

Market Transparency Report

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

December 2023

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 Issues
- 12. Corporate Bonds: Top 20 Most Sold Issues
- 13. Appendix
- 14. Disclosures

Market Commentary

Monthly Change Table for December 2023

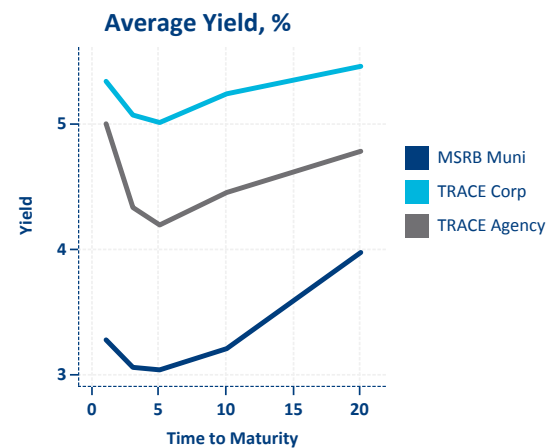
	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	-22	18.7%	1.5
CD	-20	-15.5%	-3.5
Corp	-51	-5.8%	-0.2
Municipal	-60	-15.0%	0.0
Treasury	-4	24.9%	0.0

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

Yield Matrix

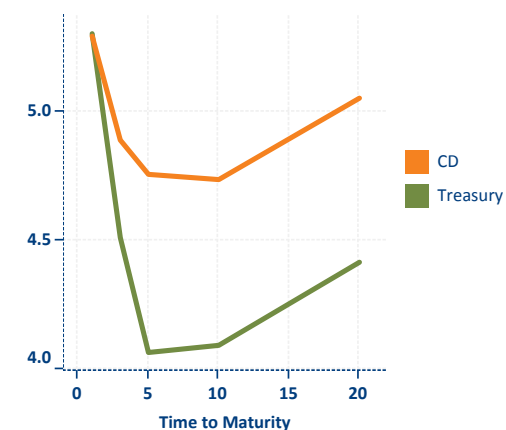
Average Yield, % for December 2023

Market	TTM					Median Maturity (Years)
	1	3	5	10	20	
MSRB Muni	3.3	3.1	3.0	3.2	4.0	9
TRACE Corp	5.4	5.1	5.0	5.3	5.5	3
TRACE Agency	5.0	4.3	4.2	4.5	4.8	3
CD	5.3	4.9	4.8	4.7	5.1	1
Treasury	5.3	4.5	4.1	4.1	4.4	1



Asset Class

Market	Category (Filtered)	Rating Key	TTM					Median Maturity (Years)	
			1	3	5	10	20		
TRACE Corp	Financial	AA	5.3	4.9	4.8			5	
		A	5.2	4.7	4.6	4.7	5.1	3	
		BBB	5.7	5.4	5.8	5.7	6.6	3	
		HY		10.0	10.7	8.5		4	
	Non-Financial	AAA			4.2		4.4	16	
		AA	3.9	4.1	4.1	4.5	4.7	14	
		A	4.8	4.5	4.5	4.8	5.3	5	
		BBB	5.5	5.1	5.0	5.3	6.1	4	
		HY		6.6	6.9			4	
MSRB Muni	GO	AAA	3.1	2.9	2.9	3.1	3.7	7	
		AA	3.2	3.0	3.0	3.2	3.9	8	
		A	3.4	3.2	3.2	3.4	4.2	7	
		BBB	4.0	3.8	4.0	4.3	4.9	11	
	Revenue	HY	5.2		5.6	6.1	5.4	11	
		AAA	3.2	3.0	2.9	3.0	3.8	8	
		AA	3.3	3.0	3.0	3.1	3.9	9	
		A	3.4	3.3	3.3	3.4	4.1	11	
		BBB	4.3	4.0	4.2	4.4	4.9	14	
		HY	8.8	10.8	6.4	6.7	6.7	12	



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.

