

Market Transparency Report

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

August 2023

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 August 2023

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	29	-3.9%	-1.3
CD	0	1.9%	-0.7
Corp	15	5.3%	0.0
Municipal	21	16.7%	0.0
Treasury	3	1.0%	1.6

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

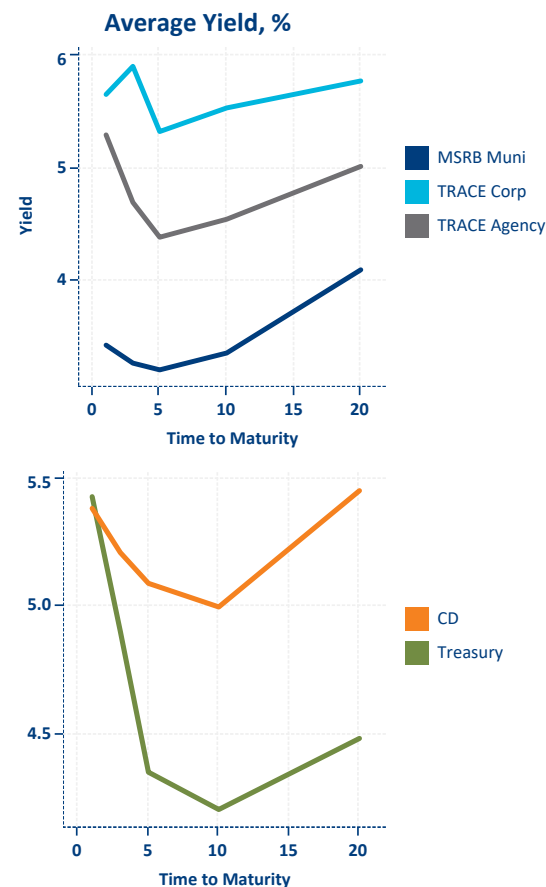
Yield Matrix

Average Yield, % for August 2023

Market	TTM					Median Maturity (Years)
	1	3	5	10	20	
MSRB Muni	3.4	3.3	3.2	3.4	4.1	10
TRACE Corp	5.7	5.9	5.3	5.5	5.8	3
TRACE Agency	5.3	4.7	4.4	4.6	5.0	3
CD	5.4	5.2	5.1	5.0	5.5	1
Treasury	5.4	4.9	4.4	4.2	4.5	1

Asset Class

Market	Category (Filtered)	Rating Key	TTM					Median Maturity (Years)	
			1	3	5	10	20		
TRACE Corp	Financial	AA	5.4	5.3	5.1			5	
		A	5.5	5.2	5.0	5.2	5.5	3	
		BBB	6.2	5.8	6.2	5.8	6.2	3	
		HY	5.8	9.9	10.5	9.6		4	
	Non-Financial	AAA			4.3			4.8	17
		AA	4.4	4.7	5.3	4.8	5.0		7
		A	5.2	5.0	4.8	5.3	5.8		5
		BBB	5.7	5.6	5.5	5.5	6.7		3
		HY		28.4	7.2	6.9	7.2		5
MSRB Muni	GO	AAA	3.3	3.2	3.1	3.3	3.9		7
		AA	3.4	3.2	3.2	3.3	4.0		9
		A	3.6	3.4	3.4	3.6	4.3		7
		BBB	4.7	3.8	3.9	4.2	4.8		7
	Revenue	HY	4.5	4.5	4.9	5.9	5.2		16
		AAA	3.4	3.2	3.1	3.2	4.1		10
		AA	3.4	3.2	3.2	3.3	4.0		10
		A	3.6	3.5	3.4	3.6	4.2		12
		BBB	4.2	4.2	4.2	4.4	4.8		15
		HY	13.7	8.3	6.5	6.1	5.6		14



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.

