null                                     | Jul-27   | BBB              | 4.125  | 87           | 340           | 427    | 6                       | 3.8         | 4.0          | 101.9       | 101.0        |
| 12    | VRSN   | VERISIGN INC                             | May-23   | BBB              | 4.625  | 11           | 333           | 344    | 4                       | 2.2         | 2.8          | 102.0       | 101.8        |
| 13    | T      | AT&T                                     | May-25   | BBB              | 3.400  | 255          | 313           | 568    | 10                      | 2.5         | 2.5          | 104.6       | 104.4        |
| 14    | AAPL   | APPLE INC                                | Feb-26   | AA               | 3.250  | 235          | 310           | 545    | 6                       | 2.1         | 2.2          | 106.4       | 106.1        |
| 15    | SCI    | SERVICE CORP INTL                        | May-24   | BB               | 5.375  | 1            | 310           | 311    | 3                       | 2.2         | 3.0          | 103.5       | 103.1        |
| 16    | T      | AT&T                                     | Feb-22   | BBB              | 3.000  | 281          | 309           | 590    | 6                       | 2.0         | 2.1          | 102.3       | 102.1        |
| 17    | LEN    | LENNAR CORP                              | Nov-19   | BB               | 4.500  | 11           | 309           | 320    | 3                       | 3.0         | 3.0          | 100.1       | 100.1        |
| 18    | BAC    | BANK OF AMERICA                          | Aug-24   | BBB              | 4.200  | 259          | 308           | 567    | 10                      | 2.5         | 2.6          | 107.7       | 107.3        |
| 19    | JPM    | JP MORGAN CHASE                          | Dec-49   | BBB              | 4.625  | 543          | 301           | 844    | 24                      | 4.6         | 4.7          | 100.0       | 98.3         |
| 20    | GM     | GENERAL MOTORS FINANCIAL COMPANY INC     | Null     | BB               | 5.750  | 370          | 296           | 666    | 15                      | 5.9         | 6.0          | 97.0        | 96.1         |

Source: TRACE and Tradeweb Direct

-Based on odd-lot customer transactions (<100M) reported in TRACE.

-Ratings (AAA, AA, A, BBB, BB, B, C) are based on aggregate ratings from Moody's and S&P (when available).

## Appendix

### Maturity

We consider the following maturity ranges for maturity buckets. TTM is Time to Maturity in years.

1Y:  $0.5 \leq TTM \leq 1.5$   
 3Y:  $2 \leq TTM \leq 4$   
 5Y:  $4 < TTM \leq 6$   
 10Y:  $7.5 \leq TTM \leq 12.5$   
 20Y:  $15 \leq TTM \leq 25$

### Rating

Rating buckets (AAA, AA, A, BBB, HY) in yield matrix are based on aggregate ratings from Moody's and S&P (when available).

For Corporate, we only consider transactions in bonds that are rated by both rating agencies.

-Corporate AAA: Bonds rated AAA by both rating agencies.

-Corporate AA: Bonds rated AA by both rating agencies.

-Corporate A: Bonds rated A by both rating agencies.

-Corporate BBB: Bonds rated BBB by both rating agencies.

-Corporate High Yield: Bonds rated High Yield by both rating agencies.

(Transactions in corporate bonds that are rated as AA by one agency and as A by another agency are excluded.)

-Municipal AAA: Bonds rated AAA by both rating agencies, or AAA by one agency and not rated by another agency.

-Municipal AA: Bonds rated AA by both rating agencies, or AA by one agency and not rated by another agency.

-Municipal A: Bonds rated A by both rating agencies, or A by one agency and not rated by another agency.

-Municipal BBB: Bonds rated High Yield by both rating agencies, or BBB by one agency and not rated by another agency.

-Municipal High Yield: Bonds rated High Yield by both rating agencies, or High Yield by one agency and not rated by another agency.

(Transactions in municipal bonds that are rated as AA by one agency and as A by another agency are excluded.)

(Transactions in municipal bonds that are rated as AA by one agency and not rated by the other agency are included.)

## Disclosures

This report represents certain customer trades in securities that have been reported by dealers to FINRA's Trade Reporting and Compliance Engine ("TRACE"), and the Municipal Securities Rulemaking Board ("MSRB"). The report does not necessarily reflect all transactions that were effected on dates noted. There is the possibility of errors or delays in the trade submission process. Prices for transactions vary with market conditions and can be affected by trade size and other factors. The information provided has been obtained from sources deemed to be reliable, however Tradeweb Direct does not guarantee the accuracy of the information contained in this report.

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