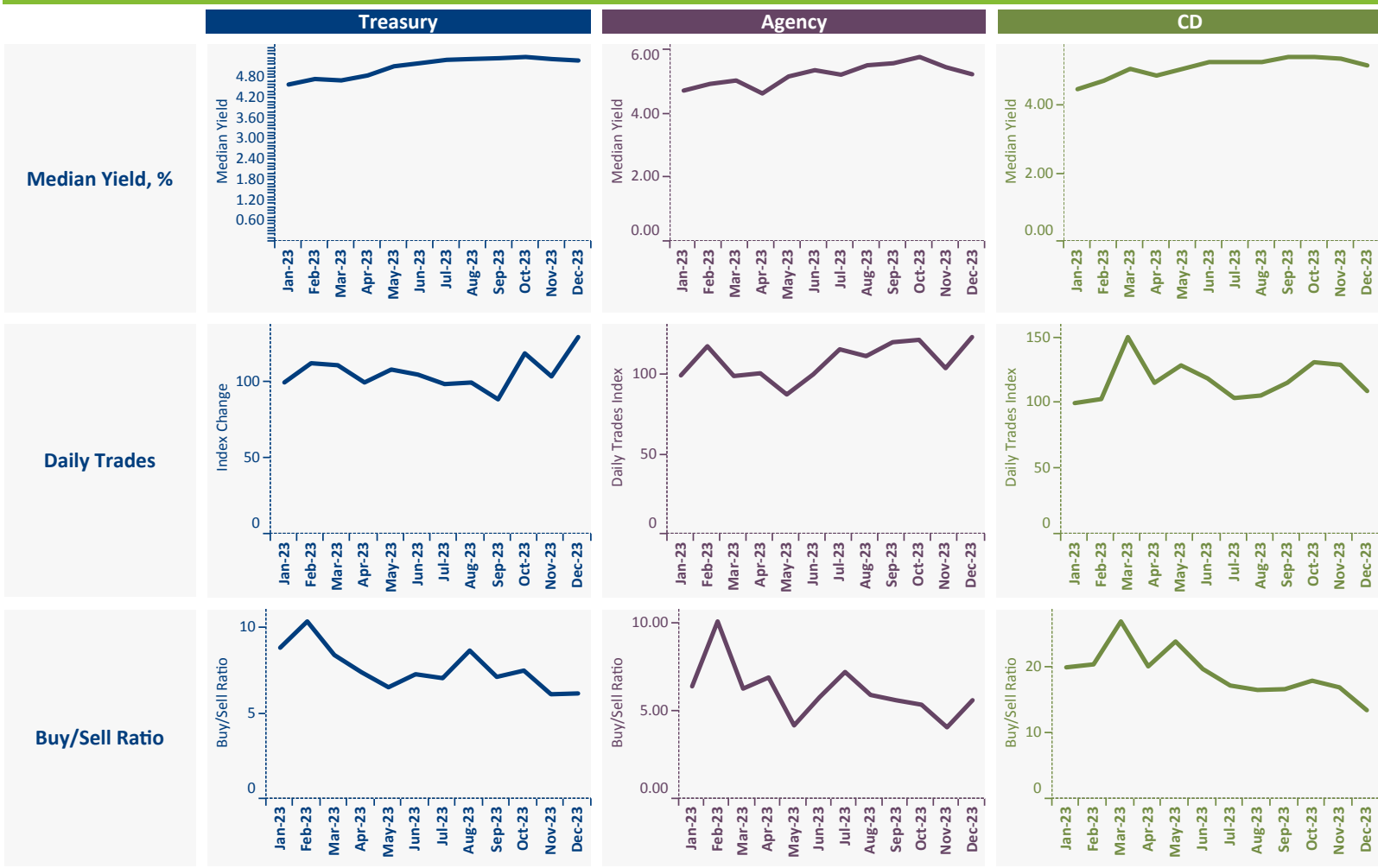
-The weights are based on transaction size.

-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.

