

Market Transparency Report

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

February 2024

www.tradeweb.com

1177 Avenue of the Americas New York, NY 10036 212.852.1234

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.

Page Reference

- 3. Market Commentary
- 4. Yield Matrix
- 5. Treasury, Agency, CD Transaction Trend Summary
- 6. Corporate Bonds: Odd-Lot Customer Transaction Trend Summary
- 7. Municipal Bonds: Odd-Lot Customer Transaction Trend Summary
- 8. Corporate Bonds: Top 20 Most Active Issuers
- 9. Corporate Bonds: Top 20 Issuers with Highest Buy/Sell Ratio 10. Corporate Bonds: Top 20 Issuers with Lowest Buy/Sell Ratio
- 11. Corporate Bonds: Top 20 Most Bought Issues12. Corporate Bonds: Top 20 Most Sold Issues
- 13. Appendix
- 14. Disclosures



Market Commentary

Monthly Change Table for February 2024

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	2	1.0%	0.1
CD	10	5.0%	-0.6
Corp	10	13.1%	0.2
Municipal	-3	-2.9%	0.0
Treasury	2	-2.0%	0.0

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



Yield Matrix

Average Yield, % for February 2024

			TTM			Median
Market	1	3	5	10	20	Maturity (Years)
MSRB Muni	3.2	2.9	2.9	3.1	3.8	8
TRACE Corp	5.4	5.0	5.0	5.3	5.5	3
TRACE Agency	4.9	4.5	4.2	4.4	4.9	3
CD	5.1	4.7	4.7	4.2	4.4	1
Treasury	4.9	4.4	4.2	4.2	4.6	0

MSRB Muni TRACE Corp TRACE Agency

15

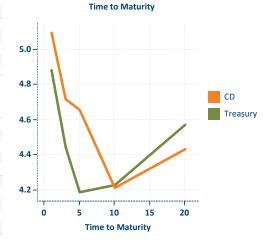
20

Average Yield, %

Median

Asset Class

Market	Category (Filtered)	Rating Key	1	3	5	10	20	Maturity (Years)
		AA	4.8	4.9	4.8		5.3	5
		Α	5.0	4.7	4.7	4.9	5.2	3
	Financial	BBB	5.4	5.3	5.6	5.5	6.2	3
TDACE		HY		7.8	8.4	8.8		3
TRACE -		AAA			4.1		4.6	17
Corp		AA	4.4	4.3	4.4	4.6	4.9	6
	Non-Financial	Α	4.9	4.8	4.6	4.9	5.4	4
		BBB	5.4	5.1	5.1	5.4	6.2	4
		HY	8.2	6.2	15.3			4
								Median
			1	3	5	10	20	Maturity (Years)
		AAA	3.1	2.8	2.7	2.9	3.7	7
		AA	3.2	2.9	2.8	3.0	3.7	7
	GO	A	3.3	3.1	3.0	3.3	4.0	6
		BBB	4.0	3.3	3.7	4.0	4.6	9
/ISRB		HY		5.3	6.5	6.3	5.0	16
/luni		AAA	3.1	2.9	2.8	2.9	3.8	9
		AA	3.2	2.9	2.8	3.0	3.8	9
	Revenue	A	3.3	3.1	3.1	3.2	3.9	11
		BBB	4.1	3.8	3.9	4.0	4.7	13



10

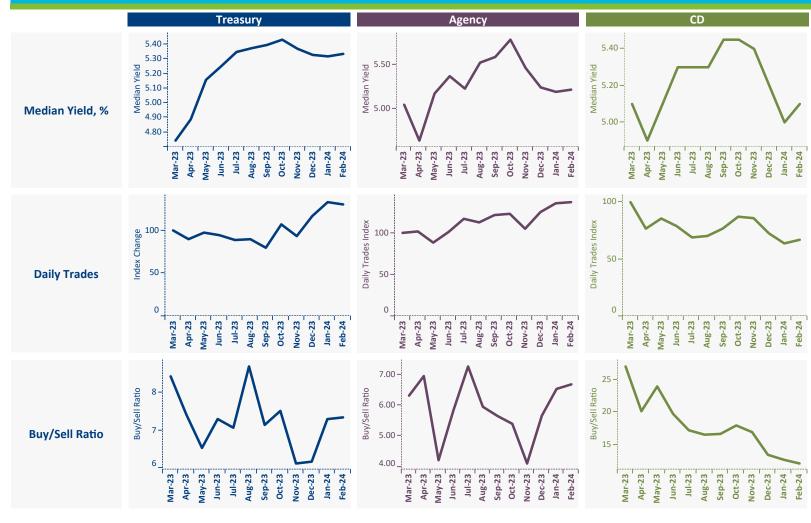
WA Yield = "Weighted Average Yield"