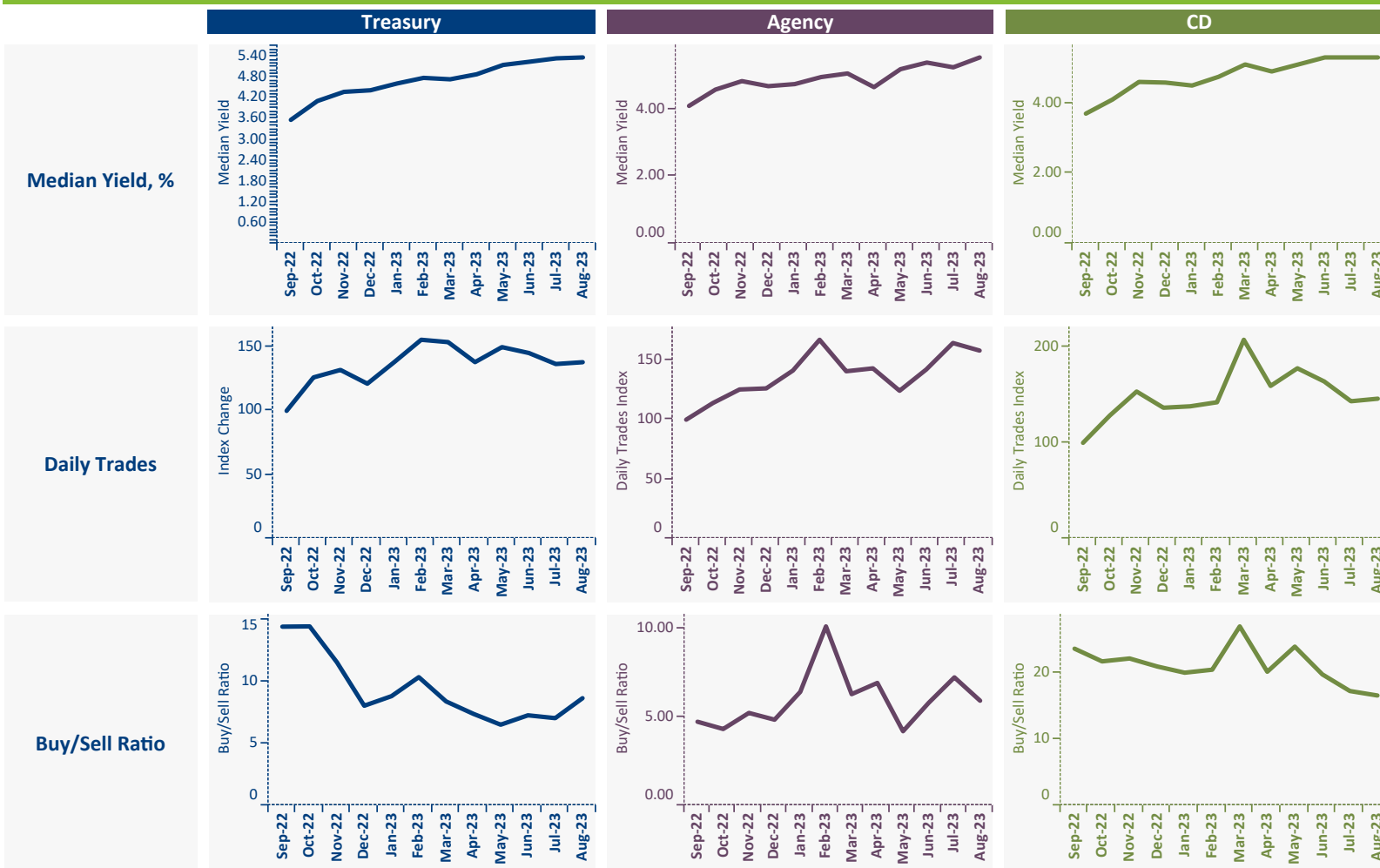
-The weights are based on transaction size.

-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.

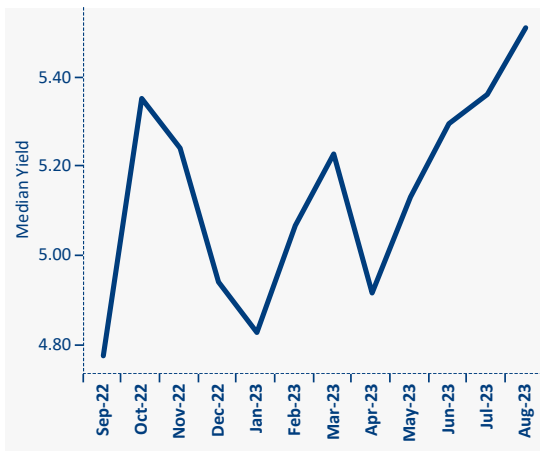
-Agency is based on odd-lot customer transactions (<100M) reported in TRACE. Median yields are based on all odd-lot customer buy transactions.

