

Market Transparency Report

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

December 2021

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 December 2021

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	-38	-37.3%	-1.1
CD	6	11.8%	1.0
Corp	2	-3.8%	-0.1
Municipal	-1	-4.9%	0.0
Treasury	18	-2.0%	-0.3

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

Yield Matrix

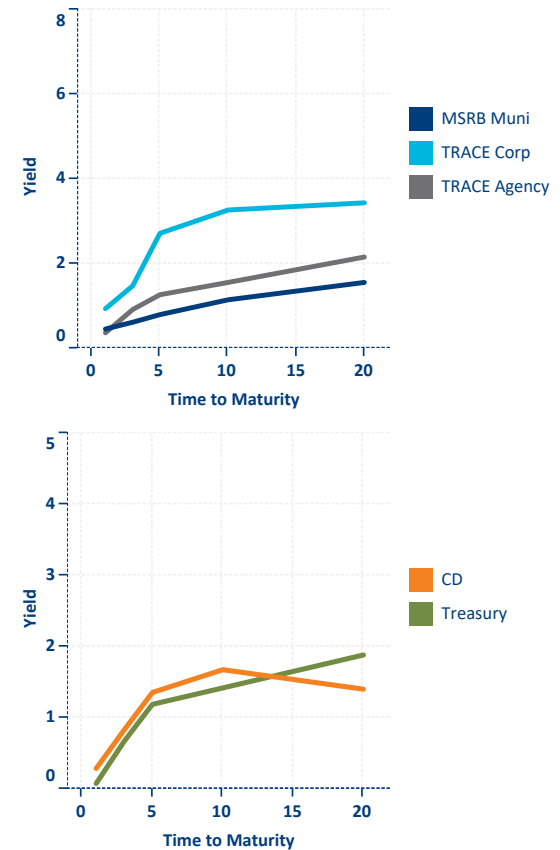
Average Yield, % for December 2021

Market	TTM					Median Maturity (Years)
	1	3	5	10	20	
MSRB Muni	0.5	0.6	0.8	1.2	1.6	9
TRACE Corp	0.9	1.5	2.7	3.3	3.4	3
TRACE Agency	0.4	0.9	1.3	1.6	2.2	5
CD	0.3	0.8	1.4	1.7	1.8	1
Treasury	0.1	0.7	1.2	1.4	1.9	1

Asset Class

Market	Category (Filtered)	Rating Key	1	3	5	10	20	Median Maturity (Years)	
TRACE Corp	Financial	AA	0.7	1.3	1.4	2.2		2	
		A	0.6	1.1	1.6	2.3	3.1	2	
		BBB	0.9	1.6	2.0	2.9	3.4	3	
		HY	1.8	2.7	5.9	6.1		6	
	Non-Financial	AAA	0.9			1.8	2.5		13
		AA	1.9	1.2	1.6	1.8	2.4		4
		A	0.5	1.4	1.7	2.2	3.8		4
		BBB	1.0	1.7	2.1	3.3	3.3		5
		HY	2.9	3.3	9.3	5.7	4.3		5
MSRB Muni	GO	AAA	0.4	0.5	0.7	1.0	1.3		6
		AA	0.4	0.6	0.8	1.1	1.6		8
		A	0.5	0.7	0.9	1.1	1.6		6
		BBB	0.8	0.9	1.5	1.7	1.2		6
	Revenue	HY		1.2	1.9	1.9	1.7		14
		AAA	0.4	0.6	0.7	1.0	1.4		8
		AA	0.5	0.6	0.8	1.1	1.4		9
		A	0.5	0.7	0.9	1.1	1.4		10
		BBB	0.7	1.1	1.2	1.7	1.7		13
		HY	1.6	5.1	2.7	3.8	3.5		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.