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 transcations 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



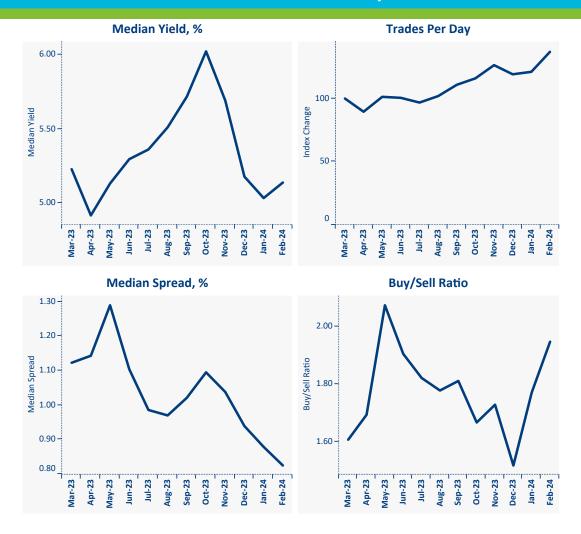
Daily Trades: First month = 100 Source: TRACE and Tradeweb Direct



⁻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.

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...

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.

Corporate Bonds: Top 20 Most Active Issuers

February 2024

	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)
2 /	С	CITIGROUP	BBB	806	3.6%	39,477	1.4	494	5.3	5.1	5.1	5.5	5.5
	AXP	AMERICAN EXPRESS	Α	35	3.1%	34,170	13.3	194	5.3	4.8	4.7		5.2
3 J	JPM	JP MORGAN CHASE	Α	1,144	2.8%	30,830	1.3	516	5.0	4.8	4.9	5.3	5.3
4 \	WFC	WELLS FARGO	Α	203	2.6%	28,713	2.2	348	5.3	5.1	5.1	5.5	5.7
5 (GS	GOLDMAN SACHS	Α	1,373	2.3%	25,549	1.5	430	5.3	5.0	5.1	5.1	5.3
6 E	BAC	BANK OF AMERICA	Α	488	2.2%	24,592	1.7	514	5.4	5.0	5.1	5.6	5.4
7 N	MS	MORGAN STANLEY	Α	1,018	1.6%	17,552	1.4	306	5.2	5.0	5.2	5.0	5.4
8 1	NEE	FPL GROUP CAP INC	BBB	73	1.4%	15,320	5.2	182	5.3	5.0	5.0	5.1	5.3
9 F	FITB	FIFTH THIRD BANCORP	BBB	18	1.3%	14,419	17.9	80	5.3	5.1	5.1		
10 /	AAPL	APPLE INC	AA	53	1.1%	12,269	2.3	201	4.9	4.5	4.4	4.6	5.0
11 (GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	93	1.1%	12,139	1.8	253	5.5	5.3	5.3	5.6	6.2
12 1	Т	AT&T	BBB	99	1.1%	12,032	1.5	176	22.7	5.0	5.0	5.3	5.6
13 \	VZ	VERIZON	BBB	137	1.1%	11,853	1.6	171	5.3	4.9	4.9	5.2	5.5
14 (CVS	CVS CAREMARK CORP	BBB	46	1.1%	11,650	2.1	174	5.2	5.0	5.1	5.4	5.8
15 (ORCL	ORACLE CORP	BBB	38	1.0%	11,495	1.9	212	5.4	5.1	5.0	5.3	5.7
16 (CMCS	COMCAST	Α	67	1.0%	11,022	1.6	172	4.9	4.8	4.8	5.1	5.4
17	DUK	DUKE ENERGY	BBB	127	0.9%	10,114	2.4	170	4.9	5.0	4.9	5.2	5.6
18 E	BRK	BERKSHIRE HATHAWAY	Α	147	0.9%	9,929	2.5	220	5.1	4.7	4.9	5.3	5.3
19 1	TMUS	T-MOBILE USA INC	BBB	41	0.9%	9,854	3.6	150	5.4	5.1	4.9	5.3	5.5
20 l	UNH	UNITEDHEALTH	Α	57	0.8%	9,042	2.4	161	4.9	4.6	4.8	5.0	5.3

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.