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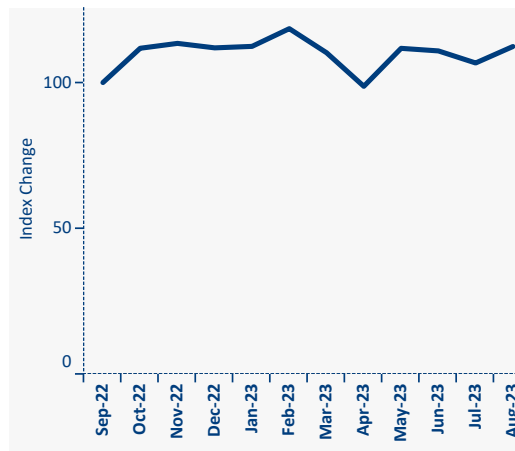


Corporate Bonds: Odd-Lot Customer Transaction Trend Summary

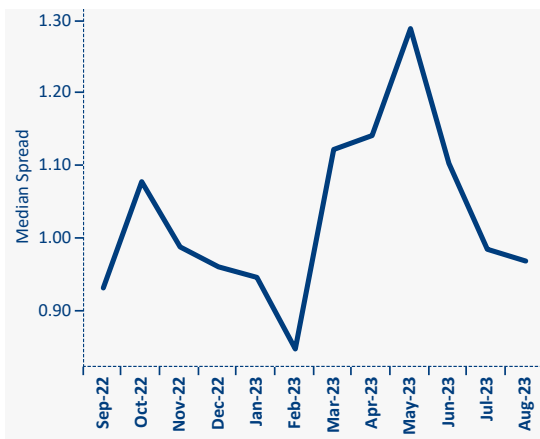
Median Yield, %



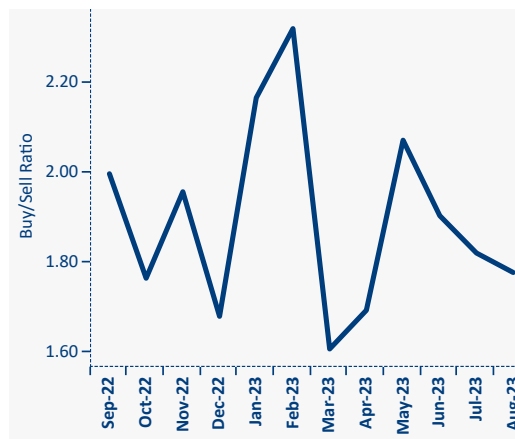
Trades Per Day



Median Spread, %



Buy/Sell Ratio



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

August 2023

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	A	1,004	3.0%	28,360	1.4	485	5.6	5.4	5.2	6.0	5.5
2	GS	GOLDMAN SACHS	A	1,234	2.9%	27,790	1.9	491	5.8	5.5	5.7	5.4	5.7
3	C	CITIGROUP	BBB	910	2.5%	23,140	1.5	406	5.8	5.6	5.6	5.9	5.9
4	BAC	BANK OF AMERICA	A	475	2.3%	22,122	1.7	449	5.8	5.5	5.7	5.8	5.5
5	WFC	WELLS FARGO	A	177	1.9%	18,170	1.7	300	5.7	5.6	5.6	6.0	6.1
6	DWDP	Null	BBB	9	1.8%	17,182	23.4	53		5.5	4.9	5.3	5.6
7	MS	MORGAN STANLEY	A	989	1.8%	16,630	1.6	306	5.7	5.5	5.5	5.3	5.5
8	VZ	VERIZON	BBB	151	1.3%	12,409	1.5	177	5.6	5.3	5.4	5.5	5.8
9	AAPL	APPLE INC	AA	53	1.3%	12,080	2.2	196	5.2	4.8	4.6	4.5	5.0
10	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	95	1.3%	11,980	2.0	250	6.0	5.9	5.9	6.3	6.8
11	T	AT&T	BBB	101	1.3%	11,840	1.7	157	5.8	5.5	5.5	5.7	6.1
12	BRK	BERKSHIRE HATHAWAY	A	147	1.1%	10,014	3.0	186	5.5	5.0	5.1	5.5	5.8
13	CMCS	COMCAST	A	66	1.0%	9,818	1.5	148	5.4	5.2	5.0	5.2	5.6
14	CVS	CVS CAREMARK CORP	BBB	47	1.0%	9,781	1.8	145	5.7	5.3	5.3	5.6	6.0
15	UNH	UNITEDHEALTH	A	57	1.0%	9,593	1.7	152	5.3	5.1	4.9	5.1	5.3
16	DUK	DUKE ENERGY	BBB	123	1.0%	9,097	2.5	136	5.6	5.4	5.2	5.5	5.9
17	TD	TORONTO DOMINION BK SR MEDIUM TERM BK NT	A	234	1.0%	9,013	2.0	141	5.7	5.5	5.9	5.3	
18	ORCL	ORACLE CORP	BBB	39	0.9%	8,821	1.4	158	5.7	5.3	5.3	5.6	6.1
19	LOW	LOWES COS INC	BBB	45	0.9%	8,180	1.5	101	5.6	5.2	5.1	5.3	5.7
20	AMZN	AMAZON COM INC	AA	34	0.8%	7,803	1.9	139	5.2	4.9	4.7	4.8	5.1