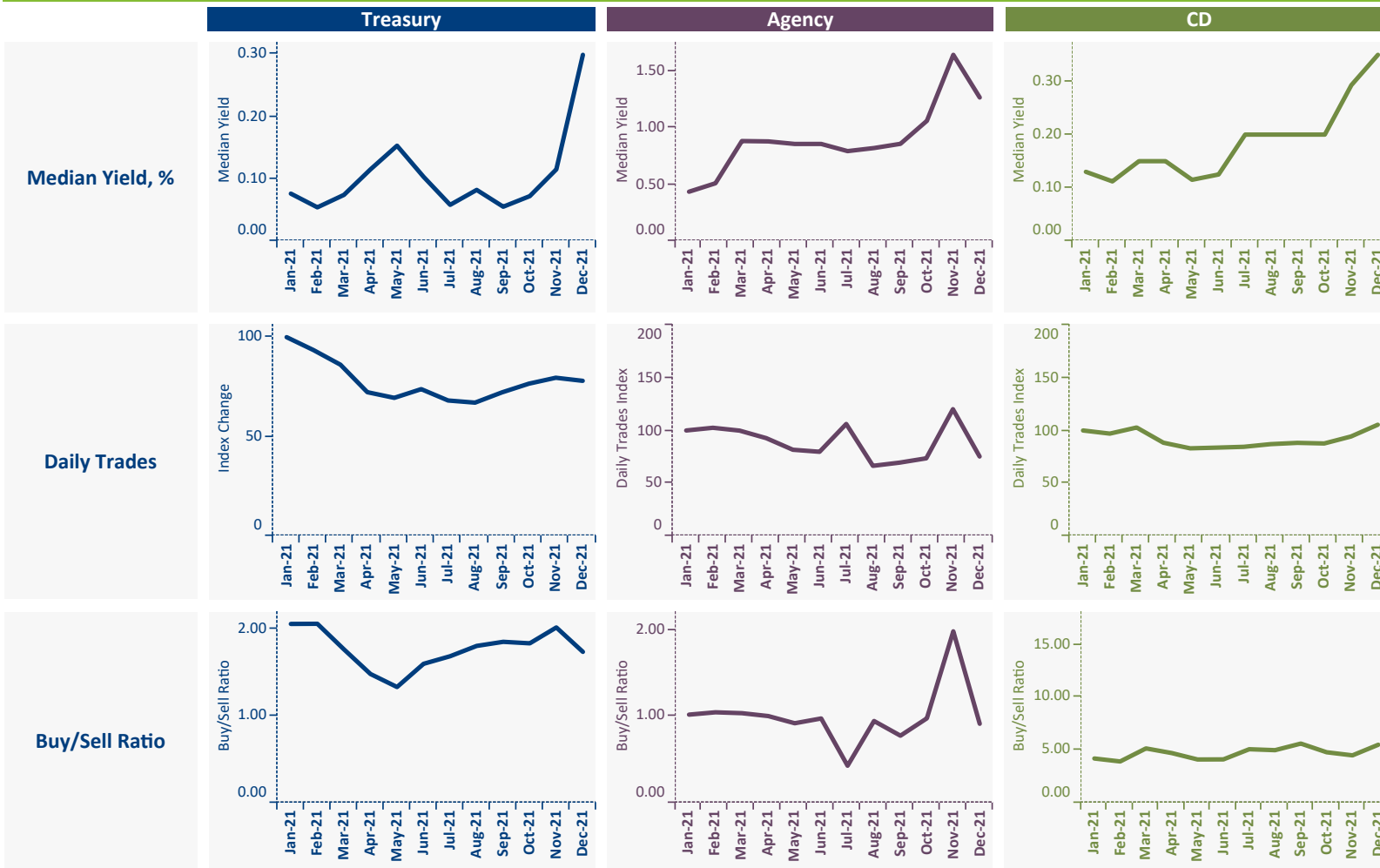
-The weights are based on transaction size.

-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.

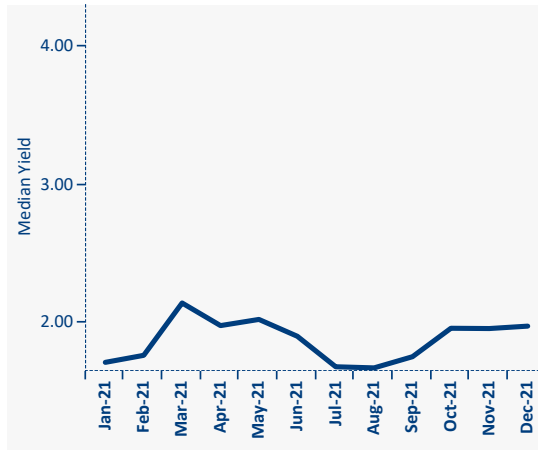
-Agency is based on odd-lot customer transactions (<100M) reported in TRACE. Median yields are based on all odd-lot customer buy transactions.