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

February 2024

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	NMFC	Null	N/R	2	0.3%	3,524	3,424	100	34.2	24			7.2		
2	FITB	FIFTH THIRD BANCORP	BBB	18	1.3%	14,419	13,654	765	17.9	80	5.3	5.1	5.1		
3	PPL	PPL ENERGY SUPPLY	BBB	28	0.2%	2,739	2,552	187	13.7	27		5.2	4.4	5.2	5.7
4	AXP	AMERICAN EXPRESS	Α	35	3.1%	34,170	31,773	2,397	13.3	194	5.3	4.8	4.7		5.2
5	NEE	FPL GROUP CAP INC	BBB	73	1.4%	15,320	12,845	2,475	5.2	182	5.3	5.0	5.0	5.1	5.3
6	EXPE	EXPEDIA INC DEL	BBB	7	0.3%	3,038	2,435	603	4.0	29		5.1	5.3		
7	TMUS	T-MOBILE USA INC	BBB	41	0.9%	9,854	7,720	2,134	3.6	150	5.4	5.1	4.9	5.3	5.5
8	ВМҮ	BRISTOL MYERS SQUIBB CO	Α	50	0.6%	6,072	4,754	1,318	3.6	129	5.1	5.0	4.9	5.1	5.4
9	PM	PHILIP MORRIS INTL INC	Α	34	0.6%	6,826	5,204	1,622	3.2	136	5.1	5.0	5.1	5.4	5.7
10	МО	ALTRIA GROUP INC	BBB	23	0.4%	3,922	2,985	937	3.2	78	5.2	5.1	5.0	5.6	5.9
11	CI	CIGNA CORP	BBB	37	0.5%	6,054	4,513	1,541	2.9	108	5.3	4.9	5.0	5.3	5.6
12	TM	тоуота	Α	81	0.5%	6,011	4,461	1,550	2.9	135	5.1	4.8	4.9	4.9	5.4
13	вх	APRIA HEALTHCARE GROUP INC	BBB	38	0.4%	4,065	3,015	1,050	2.9	90	5.9	6.2	5.5	5.8	4.7
14	NOC	NORTHROP GRUMMAN CORP	BBB	24	0.4%	3,878	2,876	1,002	2.9	47	5.2	4.9	4.9	5.1	5.4
15	WMT	WAL-MART	AA	38	0.5%	5,961	4,384	1,577	2.8	86	4.8	4.5	4.5	4.6	5.0
16	DWDP	Null	BBB	8	0.2%	2,500	1,822	678	2.7	24	5.3	5.0	4.7	5.0	5.5
17	FB	Null	AA	10	0.2%	2,695	1,962	733	2.7	56		4.6	4.6	4.8	
18	SCHW	SCHWAB CHARLES CORP NEW	BBB	39	0.6%	6,497	4,731	1,766	2.7	123	5.3	5.0	4.9	5.2	
19	SBUX	STARBUCKS CORP	BBB	21	0.2%	2,712	1,974	738	2.7	52	5.1	5.0	4.8	5.1	5.4
20	UTX	UNITED TECHNOLOGIES CORP	BBB	61	0.7%	7,531	5,446	2,085	2.6	120	5.1	5.0	5.0	5.2	5.5

