

Market Transparency Report

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

May 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.

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 May 2021

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	-3	-11.6%	-0.1
CD	-4	-6.0%	-0.6
Corp	4	-2.0%	0.0
Municipal	-5	4.2%	0.0
Treasury	4	-3.9%	-0.1

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



Yield Matrix

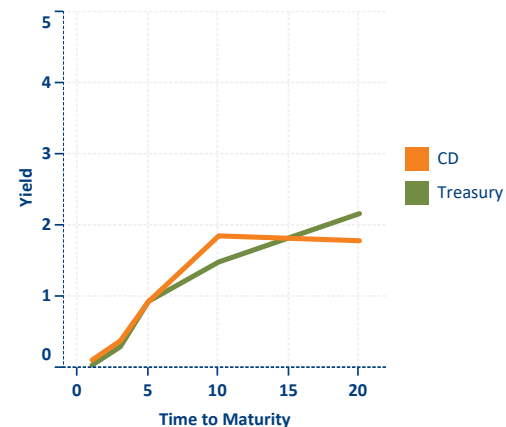
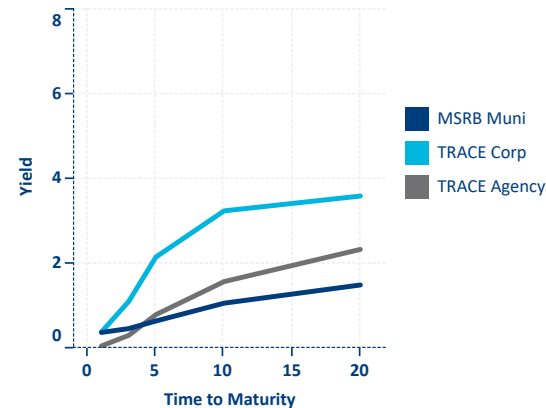
Average Yield, % for May 2021

Market	1	3	5	10	20	Median Maturity (Years)
MSRB Muni	0.4	0.5	0.7	1.1	1.5	8
TRACE Corp	0.4	1.1	2.2	3.3	3.6	4
TRACE Agency	0.1	0.3	0.8	1.6	2.3	5
CD	0.1	0.4	0.9	1.9	1.8	1
Treasury	0.0	0.3	0.9	1.6	2.2	2

Asset Class

Market	Category (Filtered)	Rating Key	1	3	5	10	20	Median Maturity (Years)
TRACE Corp	Financial	AA	0.1	0.3	1.1	2.3		1
		A	0.2	0.5	1.1	2.2	3.3	3
		BBB	0.5	0.9	1.5	2.4	3.5	4
		HY	1.5	2.3	4.6	5.8		6
		AAA		0.2		1.7	2.7	8
	Non-Financial	AA	0.1	0.3		1.9	2.8	9
		A	0.2	0.6	1.1	2.2		2
		BBB	0.4	1.2	1.6	3.0	3.2	7
		HY	1.2	3.1	5.9	4.6	4.8	7
MSRB Muni	GO	AAA	0.3	0.4	0.5	0.9	1.4	6
		AA	0.4	0.4	0.6	1.0	1.6	8
		A	0.4	0.5	0.7	1.1	1.4	6
		BBB	0.8	1.0	1.3	1.7	1.7	7
		HY		3.3		2.2	1.7	14
	Revenue	AAA	0.3	0.4	0.6	1.0	1.3	7
		AA	0.4	0.4	0.6	1.0	1.4	9
		A	0.4	0.6	0.7	1.1	1.3	10
		BBB	0.7	0.9	1.2	1.8	1.7	12
		HY	3.1	4.3	2.4	3.8	3.7	10

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.