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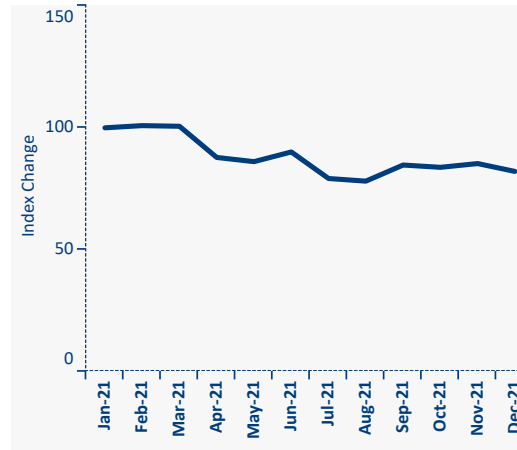


Corporate Bonds: Odd-Lot Customer Transaction Trend Summary

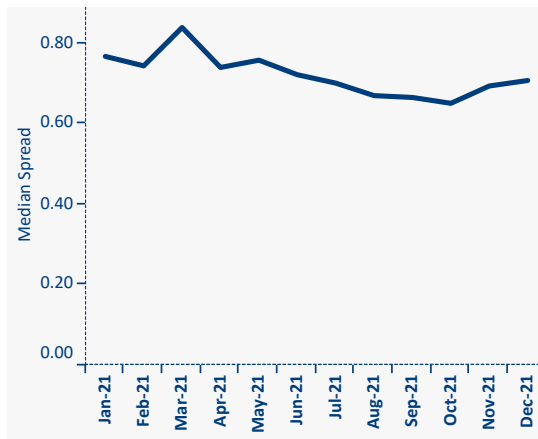
Median Yield, %



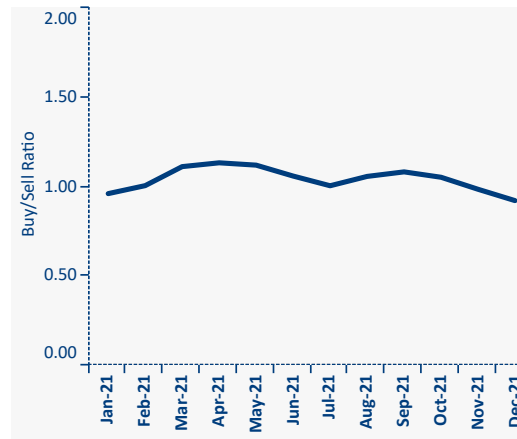
Trades Per Day



Median Spread, %



Buy/Sell Ratio



Daily Trades: First month = 100

Source: TRACE and Tradeweb Direct

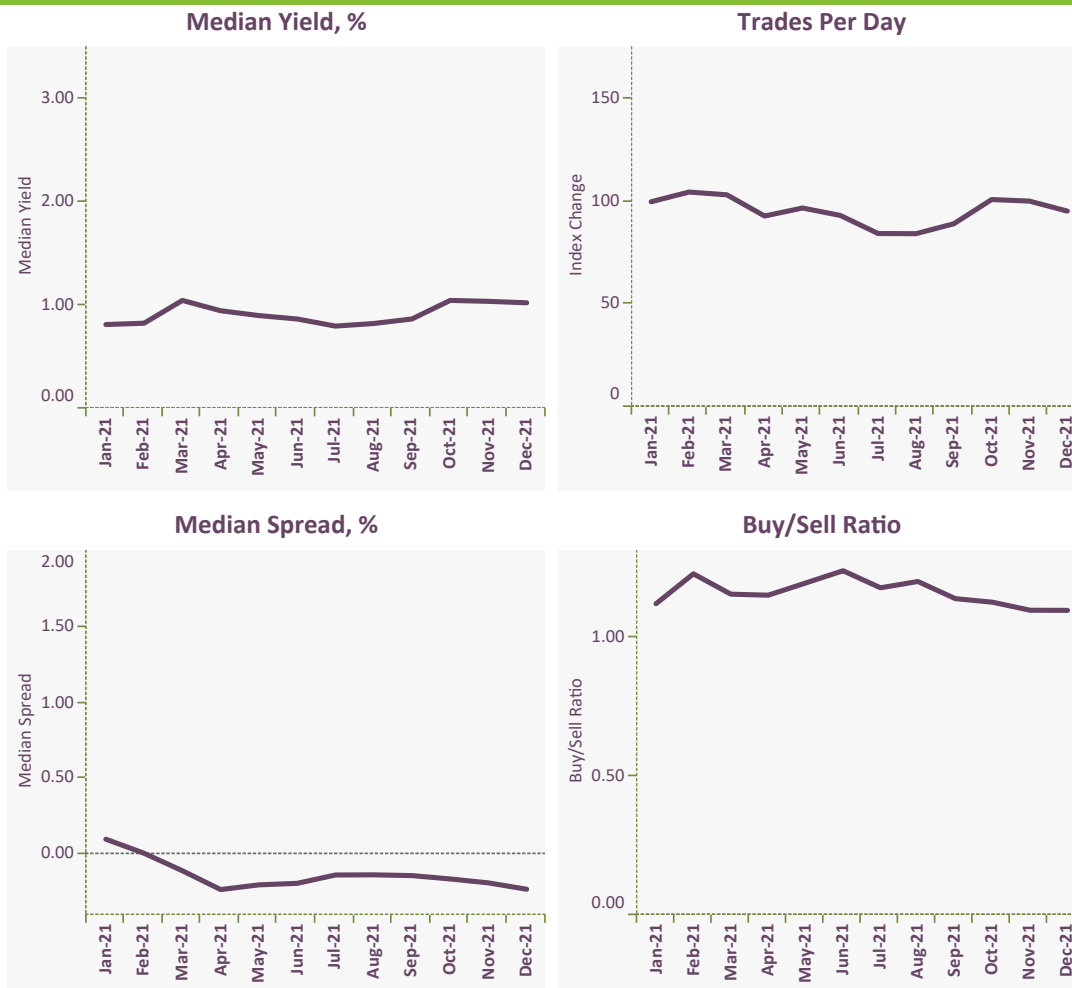
-Based on odd-lot customer transactions (<100M) reported in TRACE.

-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

December 2021

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	743	3.1%	14,014	0.8	289	0.6	1.3	1.7	2.3	2.9
2	GS	GOLDMAN SACHS	A	1,020	2.9%	13,108	0.8	256	0.8	1.5	1.9	3.0	3.6
3	BAC	BANK OF AMERICA	A	307	2.4%	10,590	0.8	222	0.6	1.5	1.9	2.5	3.3
4	C	CITIGROUP	BBB	568	2.2%	10,057	0.8	213	0.9	1.6	1.9	2.5	3.0
5	MS	MORGAN STANLEY	A	1,085	1.9%	8,334	0.7	184	0.8	1.4	1.9	2.4	3.0
6	WFC	WELLS FARGO	A	145	1.7%	7,413	0.9	149	0.7	1.4	1.9	2.2	3.3