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

August 2023

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	DWDP	Null	BBB	9	1.8%	17,182	16,477	705	23.4	53		5.5	4.9	5.3	5.6
2	DXCM	Null	N/R	2	0.3%	2,431	2,287	144	15.9	10		0.6			
3	APO	AFFINION GROUP INC	BBB	12	0.3%	2,984	2,670	314	8.5	14	6.8	5.9			
4	DE	DEERE JOHN CAP CORP MEDIUM TERM NTS-BOOK	A	63	0.7%	6,652	5,189	1,463	3.6	124	5.3	5.0	5.1	4.8	5.1
5	BX	APRIA HEALTHCARE GROUP INC	BBB	29	0.4%	3,531	2,703	828	3.3	67	6.7	6.9	6.2	6.0	4.8
6	TRP	TRANSCANADA PIPELINES LTD	BBB	35	0.3%	3,280	2,488	792	3.1	57	5.9	5.8	5.4	5.8	6.1
7	PM	PHILIP MORRIS INTL INC	A	28	0.5%	4,730	3,568	1,162	3.1	99	5.5	5.3	5.2	5.7	5.9
8	BRK	BERKSHIRE HATHAWAY	A	147	1.1%	10,014	7,518	2,496	3.0	186	5.5	5.0	5.1	5.5	5.8
9	WMB	WILLIAMS COS INC	BBB	37	0.2%	2,352	1,744	608	2.9	41	5.8	5.3	5.4	5.7	6.1
10	F	FORD	BB	160	0.7%	6,423	4,740	1,683	2.8	91	6.4	6.6	6.4	6.7	7.3
11	FB	Null	AA	10	0.3%	2,834	2,087	747	2.8	58		4.9	4.9	5.1	
12	MO	ALTRIA GROUP INC	BBB	22	0.3%	3,121	2,293	828	2.8	54	5.6	5.4	5.5	5.9	6.3
13	INTC	INTEL CORP	A	37	0.7%	6,453	4,737	1,716	2.8	132	5.5	5.1	5.0	5.2	5.6
14	WMT	WAL-MART	AA	39	0.6%	5,238	3,778	1,460	2.6	86	5.3	4.9	4.6	4.7	5.0
15	NEE	FPL GROUP CAP INC	BBB	67	0.7%	6,887	4,934	1,953	2.5	121	5.7	5.3	5.1	5.2	5.4
16	TM	TOYOTA	A	70	0.5%	4,701	3,364	1,337	2.5	100	5.4	5.1	5.0	5.0	
17	DUK	DUKE ENERGY	BBB	123	1.0%	9,097	6,485	2,612	2.5	136	5.6	5.4	5.2	5.5	5.9
18	PCG	PACIFIC GAS & ELEC CO	BBB	54	0.2%	2,296	1,629	667	2.4	44	5.9	6.1	6.3	6.4	6.9
19	SCHW	SCHWAB CHARLES CORP NEW	A	39	0.6%	5,385	3,819	1,566	2.4	108	5.7	5.6	5.4	5.5	
20	AXP	AMERICAN EXPRESS	A	33	0.7%	6,451	4,572	1,879	2.4	134	5.7	5.5	5.2		5.3