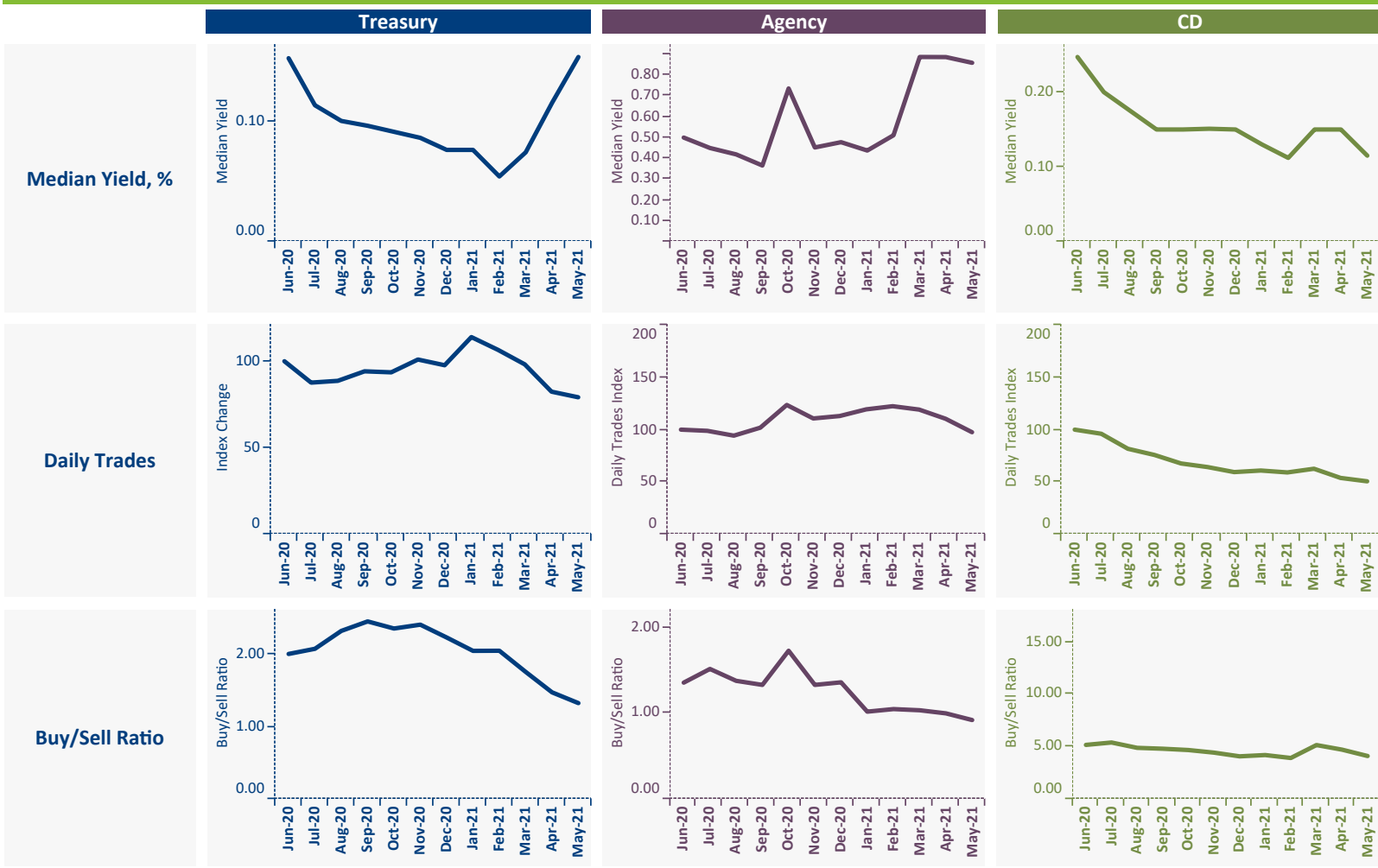
-The weights are based on transaction size.