7	T	AT&T	BBB	114	1.5%	6,512	0.8	136	0.5	1.2	1.9	2.5	3.4
8	VZ	VERIZON	BBB	140	1.3%	6,017	0.9	117	0.6	1.2	1.7	2.4	3.0
9	ORCL	ORACLE CORP	BBB	35	1.3%	5,735	1.2	113	0.7	1.5	2.0	2.5	3.4
10	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	BBB	272	1.2%	5,434	1.2	117	0.9	1.6	2.2	3.3	3.1
11	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	88	1.2%	5,302	1.4	118	1.0	1.7	2.1	2.7	3.7
12	AAPL	APPLE INC	AA	56	1.2%	5,218	0.7	113	0.6	1.1	1.5	1.9	2.7
13	CMCS	COMCAST	A	60	1.1%	5,026	0.9	94	0.4	1.3	1.6	2.2	2.9
14	F	FORD	BB	134	1.1%	5,019	2.5	77	1.1	2.1	2.4	3.1	4.2
15	CVS	CVS CAREMARK CORP	BBB	45	1.0%	4,304	0.7	86	0.6	1.5	1.8	2.4	3.0
16	BRK	BERKSHIRE HATHAWAY	AA	142	0.8%	3,478	0.5	88	0.5	1.3	1.4	2.2	3.0
17	BK	BANK NEW YORK INC MEDIUM TERM SR NTS BOO	A	42	0.8%	3,386	1.1	67	0.4	1.2	1.5	2.1	
18	SCHW	SCHWAB CHARLES CORP NEW	BBB	36	0.7%	3,033	1.0	73	0.5	1.0	1.5	2.1	
19	ABBV	ABBVIE INC	BBB	29	0.7%	2,960	0.9	69	0.7	1.5	1.8	2.2	3.0
20	DUK	DUKE ENERGY	BBB	115	0.7%	2,934	1.0	67	0.5	1.3	1.9	2.4	3.0