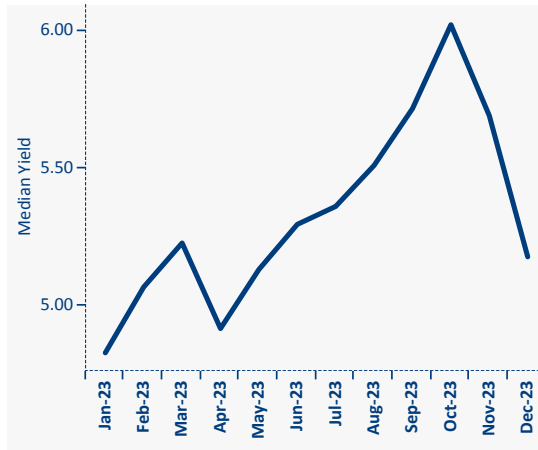
-Agency is based on odd-lot customer transactions (<100M) reported in TRACE. Median yields are based on all odd-lot customer buy transactions.

©2020 Tradeweb Markets LLC. All rights reserved. The information contained herein is highly confidential and some or all of it may constitute material, non-public information under applicable securities laws. This information must be kept strictly confidential, may not be disclosed or distributed to anyone without the express written consent of Tradeweb Markets LLC, and may only be used as expressly permitted by any applicable non-disclosure, customer, or other written agreement with Tradeweb.

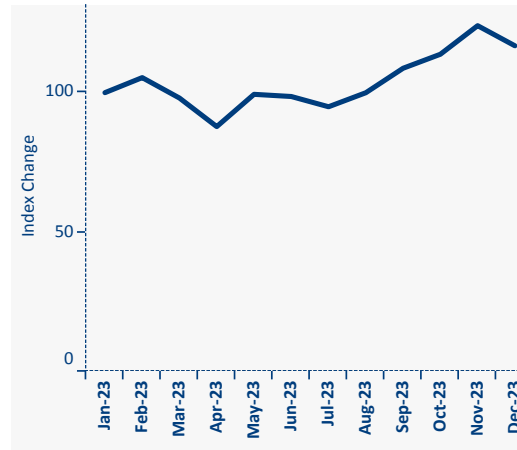


Corporate Bonds: Odd-Lot Customer Transaction Trend Summary

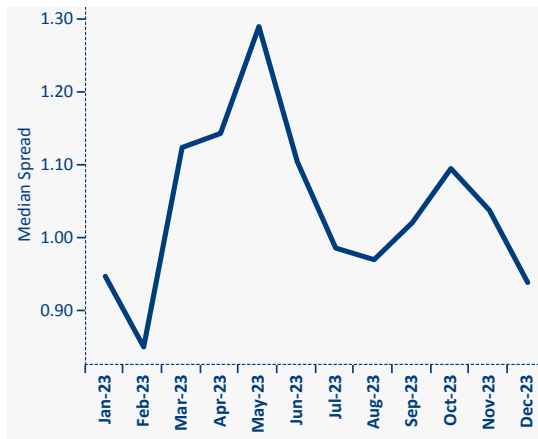
Median Yield, %



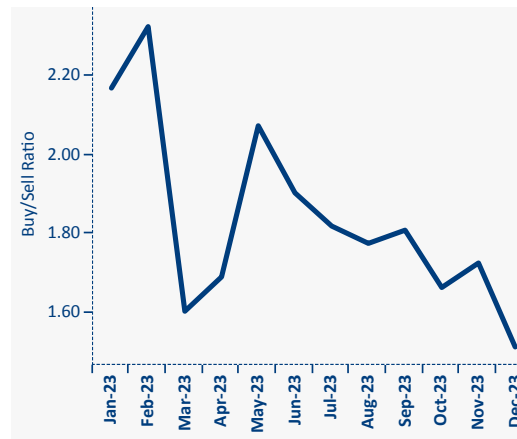
Trades Per Day



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...