-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

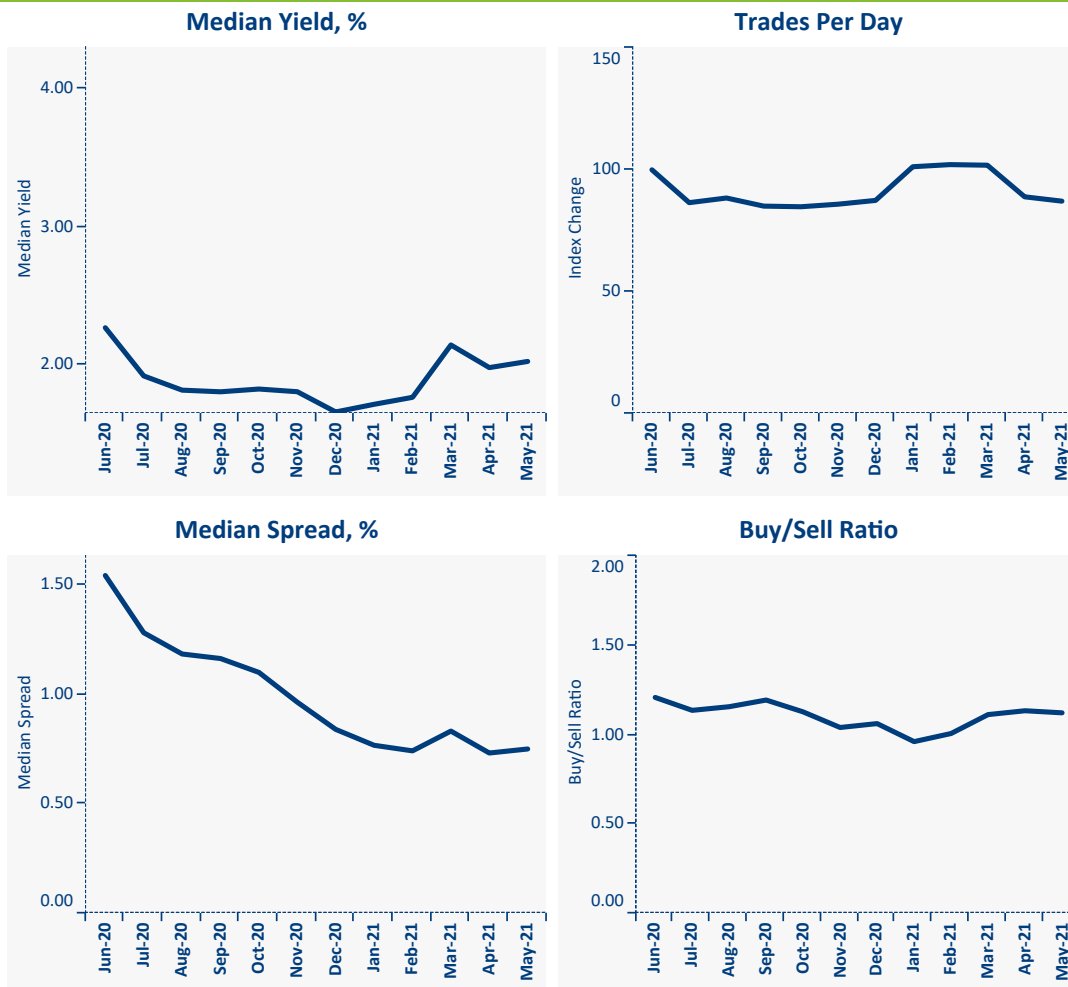
-Treasury and CD are based on transactions on the Tradeweb Direct Platform. Median yields are based on all customer buy transactions.