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

February 2024

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	ARCC	ARES CAP CORP	BBB	10	0.4%	4,540	1,951	2,589	0.75	69	6.3	6.2	6.2	6.2	
2	RDS	SHELL	AA	21	0.3%	3,495	1,581	1,914	0.83	50	5.2	4.8	4.7	5.0	5.3
3	BTI	BAT INTERNATIONAL FINANCE PLC	BBB	37	0.4%	4,048	2,265	1,783	1.27	98	5.7	5.2	5.4	6.0	6.7
4	JPM	JP MORGAN CHASE	Α	1,144	2.8%	30,830	17,516	13,314	1.32	516	5.4	4.9	5.6	5.7	5.3
5	С	CITIGROUP	BBB	806	3.6%	39,477	22,700	16,777	1.35	494	5.2	5.2	5.3	5.6	5.5
6	MS	MORGAN STANLEY	Α	1,018	1.6%	17,552	10,076	7,476	1.35	306	5.4	5.1	5.7	5.1	5.4
7	DELL	DELL	BBB	24	0.3%	3,027	1,748	1,279	1.37	67	5.5	5.2	5.1	5.3	5.8
8	PEMX	PETROLEOS MEXICANOS	ВВ	33	0.3%	3,723	2,150	1,573	1.37	100	7.0	9.0	10.0	10.5	11.1
9	EDP	ENTERPRISE PRODS OPER LLC	Α	36	0.4%	4,324	2,506	1,818	1.38	63	5.3	4.9	4.9	5.2	5.5
10	ETP	ENERGY TRANSFER PARTNERS L P	BBB	25	0.2%	2,554	1,482	1,072	1.38	52	5.5	5.2	5.3	5.7	6.1
11	FISV	FISERV INC	BBB	15	0.3%	3,184	1,853	1,331	1.39	43	5.5	5.1	5.1	5.4	
12	EXC	EXELON GENERATION CO LLC	BBB	94	0.2%	2,599	1,514	1,085	1.40	59	5.5	5.0	4.9	5.4	5.7
13	SRE	SEMPRA ENERGY	Α	71	0.3%	2,856	1,683	1,173	1.43	53	5.4	5.0	4.9	5.2	5.5
14	BA	BOEING CO	BBB	47	0.5%	5,867	3,466	2,401	1.44	120	5.5	5.4	5.3	5.6	5.9
15	DIS	DISNEY WALT CO NEW MEDIUM TERM NTS BOOK	Α	65	0.5%	5,654	3,383	2,271	1.49	93	5.4	4.7	4.8	5.1	5.3
16	ВК	BANK NEW YORK INC MEDIUM TERM SR NTS BOO	Α	50	0.4%	4,847	2,912	1,935	1.50	80	5.3	4.9	4.9	5.1	
17	ENB	ENBRIDGE INC	BBB	42	0.2%	2,622	1,576	1,046	1.51	63	5.5	5.1	5.1	5.4	5.9
18	HD	HOME DEPOT	Α	38	0.6%	6,261	3,768	2,493	1.51	99	5.0	4.8	4.7	4.9	5.3
19	RY	ROYAL BANK OF CANADA	Α	262	0.4%	4,502	2,705	1,797	1.51	93	5.3	5.0	6.0	5.2	
20	GS	GOLDMAN SACHS	Α	1,373	2.3%	25,549	15,399	10,150	1.52	430	5.5	5.1	5.2	5.4	5.4

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.

Corporate Bonds: Top 20 Most Bought Issues

February 2024

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	AXP	AMERICAN EXPRESS	Jul-29	Α	5.282	27,725	75	27,800	64			100.8	100.6
2	FITB	FIFTH THIRD BANCORP	Jul-29	BBB	6.339	12,325	89	12,414	42			102.8	102.5
3	NEE	FPL GROUP CAP INC	Mar-29	BBB	4.900	6,910	144	7,054	30	4.9	5.2	99.8	98.8
4	WFC	WELLS FARGO	Jul-33	Α	4.897	6,862	268	7,130	30			96.7	96.0
5	С	CITIGROUP	Nov-33	BBB	6.270	6,680	253	6,933	20			106.6	105.2
6	TMUS	T-MOBILE USA INC	Jan-29	BBB	4.850	4,052	168	4,220	28	4.9	5.1	99.8	98.8
7	CAT	CATERPILLAR	Feb-29	A	4.850	2,605	2	2,607	16	4.8	4.8	100.3	100.2
8	cvs	CVS CAREMARK CORP	Mar-28	BBB	4.300	2,262	1,230	3,492	28	5.0	5.1	97.3	97.2
9	CMCS	COMCAST	Oct-28	A	4.150	2,120	883	3,003	23	4.8	4.8	97.4	97.3
10	DXCM	Null	Nov-25	N/R	0.250	2,112	144	2,256	9	0.1	0.5	103.9	101.6
11	ONNN	ON SEMICONDUCTOR CORP	May-27	N/R	0.000	2,106	95	2,201	13			159.7	153.5
12	NMFC	Null	Oct-25	N/R	7.500	2,094	62	2,156	7	5.9	6.8	102.6	101.0
13	MIDD	Null	Sep-25	N/R	1.000	2,084	80	2,164	9			121.6	120.1
14	PPL	PPL ENERGY SUPPLY	Mar-28	BBB	2.875	2,052	3	2,055	12	4.4	4.5	94.6	94.0
15	UTX	UNITED TECHNOLOGIES CORP	Aug-25	BBB	3.950	1,871	548	2,419	12	5.1	5.2	98.3	98.3
16	AAPL	APPLE INC	Nov-27	AA	3.000	1,817	452	2,269	12	4.5	4.5	95.0	94.9
17	EXPE	EXPEDIA INC DEL	Feb-26	BBB	0.000	1,799	124	1,923	6			95.2	92.7
18	BNS	BANK NOVA SCOTIA B C	Feb-34	А	5.650	1,772	35	1,807	16	5.4	5.4	102.0	101.7
19	LOW	LOWES COS INC	Apr-26	BBB	2.500	1,754	446	2,200	11	4.9	5.0	95.1	95.0
20	WFC	WELLS FARGO	Null	BBB	7.625	1,704	316	2,020	25			105.1	104.9