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 2021

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	BKNG	Null	A	6	0.3%	1,335	1,180	155	7.6	10	0.8	1.3	1.5	2.3	
2	PSEC	PROSPECT CAP CORP INTERNOTES BOOK ENTRY	BBB	96	0.3%	1,159	924	235	3.9	23	1.4	2.8	3.3	4.0	2.4
3	SIVB	SVB FINL GROUP	BBB	9	0.3%	1,279	1,005	274	3.7	33		1.5	1.9	2.4	
4	F	FORD	BB	134	1.1%	5,019	3,575	1,444	2.5	77	1.1	2.1	2.4	3.1	4.2
5	DISH	DISH DBS CORP	B	10	0.3%	1,220	848	372	2.3	25	2.5	5.0	6.3	6.5	
6	CS	CREDIT SUISSE	N/R	226	0.2%	1,069	664	405	1.6	20	1.2	1.0	2.0	2.5	3.2
7	D	DOMINION RES INC VA NEW	BBB	69	0.4%	1,871	1,142	729	1.6	45	0.7	1.5	1.7	2.4	3.1
8	PSX	PHILLIPS 66	BBB	19	0.2%	1,090	666	424	1.6	21	1.0	1.6	1.8	2.6	3.4
9	SVC	Null	BB	13	0.3%	1,196	719	477	1.5	24	4.4	5.2	5.6	5.8	
10	EIX	EDISON MISSION	BBB	47	0.3%	1,440	863	577	1.5	36	0.8	1.6	2.9	2.3	3.5
11	TEVA	TEVA PHARMACEUTICAL FIN CO B V	BB	10	0.3%	1,187	713	474	1.5	26	1.8	3.6	4.1		5.0
12	MO	ALTRIA GROUP INC	BBB	24	0.4%	1,775	1,037	738	1.4	47	0.6	1.3	1.8	3.0	4.1
13	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	88	1.2%	5,302	3,087	2,215	1.4	118	1.0	1.7	2.1	2.7	3.7
14	AL	AIR LEASE CORP	BBB	25	0.3%	1,314	760	554	1.4	26	0.6	1.9	2.2	2.8	
15	BA	BOEING CO	BBB	55	0.6%	2,801	1,604	1,197	1.3	70	1.0	1.8	2.2	2.8	3.6
16	AMGN	AMGEN INC	BBB	29	0.4%	1,927	1,084	843	1.3	42		1.2	1.7	2.3	3.0
17	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	BBB	272	1.2%	5,434	2,974	2,460	1.2	117	0.9	1.6	2.2	3.3	3.1
18	ORCL	ORACLE CORP	BBB	35	1.3%	5,735	3,144	2,591	1.2	113	0.7	1.5	2.0	2.5	3.4
19	ALLY	ALLY FINANCIAL	BBB	34	0.3%	1,344	729	615	1.2	29	1.0	1.6	1.9	3.1	
20	SO	GEORGIA POWER CO	BBB	66	0.4%	1,573	843	730	1.2	38	0.6	1.3	1.8	2.5	3.3