©2020 Tradeweb Markets LLC. All rights reserved. The information contained herein is highly confidential and some or all of it may constitute material, non-public information under applicable securities laws. This information must be kept strictly confidential, may not be disclosed or distributed to anyone without the express written consent of Tradeweb Markets LLC, and may only be used as expressly permitted by any applicable non-disclosure, customer, or other written agreement with Tradeweb.



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.

©2020 Tradeweb Markets LLC. All rights reserved. The information contained herein is highly confidential and some or all of it may constitute material, non-public information under applicable securities laws. This information must be kept strictly confidential, may not be disclosed or distributed to anyone without the express written consent of Tradeweb Markets LLC, and may only be used as expressly permitted by any applicable non-disclosure, customer, or other written agreement with Tradeweb.



Corporate Bonds: Top 20 Most Active Issuers

December 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	GS	GOLDMAN SACHS	A	1,372	2.9%	27,714	1.4	479	5.4	5.0	5.3	5.2	5.3
2	JPM	JP MORGAN CHASE	A	1,195	2.8%	27,071	1.3	509	5.5	4.9	5.2	5.3	5.1
3	C	CITIGROUP	BBB	973	2.5%	24,022	1.4	463	5.4	5.2	5.2	5.5	5.5
4	BAC	BANK OF AMERICA	A	533	2.4%	23,471	1.5	529	5.5	5.0	5.1	5.4	5.2
5	WFC	WELLS FARGO	A	201	2.4%	23,304	2.1	331	5.2	5.1	5.0	5.6	5.6
6	MS	MORGAN STANLEY	A	1,588	1.9%	18,137	1.2	344	5.5	5.0	5.4	5.0	5.1
7	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	97	1.5%	14,788	1.9	291	5.7	5.3	5.3	5.7	6.1
8	AAPL	APPLE INC	AA	53	1.3%	12,834	1.3	212	4.8	4.4	4.2	4.2	4.7
9	VZ	VERIZON	BBB	165	1.2%	11,830	1.2	180	5.2	4.8	4.8	5.1	5.5
10	T	AT&T	BBB	102	1.2%	11,102	1.2	169	22.5	4.9	4.8	5.1	5.5
11	CVS	CVS CAREMARK CORP	BBB	45	1.1%	10,388	1.4	160	5.5	4.9	4.8	5.1	5.5
12	CMCS	COMCAST	A	66	1.1%	10,334	1.2	169	5.1	4.7	4.5	4.8	5.2
13	ORCL	ORACLE CORP	BBB	38	1.0%	10,030	1.4	189	5.6	4.9	4.8	5.1	5.6
14	TFC	Null	A	40	1.0%	9,724	1.6	146	5.7	5.3	5.4		
15	DUK	DUKE ENERGY	BBB	128	1.0%	9,404	2.1	157	5.2	5.1	4.8	5.0	5.4
16	BRK	BERKSHIRE HATHAWAY	A	144	1.0%	9,170	2.0	202	5.1	4.6	4.9	5.1	5.3
17	UNH	UNITEDHEALTH	A	57	0.9%	8,404	1.7	156	5.2	4.6	4.4	4.7	5.0
18	USB	U S BANCORP MEDIUM TERM NTS- BOOK ENTRY	A	31	0.9%	8,163	1.7	125	5.6	5.1	5.2		
19	COF	CAPITAL ONE FINL CORP	BBB	28	0.8%	7,643	2.0	121	5.7	5.4	5.4		
20	PNC	PNC FDG CORP	A	33	0.8%	7,385	1.8	126	5.7	4.9	4.9		