-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

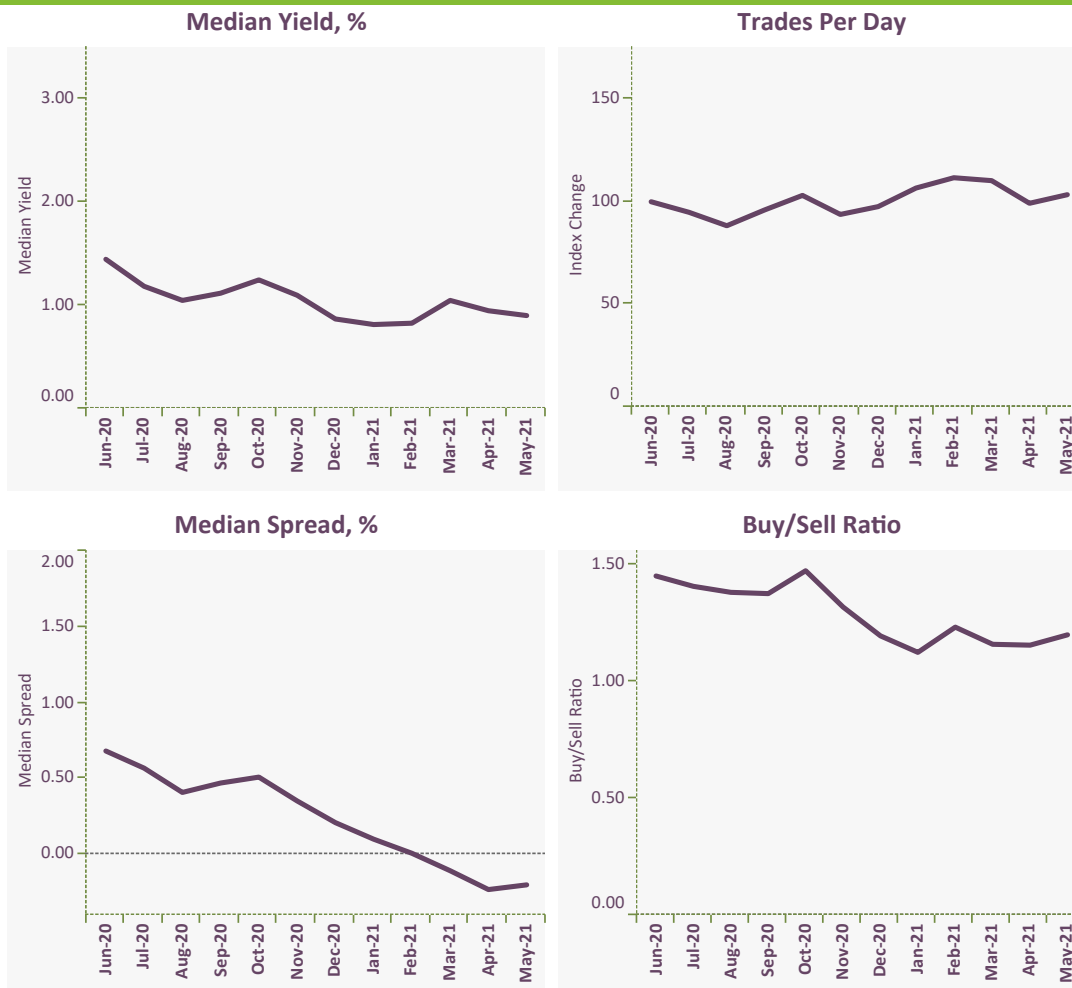
-Based on odd-lot customer transactions (<100M) reported in TRACE.

-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

May 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	693	3.0%	12,695	1.2	286	0.2	0.8	1.2	2.2	3.0
2	C	CITIGROUP	BBB	523	2.5%	10,709	1.0	237	0.2	0.7	1.4	2.5	3.2
3	GS	GOLDMAN SACHS	A	915	2.4%	10,111	0.8	217	0.2	0.8	1.4	2.8	3.6
4	BAC	BANK OF AMERICA	A	306	2.3%	9,899	1.0	205	0.2	0.9	1.3	2.5	3.4
5	VZ	VERIZON	BBB	143	1.6%	6,783	1.5	130	0.2	0.7	1.2	2.4	3.2
6	MS	MORGAN STANLEY	A	767	1.5%	6,548	0.6	154	0.3	0.7	1.3	2.5	3.1
7	WFC	WELLS FARGO	A	183	1.5%	6,497	0.9	134	0.2	0.9	1.4	2.1	3.5
8	AAPL	APPLE INC	AA	54	1.4%	6,018	1.0	111	0.1	0.3	1.0	2.0	3.0
9	ORCL	ORACLE CORP	A	37	1.3%	5,718	1.4	114	0.3	1.0	1.4	2.5	3.4
10	T	AT&T	BBB	109	1.3%	5,548	0.9	121	0.3	0.6	1.4	2.6	3.6
11	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	BBB	279	1.3%	5,462	0.9	120	0.4	0.9	1.6	3.0	3.5
12	CMCS	COMCAST	A	61	1.1%	4,705	1.1	99	0.2	0.5	1.0	2.3	3.0
13	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	86	1.1%	4,536	1.0	110	0.4	0.8	1.6	2.7	3.9
14	CVS	CVS CAREMARK CORP	BBB	47	1.0%	4,311	1.0	83	0.4	0.6	1.2	2.4	3.2
15	F	FORD	BB	223	0.9%	3,946	1.7	92	1.3	2.6	3.1	4.1	4.7
16	BA	BOEING CO	BBB	58	0.8%	3,340	2.5	87	0.4	0.9	2.0	2.8	3.8
17	BRK	BERKSHIRE HATHAWAY	A	146	0.7%	3,188	0.8	82	0.2	0.4	1.0	2.7	3.2
18	MSFT	MICROSOFT CORP	AAA	35	0.7%	3,072	1.1	57	0.1	0.2	0.8		2.6
19	SCHW	SCHWAB CHARLES CORP NEW	BBB	34	0.7%	3,017	2.3	82	0.2	0.5	1.1	2.2	
20	TFC	Null	BBB	44	0.7%	2,989	1.8	59	0.2	0.5	0.9	2.1	