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

December 2021

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	CNP	CENTERPOINT ENERGY INC	BBB	33	0.4%	1,912	257	1,655	0.16	19	1.1	1.8	2.7	2.9	4.4
2	HBC	HSBC	N/R	330	0.3%	1,233	307	926	0.33	30	0.9	2.0	2.4	3.6	3.2
3	BCS	BARCLAYS	N/R	582	0.4%	1,641	438	1,203	0.36	32	2.1	2.0	2.3	2.8	
4	MET	METLIFE	A	19	0.3%	1,347	434	913	0.48	26		1.1		2.1	2.9
5	BRK	BERKSHIRE HATHAWAY	AA	142	0.8%	3,478	1,194	2,284	0.52	88	0.7	1.2	1.4	2.2	3.0
6	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	BBB	39	0.5%	2,186	766	1,420	0.54	46			1.6	2.2	3.3
7	RDS	SHELL	AA	29	0.4%	1,829	665	1,164	0.57	36	0.7	1.3	1.5	2.1	2.9
8	FISV	FISERV INC	BBB	10	0.3%	1,318	498	820	0.61	26	0.7	1.4	1.9	2.4	
9	XOM	XTO ENERGY INC	AA	25	0.3%	1,501	570	931	0.61	30	0.6	1.3	1.5	2.1	2.9
10	PEP	PEPSICO	A	38	0.4%	1,633	623	1,010	0.62	34	0.6	1.1	1.5	1.9	2.6
11	EXC	EXELON GENERATION CO LLC	BBB	72	0.3%	1,131	437	694	0.63	30	1.1	1.5	1.8	2.4	4.1
12	HCA	HCA INC	BBB	25	0.3%	1,259	488	771	0.63	31	1.3	2.1	2.1	2.8	3.3
13	APC	ANADARKO PETE CORP	BB	69	0.3%	1,416	554	862	0.64	42	1.3	2.8	3.1	3.5	4.4
14	EDP	ENTERPRISE PRODS OPER LLC	BBB	35	0.4%	1,636	636	1,000	0.64	36	0.8	1.5	1.8	2.2	3.5
15	WMT	WAL-MART	AA	32	0.3%	1,551	619	932	0.66	30	0.5	1.0	1.3	1.7	2.4
16	BP	BP	A	44	0.6%	2,601	1,045	1,556	0.67	58	0.8	1.4	1.9	2.2	3.0
17	BNS	BANK NOVA SCOTIA B C	A	162	0.3%	1,562	633	929	0.68	33	0.7	1.2	1.7	2.3	
18	CAT	CATERPILLAR	A	67	0.4%	1,615	667	948	0.70	35	0.5	1.1	1.7	2.0	2.7
19	CHTR	CCO HOLDINGS LLC	BBB	40	0.3%	1,213	499	714	0.70	39	1.1	1.8		3.0	3.9
20	AAPL	APPLE INC	AA	56	1.2%	5,218	2,171	3,047	0.71	113	0.6	1.2	1.6	2.0	2.8

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.

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Corporate Bonds: Top 20 Most Bought Issues