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

August 2023

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	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	BBB	217	0.6%	5,873	2,788	3,085	0.90	98	6.9	5.8	5.4	5.8	5.6
2	RDS	SHELL	AA	25	0.3%	3,135	1,560	1,575	0.99	42	5.5	5.0	4.8	5.2	5.4
3	SPG	SIMON PPTY GROUP L P	A	23	0.3%	2,412	1,204	1,208	1.00	45	5.9	5.5	5.5	5.7	6.1
4	FISV	FISERV INC	BBB	13	0.3%	2,999	1,615	1,384	1.17	41	6.0	5.4	5.4	5.7	
5	ENB	ENBRIDGE INC	BBB	37	0.2%	2,144	1,169	975	1.20	44	6.2	5.5		5.7	6.4
6	BMY	BRISTOL MYERS SQUIBB CO	A	38	0.3%	2,865	1,576	1,289	1.22	46	5.6	5.1	4.9	5.0	5.4
7	UNP	UNION PAC CORP	A	53	0.2%	2,240	1,246	994	1.25	41	6.0	5.1	4.8	5.0	5.5
8	EDP	ENTERPRISE PRODS OPER LLC	BBB	35	0.4%	3,742	2,093	1,649	1.27	44	5.8	5.3	5.2	5.5	5.9
9	HMC	AMERICAN HONDA FIN CORP MED TERM NTS BOO	A	32	0.3%	2,825	1,584	1,241	1.28	58	5.8	5.2	5.1	4.9	
10	PFE	PFIZER	A	53	0.7%	7,035	3,943	3,092	1.28	118	5.7	5.0	4.9	5.1	5.4
11	BNS	BANK NOVA SCOTIA B C	A	183	0.4%	3,979	2,310	1,669	1.38	67	6.0	5.5	5.6	5.4	
12	ORCL	ORACLE CORP	BBB	39	0.9%	8,821	5,117	3,704	1.38	158	5.9	5.4	5.3	5.7	6.1
13	USB	U S BANCORP MEDIUM TERM NTS- BOOK ENTRY	A	29	0.7%	6,798	3,959	2,839	1.39	92	5.9	5.4	5.9		
14	BP	BP	A	28	0.6%	5,961	3,489	2,472	1.41	82		5.2	5.0	5.3	5.4
15	AMT	AMERICAN TOWER CORP NEW	BBB	32	0.3%	3,069	1,806	1,263	1.43	49	6.1	5.7	5.7	5.8	
16	JPM	JP MORGAN CHASE	A	1,004	3.0%	28,360	16,702	11,658	1.43	485	5.8	5.4	5.4	5.9	5.6
17	EXC	EXELON GENERATION CO LLC	BBB	87	0.2%	2,155	1,271	884	1.44	39	6.0	5.3	5.1	5.4	6.0
18	CMCS	COMCAST	A	66	1.0%	9,818	5,806	4,012	1.45	148	5.7	5.2	5.0	5.2	5.5
19	VZ	VERIZON	BBB	151	1.3%	12,409	7,345	5,064	1.45	177	5.7	5.3	5.5	5.6	6.0
20	BK	BANK NEW YORK INC MEDIUM TERM SR NTS BOO	A	51	0.5%	5,175	3,070	2,105	1.46	76	5.9	5.2	5.3	5.3	