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

May 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	PXD	Pioneer Natural Res Expl Inc	BBB	9	0.5%	2,240	2,150	90	23.9	14	0.5	0.5	1.3	2.6	
2	SIVB	SVB FINL GROUP	BBB	6	0.3%	1,203	1,100	103	10.7	31		1.1		2.5	
3	GT	GOODYEAR TIRE & RUBBER	B	9	0.4%	1,729	1,482	247	6.0	39		1.6	3.9	5.1	
4	ALLY	ALLY FINANCIAL	BB	40	0.6%	2,431	1,955	476	4.1	62	0.5	0.9	2.1	3.3	
5	EIX	EDISON MISSION	BBB	44	0.4%	1,880	1,495	385	3.9	45	0.6	0.6	1.2	2.4	3.7
6	PCG	PACIFIC GAS & ELEC CO	BBB	35	0.2%	1,058	839	219	3.8	25	0.9	1.0	2.0	3.4	4.5
7	CHRC	BAYSIDE CMNTY CHURCH SARASOTA INC BRADEN	N/R	117	0.3%	1,121	878	243	3.6	8	4.2	4.8	5.2	5.5	6.0
8	URI	UNITED RENTALS NORTH AMER INC	BB	7	0.3%	1,270	991	279	3.6	19			2.0	3.7	
9	PSEC	PROSPECT CAP CORP INTERNOTES BOOK ENTRY	BBB	117	0.3%	1,287	994	293	3.4	26	1.9	3.4	3.3	4.0	4.7
10	SVC	Null	BB	13	0.2%	994	755	239	3.2	19	2.3	4.5	5.2	5.4	
11	CXW	CORRECTIONS CORP AMER NEW	BB	4	0.3%	1,070	800	270	3.0	17	0.2	4.5	8.2		
12	MO	ALTRIA GROUP INC	BBB	25	0.4%	1,891	1,406	485	2.9	51	0.2	0.7	1.6	2.8	4.1
13	BA	BOEING CO	BBB	58	0.8%	3,340	2,380	960	2.5	87	0.4	0.9	2.0	2.8	3.8
14	TEVA	TEVA PHARMACEUTICAL FIN CO B V	BB	12	0.3%	1,407	991	416	2.4	36	1.5	3.0	4.2		
15	SCHW	SCHWAB CHARLES CORP NEW	BBB	34	0.7%	3,017	2,093	924	2.3	82	0.2	0.5	1.1	2.2	
16	DAL	DELTA AIR LINES INC DEL	BB	14	0.3%	1,475	1,002	473	2.1	32	1.1	2.5	3.3	3.8	
17	MUR	MURPHY OIL CORP	BB	9	0.3%	1,099	735	364	2.0	22		2.1	4.4	3.9	6.6
18	BTI	BAT INTERNATIONAL FINANCE PLC	BBB	30	0.4%	1,865	1,238	627	2.0	45	0.5	1.1	1.7	3.1	4.5
19	AMZN	AMAZON COM INC	AA	27	0.7%	2,861	1,891	970	2.0	64	0.1	0.5	1.0	2.0	2.8
20	FITB	FIFTH THIRD BANCORP	BBB	15	0.4%	1,642	1,082	560	1.9	33	0.3	0.6	1.6		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