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

December 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	TRGP	Null	BBB	14	0.2%	2,116	1,903	213	8.9	25		5.5	5.2	5.7	
2	LUK	JEFFERIES GROUP INC NEW	BBB	97	0.2%	2,108	1,617	491	3.3	36	5.8	5.5	5.8	6.0	6.9
3	FB	Null	AA	9	0.4%	3,623	2,737	886	3.1	65		4.4	4.6	4.4	
4	AEP	AMERICAN ELEC PWR CO INC	BBB	75	0.3%	3,154	2,377	777	3.1	64	5.1	5.0	4.9	5.3	5.6
5	TRP	TRANSCANADA PIPELINES LTD	BBB	31	0.3%	2,914	2,131	783	2.7	52	5.6	5.4	5.0	5.5	5.6
6	PM	PHILIP MORRIS INTL INC	A	30	0.5%	4,851	3,509	1,342	2.6	106	5.3	4.8	4.8	5.2	5.4
7	DFS	DISCOVER BK NEW CASTLE DEL	BBB	38	0.3%	2,511	1,768	743	2.4	50	6.0	5.8	6.2	6.3	
8	MAR	MARRIOTT INTL INC NEW	BBB	22	0.3%	2,954	2,080	874	2.4	56	5.3	4.9	5.0	5.5	
9	NEE	FPL GROUP CAP INC	BBB	65	0.7%	7,177	5,051	2,126	2.4	126	5.6	4.8	4.8	5.0	5.1
10	BX	APRIA HEALTHCARE GROUP INC	BBB	35	0.3%	3,283	2,308	975	2.4	67	6.1	6.3	5.9	5.6	4.5
11	TMO	THERMO FISHER SCIENTIFIC INC	A	16	0.3%	3,087	2,139	948	2.3	53	5.5	4.5	4.5	4.6	5.1
12	DUK	DUKE ENERGY	BBB	128	1.0%	9,404	6,411	2,993	2.1	157	5.2	5.1	4.8	5.0	5.4
13	ALLY	ALLY FINANCIAL	BBB	76	0.4%	3,943	2,674	1,269	2.1	77	5.8	6.0	6.6	6.8	
14	WFC	WELLS FARGO	A	201	2.4%	23,304	15,763	7,541	2.1	331	5.2	5.1	5.0	5.6	5.6
15	DWDP	Null	BBB	9	0.2%	2,371	1,593	778	2.1	28		4.9	4.6	4.6	5.1
16	UTX	UNITED TECHNOLOGIES CORP	BBB	62	0.7%	6,333	4,259	2,074	2.1	103	5.3	5.0	4.9	5.1	5.3
17	BRK	BERKSHIRE HATHAWAY	A	144	1.0%	9,170	6,117	3,053	2.0	202	5.1	4.6	4.9	5.1	5.3
18	COF	CAPITAL ONE FINL CORP	BBB	28	0.8%	7,643	5,097	2,546	2.0	121	5.7	5.4	5.4		
19	F	FORD	BBB	159	0.6%	6,023	3,999	2,024	2.0	121	6.1	6.1	5.9	6.4	6.6
20	HPQ	HEWLETT PACKARD	BBB	20	0.5%	4,590	3,044	1,546	2.0	74	5.5	5.0	5.0	5.2	5.7