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

February 2024

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	С	CITIGROUP	Apr-25	BBB	3.300	140	6,506	6,646	29	5.2	5.2	97.9	97.7
2	JPM	JP MORGAN CHASE	Apr-31	Α	2.522	546	2,961	3,507	10			86.1	85.5
3	WFC	WELLS FARGO	Jun-89	BBB	5.875	344	2,356	2,700	25	5.9	5.9	100.2	99.9
4	ARCC	ARES CAP CORP	Mar-24	BBB	4.625	5	2,112	2,117	19			104.0	103.3
5	Х	UNITED STS STL CORP NEW	Nov-26	В	5.000	3	2,087	2,090	22			346.2	345.5
6	CVS	CVS CAREMARK CORP	Mar-28	BBB	4.300	2,262	1,230	3,492	28	5.0	5.1	97.3	97.2
7	CAT	CATERPILLAR	Jan-25	A	4.900	164	953	1,117	21	4.9	5.3	100.0	99.7
8	TGT	TARGET CORP	Apr-29	Α	3.375	192	887	1,079	10	4.7	4.7	94.1	93.8
9	CMCS	COMCAST	Oct-28	A	4.150	2,120	883	3,003	23	4.8	4.8	97.4	97.3
10	BA	BOEING CO	May-25	BBB	4.875	481	691	1,172	21	5.5	5.5	99.3	99.2
11	VZ	VERIZON	Mar-27	BBB	4.125	881	676	1,557	18	4.9	5.0	97.8	97.6
12	GS	GOLDMAN SACHS	Mar-30	A	3.800	866	618	1,484	16	5.1	5.1	93.5	93.3
13	TFC	Null	Jun-25	A	-1.000	56	584	640	11			99.8	99.6
14	С	CITIGROUP	Apr-27	N/R	7.500	2	583	585	14			99.4	97.8
15	Т	AT&T	Jun-27	BBB	2.300	238	577	815	11	5.0	5.1	91.9	91.7
16	HPQ	HEWLETT PACKARD	Oct-25	BBB	4.900	1,685	571	2,256	15	5.3	5.3	99.4	99.3
17	Т	AT&T	Mar-29	BBB	4.350	819	553	1,372	15	5.0	5.0	97.2	97.1
18	UTX	UNITED TECHNOLOGIES CORP	Aug-25	BBB	3.950	1,871	548	2,419	12	5.1	5.2	98.3	98.3
19	MS	MORGAN STANLEY	Jan-30	A	4.431	227	529	756	8			96.4	96.3
20	BP	BP	Sep-27	A	3.279	1,565	518	2,083	11	4.9	4.9	94.9	94.8

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 <= TTM <= 1.5 3Y: 2 <= TTM <= 4 5Y: 4 < TTM <= 6 10Y: 7.5 <= TTM <= 12.5 20Y: 15 <= TTM <=25

Rating

Rating buckets (AAA, AA, A, BBB, HY) in yield matrix are based on agggregate 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 rates 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 ones 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.

Fixed income securities are subject to increased loss of principal during periods of rising interest rates. Fixed-income investments are subject to various risks including changes in credit quality, market valuations, liquidity, prepayments, early redemption, corporate events, tax ramifications and other factors. Defaults on interest payments and/or principal may also occur. Projections, results and assumptions contained herein reflect past performance of the referenced securities and asset classes. Past performance is no guarantee of future results. The investment return and principal value of an investment will fluctuate such that an investment, if and when redeemed, may be worth more or less than its original cost.

This information is intended for general informational purposes only, and should not be used as the sole basis for any investment decisions. None of the information in the report constitutes an offer or solicitation to buy or sell any security or financial product, a recommendation concerning any security, financial product or asset class, or an offer to provide investment advice or any other service. Where appropriate, please consult with a qualified financial and tax professional.