December 2021

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	F	FORD	Dec-26	BB	4.346	2,566	214	2,780	22	2.4	2.5	108.5	108.2
2	BKNG	Null	May-25	A	0.750	1,116	61	1,177	5			140.5	140.5
3	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Aug-50	BBB	3.533	813	500	1,313	31	3.5	3.5	99.0	97.9
4	CMCS	COMCAST	Oct-28	A	4.150	781	444	1,225	18	2.0	2.0	113.6	113.5
5	GM	GENERAL MOTORS FINANCIAL COMPANY INC	Apr-22	BBB	3.450	781	86	867	15	0.5	0.6	100.5	100.4
6	TEN	TENNECO INC	Dec-24	B	5.375	708	75	783	8	5.5	5.7	99.8	99.2
7	MTDR	Null	Sep-26	B	5.875	588	24	612	7	4.8	5.0	102.8	102.3
8	SCHW	SCHWAB CHARLES CORP NEW	Null	BBB	4.000	465	175	640	17			101.1	99.3
9	DAN	DANA HLDG CORP	Nov-27	BB	5.375	454	34	488	4	3.0	3.0	104.8	104.7
10	LVS	Null	Aug-24	BBB	3.200	450	34	484	5	2.6	2.6	101.6	101.5
11	SIVB	SVB FINL GROUP	Null	BBB	4.250	446	65	511	12			100.6	100.4
12	RCL	ROYAL CARIBBEAN CRUISES LTD	Nov-22	B	5.250	429	81	510	9	4.2	3.9	101.0	101.2
13	PNC	PNC FDG CORP	Aug-50	BBB	3.400	419	62	481	14			98.4	96.7
14	JPM	JP MORGAN CHASE	Sep-24	BBB	3.875	416	118	534	10	1.4	1.5	106.5	106.3
15	BK	BANK NEW YORK INC MEDIUM TERM SR NTS BOO	Aug-50	BBB	3.750	400	37	437	11			100.0	99.1
16	UA	UNDER ARMOR	Jun-26	BB	3.250	370	86	456	5	2.8	2.9	102.0	101.5
17	PBFQ	PBF HLDG CO LLC / PBF FIN CORP	May-23	B	6.875	357	103	460	6	9.3	9.9	96.9	96.1
18	ORCL	ORACLE CORP	Nov-27	BBB	3.250	355	319	674	10	2.1	2.2	105.9	105.7
19	MUR	MURPHY OIL CORP	Dec-27	BB	5.875	354	39	393	9	4.9	5.2	103.5	102.5
20	WFC	WELLS FARGO	Jun-28	A	2.393	343	183	526	5			101.4	101.6

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

December 2021

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	CNP	CENTERPOINT ENERGY INC	Sep-29	BBB	2.000	39	1,314	1,353	4			58.2	55.6
2	CVS	CVS CAREMARK CORP	Mar-28	BBB	4.300	232	573	805	13	2.1	2.1	112.5	112.4
3	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Aug-50	BBB	3.533	813	500	1,313	31	3.5	3.5	99.0	97.9
4	CMCS	COMCAST	Oct-28	A	4.150	781	444	1,225	18	2.0	2.0	113.6	113.5
5	QCOM	QUALCOMM	May-22	A	3.000	54	366	420	5	0.4	0.4	101.2	101.1
6	AAPL	APPLE INC	May-23	AA	2.400	136	354	490	10	0.6	0.7	102.4	102.4
7	VZ	VERIZON	Nov-24	BBB	3.500	250	347	597	6	1.1	1.2	106.2	106.0
8	VZ	VERIZON	Mar-27	BBB	4.125	105	337	442	10	1.9	1.9	111.2	111.1
9	ORCL	ORACLE CORP	Nov-27	BBB	3.250	355	319	674	10	2.1	2.2	105.9	105.7
10	BAC	BANK OF AMERICA	Jan-23	A	3.300	95	306	401	8	0.6	0.7	102.9	102.7
11	JPM	JP MORGAN CHASE	Oct-26	A	2.950	260	303	563	6	1.7	1.7	105.4	105.3
12	WDC	WESTERN DIGITAL CORP	Feb-26	BBB	4.750	107	288	395	9	2.2	2.2	109.7	109.4
13	GILD	GILEAD SCIENCES INC	Feb-25	BBB	3.500	227	284	511	5	1.4	1.5	105.9	105.7
14	BRK	BERKSHIRE HATHAWAY	Mar-26	AA	3.125	101	283	384	8	1.4	1.4	106.8	106.7
15	QRTEA	Null	Feb-27	BB	4.750	64	282	346	5	4.0	4.1	103.2	102.8
16	C	CITIGROUP	Jul-28	BBB	3.668	168	280	448	6			107.8	107.7
17	FISV	FISERV INC	Jul-26	BBB	3.200	104	275	379	8	1.9	2.0	105.6	105.2
18	JPM	JP MORGAN CHASE	Aug-50	BBB	6.750	134	275	409	8	6.3	6.3	107.9	107.5
19	GS	GOLDMAN SACHS	Mar-24	A	4.000	144	273	417	9	1.2	1.3	106.0	106.0
20	JPM	JP MORGAN CHASE	Aug-50	BBB	3.932	128	272	400	7	3.9	3.9	100.4	100.2

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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