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

December 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	RDS	SHELL	AA	22	0.3%	3,124	1,397	1,727	0.81	48	5.0	4.6	4.4	4.8	5.0
2	EDP	ENTERPRISE PRODS OPER LLC	A	33	0.4%	4,042	1,888	2,154	0.88	64	5.3	4.7	4.7	5.1	5.2
3	NFLX	NETFLIX INC	BBB	9	0.2%	2,204	1,045	1,159	0.90	40	5.5	4.7	4.8		
4	SPG	SIMON PPTY GROUP L P	A	25	0.2%	2,197	1,043	1,154	0.90	47	5.8	5.1	4.8	5.3	5.8
5	CHTR	CCO HOLDINGS LLC	BBB	44	0.2%	2,366	1,149	1,217	0.94	54		5.4	5.7	6.6	6.7
6	DELL	DELL	BBB	24	0.3%	2,934	1,425	1,509	0.94	69	5.9	5.2	5.0	5.2	5.8
7	FISV	FISERV INC	BBB	12	0.4%	3,621	1,840	1,781	1.03	48	6.1	5.0	4.9	5.1	
8	T	AT&T	BBB	102	1.2%	11,102	5,939	5,163	1.15	169	25.8	5.0	4.9	5.1	5.6
9	HMC	AMERICAN HONDA FIN CORP MED TERM NTS BOO	A	34	0.3%	2,445	1,326	1,119	1.18	53	5.4	4.7	4.7	4.4	
10	SRE	SEMPRA ENERGY	A	69	0.2%	2,104	1,150	954	1.21	46	5.5	4.9	4.9	5.0	5.3
11	CMCS	COMCAST	A	66	1.1%	10,334	5,683	4,651	1.22	169	5.3	4.7	4.6	4.9	5.3
12	BNS	BANK NOVA SCOTIA B C	A	188	0.4%	3,896	2,145	1,751	1.23	77	5.5	5.3	5.2	5.3	
13	MS	MORGAN STANLEY	A	1,588	1.9%	18,137	10,004	8,133	1.23	344	5.7	5.1	5.8	4.9	5.1
14	VZ	VERIZON	BBB	165	1.2%	11,830	6,542	5,288	1.24	180	5.4	4.8	4.9	5.2	5.7
15	AMZN	AMAZON COM INC	AA	34	0.7%	7,036	3,906	3,130	1.25	128	5.2	4.5	4.3	4.5	4.7
16	ANTM	Null	A	28	0.4%	3,466	1,926	1,540	1.25	52	5.7	4.7	4.7	5.1	5.4
17	BP	BP	A	28	0.6%	5,967	3,318	2,649	1.25	82		4.7	4.6	4.8	5.1
18	BTI	BAT INTERNATIONAL FINANCE PLC	BBB	35	0.4%	3,647	2,023	1,624	1.25	85	5.9	5.3	5.4	6.0	6.5
19	GILD	GILEAD SCIENCES INC	BBB	17	0.2%	2,258	1,261	997	1.26	41	5.3	4.8		4.8	5.1
20	DIS	DISNEY WALT CO NEW MEDIUM TERM NTS BOOK	A	68	0.5%	5,245	2,931	2,314	1.27	95	5.5	4.7	4.4	5.0	5.1

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.

Corporate Bonds: Top 20 Most Bought Issues

December 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	WFC	WELLS FARGO	Jul-33	A	4.897	5,641	165	5,806	17			94.7	97.0
2	AMT	AMERICAN TOWER CORP NEW	Nov-28	BBB	5.800	1,944	44	1,988	10	5.3	5.0	102.1	103.4
3	CVS	CVS CAREMARK CORP	Mar-28	BBB	4.300	1,870	1,481	3,351	28	4.8	4.8	98.1	97.9
4	FB	Null	May-33	AA	4.950	1,634	125	1,759	20	4.4	4.6	103.8	102.5
5	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	Jun-30	A	3.500	1,603	287	1,890	13	4.7	4.5	93.6	94.6
6	GM	GENERAL MOTORS FINANCIAL COMPANY INC	Oct-25	BBB	6.125	1,480	223	1,703	18	5.5	5.7	101.0	100.7
7	HPQ	HEWLETT PACKARD	Oct-25	BBB	4.900	1,446	621	2,067	16	5.2	5.3	99.5	99.4
8	GM	GENERAL MOTORS FINANCIAL COMPANY INC	Jan-29	BBB	5.800	1,434	24	1,458	27	5.3	5.7	100.5	100.6
9	UTX	UNITED TECHNOLOGIES CORP	Aug-25	BBB	3.950	1,422	625	2,047	11	5.1	5.2	98.2	98.1
10	AAPL	APPLE INC	Nov-27	AA	3.000	1,406	541	1,947	12	4.2	4.2	95.7	95.6
11	CMCS	COMCAST	Oct-28	A	4.150	1,399	1,131	2,530	24	4.5	4.6	98.4	98.2
12	LOW	LOWES COS INC	Apr-26	BBB	2.500	1,388	472	1,860	10	4.8	4.9	95.0	94.9
13	TFC	Null	Jun-27	A	6.047	1,351	160	1,511	9			101.4	101.1
14	DWDP	Null	Nov-28	BBB	4.725	1,304	498	1,802	13	4.6	4.6	100.5	100.5
15	MGLL	Null	Mar-26	BBB	6.412	1,220	33	1,253	10	5.4	6.1	100.2	100.0
16	COF	CAPITAL ONE FINL CORP	Oct-24	BBB	3.300	1,192	498	1,690	15	5.7	6.1	98.0	97.6
17	BP	BP	Sep-27	A	3.279	1,161	533	1,694	11	4.4	4.5	96.0	95.8
18	TRGP	Null	Jul-27	BBB	6.500	1,131	20	1,151	5	5.5	5.8	101.5	101.1
19	F	FORD	Aug-32	BBB	6.100	1,082	121	1,203	25	6.5	6.2	97.6	99.0
20	MS	MORGAN STANLEY	Jan-27	A	3.625	1,073	395	1,468	16	4.8	4.9	96.7	96.4