May 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	CSCO	CISCO	AA	10	0.4%	1,665	339	1,326	0.26	20	0.2	0.4	1.0		2.9
2	HBC	HSBC	N/R	396	0.3%	1,151	328	823	0.40	31	0.3	0.9	1.9	3.5	3.4
3	BCS	BARCLAYS	N/R	583	0.4%	1,759	622	1,137	0.55	41	1.4	1.5	1.9	2.6	
4	COF	CAPITAL ONE FINL CORP	BBB	22	0.5%	2,082	804	1,278	0.63	44	0.3	0.8	1.6		
5	MS	MORGAN STANLEY	A	767	1.5%	6,548	2,554	3,994	0.64	154	0.5	0.7	1.4	2.6	3.2
6	RDS	SHELL	AA	27	0.4%	1,714	671	1,043	0.64	36	0.2	0.8	1.1	2.0	3.1
7	PEP	PEPSICO	A	39	0.4%	1,566	630	936	0.67	33	0.2	0.4	1.0	1.9	3.0
8	MET	METLIFE	A	20	0.3%	1,439	590	849	0.69	26		0.5	1.0	2.3	3.2
9	KMI	KINDER MORGAN ENERGY PARTNERS L P	BBB	55	0.3%	1,328	550	778	0.71	31	0.4	0.7	1.1	3.3	4.0
10	AXP	AMERICAN EXPRESS	BBB	24	0.5%	2,261	970	1,291	0.75	45	0.3	0.5	1.0		3.1
11	BNS	BANK NOVA SCOTIA B C	A	129	0.3%	1,295	561	734	0.76	29	0.2	0.6	1.2	2.6	
12	PNC	PNC FDG CORP	A	27	0.3%	1,195	530	665	0.80	25	0.3	0.5	1.4	2.1	
13	XOM	XTO ENERGY INC	AA	25	0.4%	1,590	713	877	0.81	34	0.2	0.5	1.1	2.1	3.1
14	AIG	AIG	BBB	28	0.2%	1,050	473	577	0.82	25	0.5	0.7	1.1	2.4	3.5
15	BRK	BERKSHIRE HATHAWAY	A	146	0.7%	3,188	1,444	1,744	0.83	82	0.3	0.5	1.0	2.0	3.2
16	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	BBB	41	0.5%	2,054	933	1,121	0.83	47		0.9	1.2	2.2	3.7
17	EDP	ENTERPRISE PRODS OPER LLC	BBB	34	0.3%	1,484	679	805	0.84	32	0.4	1.0	1.2	2.3	3.6
18	GS	GOLDMAN SACHS	A	915	2.4%	10,111	4,610	5,501	0.84	217	0.4	0.9	1.4	2.4	3.7
19	BK	BANK NEW YORK INC MEDIUM TERM SR NTS BOO	A	37	0.6%	2,483	1,138	1,345	0.85	48	0.2	0.5	1.1	2.1	
20	DE	DEERE JOHN CAP CORP MEDIUM TERM NTS-BOOK	A	57	0.4%	1,533	705	828	0.85	33	0.2	0.4	1.1	2.0	2.7