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

August 2023

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	DWDP	Null	Nov-28	BBB	4.725	16,175	468	16,643	41	4.9	5.1	99.1	98.4
2	GS	GOLDMAN SACHS	Null	BB	7.500	2,663	35	2,698	72			100.8	100.3
3	APO	AFFINION GROUP INC	Sep-53	BBB	7.625	2,482	173	2,655	6			25.3	25.1
4	F	FORD	Mar-26	BB	0.000	2,301	148	2,449	10			96.9	96.5
5	DXCM	Null	Nov-25	N/R	0.250	2,287	143	2,430	10	0.6	1.5	100.5	99.8
6	CVS	CVS CAREMARK CORP	Mar-28	BBB	4.300	1,812	1,228	3,040	24	5.3	5.3	96.1	95.9
7	DE	DEERE JOHN CAP CORP MEDIUM TERM NTS-BOOK	Jul-28	A	4.950	1,741	53	1,794	20	5.2	4.9	99.1	100.0
8	WFC	WELLS FARGO	Null	BBB	7.625	1,604	211	1,815	42			102.5	102.3
9	CMCS	COMCAST	Oct-28	A	4.150	1,500	905	2,405	21	5.0	5.1	96.3	95.9
10	BMRN	BIOMARIN PHARMACEUTICAL INC	May-27	N/R	1.250	1,428	91	1,519	6	0.6	1.3	102.2	99.8
11	AAPL	APPLE INC	Nov-27	AA	3.000	1,422	544	1,966	11	4.6	4.7	93.8	93.6
12	UTX	UNITED TECHNOLOGIES CORP	Aug-25	BBB	3.950	1,333	569	1,902	11	5.4	5.5	97.3	97.2
13	LOW	LOWES COS INC	Apr-26	BBB	2.500	1,309	512	1,821	10	5.2	5.2	93.5	93.3
14	T	AT&T	Mar-29	BBB	4.350	1,302	483	1,785	15	5.5	5.6	94.6	94.2
15	HPQ	HEWLETT PACKARD	Oct-25	BBB	4.900	1,251	661	1,912	15	5.6	5.6	98.7	98.5
16	T	AT&T	Feb-30	BBB	4.300	1,248	348	1,596	16	5.6	5.7	92.9	92.6
17	GS	GOLDMAN SACHS	Mar-24	A	4.000	1,247	479	1,726	19	5.8	6.0	99.1	98.9
18	MS	MORGAN STANLEY	Jan-27	A	3.625	1,228	326	1,554	16	5.4	5.5	94.4	94.3
19	ABBV	ABBVIE INC	Nov-28	BBB	4.250	1,180	312	1,492	11	5.0	5.1	96.6	96.3
20	COF	CAPITAL ONE FINL CORP	Oct-24	BBB	3.300	1,178	446	1,624	12	5.9	6.0	97.0	96.9

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

August 2023

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	JPM	JP MORGAN CHASE	Null	BBB	6.750	539	2,023	2,562	23	6.7	6.8	100.2	100.0
2	LOW	LOWES COS INC	Apr-27	BBB	3.350	218	1,323	1,541	8	5.2	5.1	93.9	94.3
3	PFE	PFIZER	May-26	A	4.450	210	1,233	1,443	15	5.2	5.0	98.2	98.6
4	CVS	CVS CAREMARK CORP	Mar-28	BBB	4.300	1,812	1,228	3,040	24	5.3	5.3	96.1	95.9
5	TD	TORONTO DOMINION BK SR MEDIUM TERM BK NT	Jun-25	A	3.766	55	1,219	1,274	6	5.5	5.5	97.0	97.0
6	UNH	UNITEDHEALTH	May-27	A	3.700	61	1,176	1,237	6	4.8	4.8	96.2	96.1
7	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Sep-23	BBB	8.882	177	1,120	1,297	22	8.9	8.9	100.3	100.0
8	VZ	VERIZON	Mar-27	BBB	4.125	688	940	1,628	19	5.3	5.3	96.1	96.3
9	CMCS	COMCAST	Oct-28	A	4.150	1,500	905	2,405	21	5.0	5.1	96.3	95.9
10	NOC	NORTHROP GRUMMAN CORP	Jan-28	BBB	3.250	773	867	1,640	15	5.1	5.0	92.8	93.2
11	HPQ	HEWLETT PACKARD	Oct-25	BBB	4.900	1,251	661	1,912	15	5.6	5.6	98.7	98.5
12	UTX	UNITED TECHNOLOGIES CORP	Aug-25	BBB	3.950	1,333	569	1,902	11	5.4	5.5	97.3	97.2
13	GS	GOLDMAN SACHS	Mar-30	A	3.800	757	556	1,313	13	5.5	5.5	90.6	90.7
14	BP	BP	Sep-27	A	3.279	1,120	553	1,673	10	4.9	5.0	94.1	93.7
15	AAPL	APPLE INC	Nov-27	AA	3.000	1,422	544	1,966	11	4.6	4.7	93.8	93.6
16	GS	GOLDMAN SACHS	Feb-26	A	3.750	815	524	1,339	12	5.5	5.6	95.9	95.7
17	C	CITIGROUP	Jul-28	BBB	3.668	221	520	741	7			93.3	92.9
18	JPM	JP MORGAN CHASE	Jul-25	A	3.900	780	517	1,297	15	5.4	5.4	97.3	97.3
19	USB	U S BANCORP MEDIUM TERM NTS- BOOK ENTRY	Null	BBB	5.300	274	516	790	9	6.1	6.1	87.1	87.2
20	USB	U S BANCORP MEDIUM TERM NTS- BOOK ENTRY	Sep-24	A	3.600	732	516	1,248	12	5.8	5.9	97.8	97.7

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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