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).

©2020 Tradeweb Markets LLC. All rights reserved. The information contained herein is highly confidential and some or all of it may constitute material, non-public information under applicable securities laws. This information must be kept strictly confidential, may not be disclosed or distributed to anyone without the express written consent of Tradeweb Markets LLC, and may only be used as expressly permitted by any applicable non-disclosure, customer, or other written agreement with Tradeweb.



Corporate Bonds: Top 20 Most Sold Issues

December 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	CVS	CVS CAREMARK CORP	Mar-28	BBB	4.300	1,870	1,481	3,351	28	4.8	4.8	98.1	97.9
2	AAPL	APPLE INC	Aug-32	AA	3.350	425	1,285	1,710	14	4.2	4.3	93.6	93.3
3	TFC	Null	Mar-27	A	1.267	137	1,244	1,381	11			90.7	91.1
4	AMT	AMERICAN TOWER CORP NEW	Apr-26	BBB	1.600	36	1,133	1,169	8	5.4	5.5	91.7	91.4
5	CMCS	COMCAST	Oct-28	A	4.150	1,399	1,131	2,530	24	4.5	4.6	98.4	98.2
6	GM	GENERAL MOTORS FINANCIAL COMPANY INC	Apr-27	BBB	5.000	185	938	1,123	18	5.2	5.5	99.5	98.5
7	VZ	VERIZON	Mar-27	BBB	4.125	563	869	1,432	17	4.7	4.8	98.2	98.0
8	GS	GOLDMAN SACHS	Mar-30	A	3.800	773	799	1,572	20	5.1	5.1	93.1	93.3
9	T	AT&T	Mar-29	BBB	4.350	655	692	1,347	13	4.8	4.8	98.2	97.9
10	WFC	WELLS FARGO	May-28	A	3.584	319	672	991	7			95.1	95.0
11	T	AT&T	Dec-33	BBB	2.550	346	649	995	8	5.0	5.0	81.2	81.2
12	MS	MORGAN STANLEY	Jul-25	A	4.000	504	646	1,150	14	5.1	5.2	98.3	98.2
13	UTX	UNITED TECHNOLOGIES CORP	Aug-25	BBB	3.950	1,422	625	2,047	11	5.1	5.2	98.2	98.1
14	HPQ	HEWLETT PACKARD	Oct-25	BBB	4.900	1,446	621	2,067	16	5.2	5.3	99.5	99.4
15	NFLX	NETFLIX INC	Feb-25	BBB	5.875	246	615	861	16	5.2	5.5	100.7	100.4
16	AMZN	AMAZON COM INC	Jun-30	AA	1.500	414	610	1,024	6	4.3	4.3	84.4	84.3
17	C	CITIGROUP	Jan-28	BBB	3.887	355	603	958	8			96.6	96.4
18	JPM	JP MORGAN CHASE	Dec-29	A	4.452	460	591	1,051	7			97.8	97.6
19	C	CITIGROUP	Jul-28	BBB	3.668	304	586	890	9			95.1	94.9
20	FISV	FISERV INC	Jul-24	BBB	2.750	147	577	724	9	5.8	6.1	98.4	98.4

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).

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 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.