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

May 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	PXD	Pioneer Natural Res Expl Inc	May-25	BBB	0.250	2,080	3	2,083	11			150.5	149.8
2	VZ	VERIZON	Mar-26	BBB	1.450	1,072	49	1,121	14	1.2	1.3	100.9	100.9
3	C	CITIGROUP	Jul-50	BB	5.950	836	78	914	16	5.6	5.6	105.5	105.4
4	ALLY	ALLY FINANCIAL	Aug-50	BB	4.700	831	98	929	25			103.1	102.6
5	SCHW	SCHWAB CHARLES CORP NEW	Null	BBB	4.000	826	95	921	27			101.7	100.1
6	TFC	Null	Aug-50	BBB	5.100	801	44	845	12			111.3	111.0
7	JPM	JP MORGAN CHASE	Aug-50	BBB	3.650	787	30	817	23			100.7	99.7
8	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Null	BBB	3.514	786	446	1,232	28	3.7	3.7	95.7	94.9
9	GEO	GEO GROUP INC	Apr-23	C	5.125	772	511	1,283	13	10.9	13.5	90.6	86.7
10	ALLY	ALLY FINANCIAL	Null	BB	4.700	766	7	773	20			102.1	101.3
11	AMZN	AMAZON COM INC	May-26	AA	1.000	731	29	760	16	1.0	1.0	100.1	99.8
12	CVS	CVS CAREMARK CORP	Mar-28	BBB	4.300	723	498	1,221	16	2.0	2.0	113.9	114.2
13	EIX	EDISON MISSION	Null	BB	5.375	702	44	746	17			103.5	101.7
14	FITB	FIFTH THIRD BANCORP	Sep-70	BBB	3.331	676	105	781	14	3.3	3.4	99.8	99.2
15	SM	SM ENERGY CO	Jan-24	B	5.000	635	97	732	7	5.9	6.0	97.9	97.7
16	MSFT	MICROSOFT CORP	Nov-25	AAA	3.125	625	152	777	13	0.8	0.8	109.8	109.5
17	VSH	Null	Jun-25	BB	2.250	603	27	630	3	0.3	0.6	107.9	106.6
18	BA	BOEING CO	Feb-26	BBB	2.196	585	60	645	15	2.0	2.1	100.3	100.2
19	AAPL	APPLE INC	May-23	AA	2.400	572	313	885	10	0.3	0.3	104.1	104.1
20	BIPAF	Null	May-81	BBB	5.000	550	38	588	1			24.9	24.9

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

May 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	CSCO	CISCO	Jun-22	AA	3.000	17	957	974	9	0.2	0.2	103.1	102.9
2	GEO	GEO GROUP INC	Apr-26	C	6.000	493	546	1,039	8	16.4	18.9	66.0	60.0
3	NUAN	NUANCE COMMUNICATIONS INC	Dec-35	BB	1.000	5	535	540	5			217.5	218.0
4	GEO	GEO GROUP INC	Apr-23	C	5.125	772	511	1,283	13	10.9	13.5	90.6	86.7
5	CVS	CVS CAREMARK CORP	Mar-28	BBB	4.300	723	498	1,221	16	2.0	2.0	113.9	114.2
6	AAPL	APPLE INC	May-24	AA	3.450	76	497	573	7	0.4	0.4	109.0	108.8
7	HTZGQ	Null	Oct-22	N/R	6.250	103	486	589	15			102.5	102.1
8	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Null	BBB	3.514	786	446	1,232	28	3.7	3.7	95.7	94.9
9	FTR	FRONTIER COMMUNICATIONS CORP	Nov-29	C	5.875	157	346	503	4	5.9	6.0	99.7	99.4
10	CMCS	COMCAST	Oct-28	A	4.150	206	337	543	13	1.9	1.9	115.3	115.0
11	AAPL	APPLE INC	May-23	AA	2.400	572	313	885	10	0.3	0.3	104.1	104.1
12	MSI	MOTOROLA SOLUTIONS INC	Sep-24	BBB	4.000	16	309	325	4	0.9	0.9	110.0	110.0
13	C	CITIGROUP	Jul-28	BBB	3.668	144	306	450	5			110.5	110.3
14	VZ	VERIZON	Mar-27	BBB	4.125	104	296	400	10	1.6	1.6	114.2	114.0
15	X	UNITED STS STL CORP NEW	Mar-26	C	6.250	144	294	438	8	4.7	5.1	102.6	102.0
16	VZ	VERIZON	Nov-24	BBB	3.500	359	292	651	7	0.7	0.8	108.8	108.7
17	BAC	BANK OF AMERICA	Jan-23	A	3.300	98	280	378	8	0.3	0.3	104.9	104.9
18	MSFT	MICROSOFT CORP	Aug-26	AAA	2.400	254	277	531	7	1.0	1.0	106.7	106.6
19	ORCL	ORACLE CORP	Nov-27	A	3.250	329	264	593	6	1.7	1.8	108.9	108.7
20	ORCL	ORACLE CORP	Jul-26	A	2.650	289	259	548	8	1.4	1.5	105.7	105.6

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).

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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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