

Market Transparency Report

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

August 2020

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 2020

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	-3	-4.7%	-0.1
CD	-3	-14.9%	-0.5
Corp	-10	2.2%	0.0
Municipal	-14	-6.9%	0.0
Treasury	-1	1.2%	0.2

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

Yield Matrix

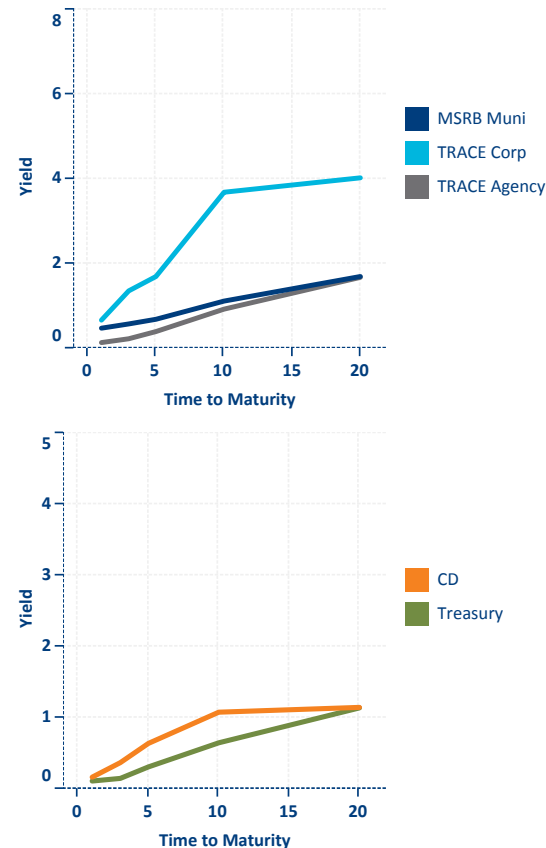
Average Yield, % for August 2020

Market	TTM					Median Maturity (Years)
	1	3	5	10	20	
MSRB Muni	0.5	0.6	0.7	1.1	1.7	10
TRACE Corp	0.7	1.4	1.7	3.7	4.0	3
TRACE Agency	0.1	0.2	0.4	0.9	1.7	4
CD	0.2	0.4	0.6	1.1	1.1	1
Treasury	0.1	0.1	0.3	0.6	1.1	1

Asset Class

Market	Category (Filtered)	Rating Key	1	3	5	10	20	Median Maturity (Years)
TRACE Corp	Financial	AA	0.2	0.5	1.5	1.4		1
		A	0.3	0.5	0.8	1.7	2.9	3
		BBB	0.9	1.0	1.5	3.0	4.0	4
		HY	2.9	2.5	8.8	9.6	5.6	7
		AAA	0.1	0.2		1.2	2.1	9
	Non-Financial	AA	0.4	0.3	0.4	1.5	2.3	10
		A	0.6	0.6	1.1	1.5	2.4	3
		BBB	0.8	2.0	1.9	4.4	4.5	8
		HY	3.2	10.1	6.6	6.3	5.4	5
MSRB Muni	GO	AAA	0.3	0.3	0.4	0.7	1.2	8
		AA	0.3	0.4	0.5	0.9	1.5	9
		A	0.5	0.6	0.7	1.1	1.5	7
		BBB	1.6	1.7	2.3	2.4	2.8	9
		HY	3.5	4.0	3.6	1.3	3.2	21
	Revenue	AAA	0.3	0.3	0.4	0.8	1.4	9
		AA	0.4	0.4	0.5	1.0	1.4	10
		A	0.6	0.7	0.8	1.3	1.6	12
		BBB	1.3	1.7	2.0	2.4	2.6	14
		HY	6.7	6.5	4.7	4.9	4.6	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.

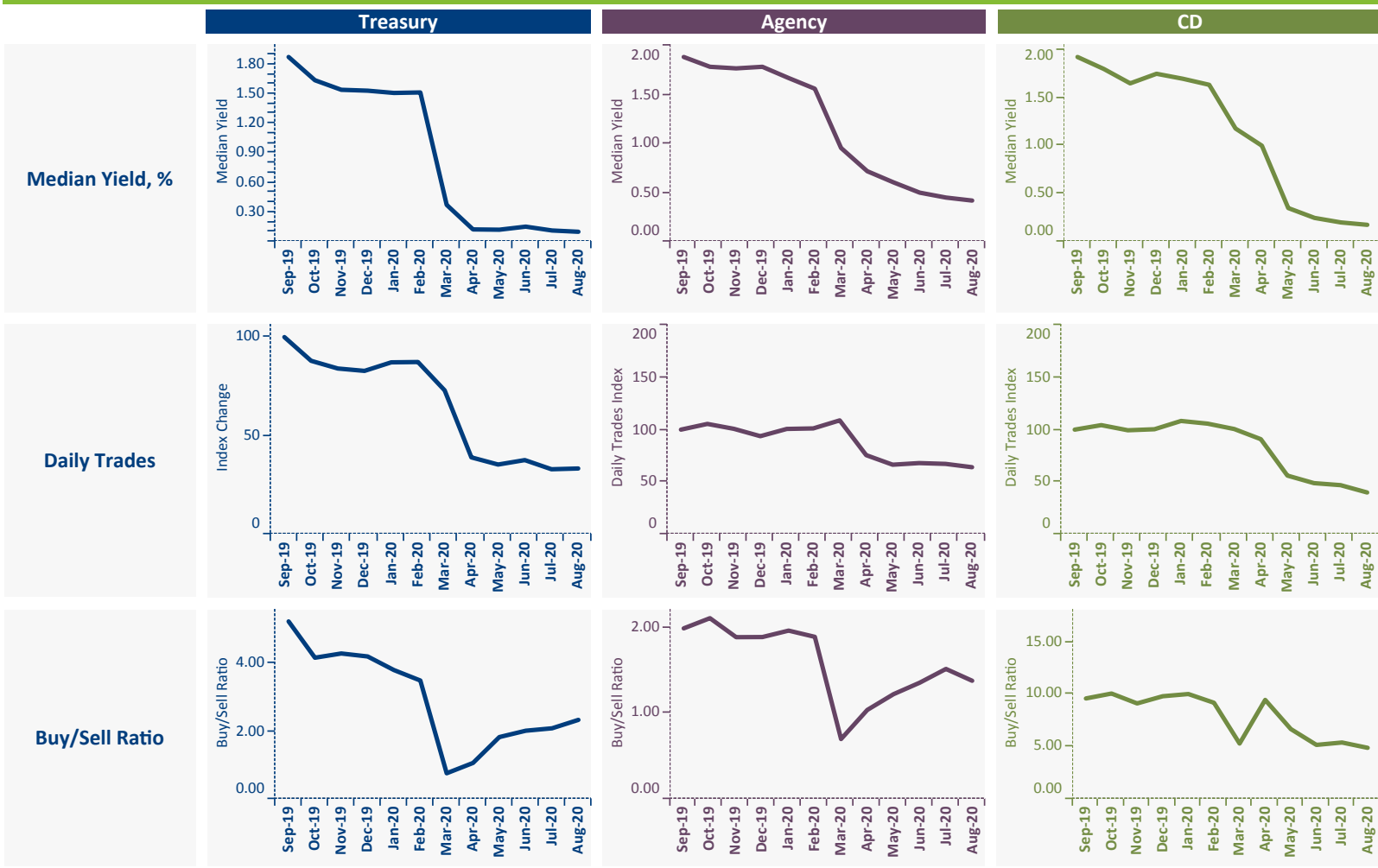
-The weights are based on transaction size.

-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

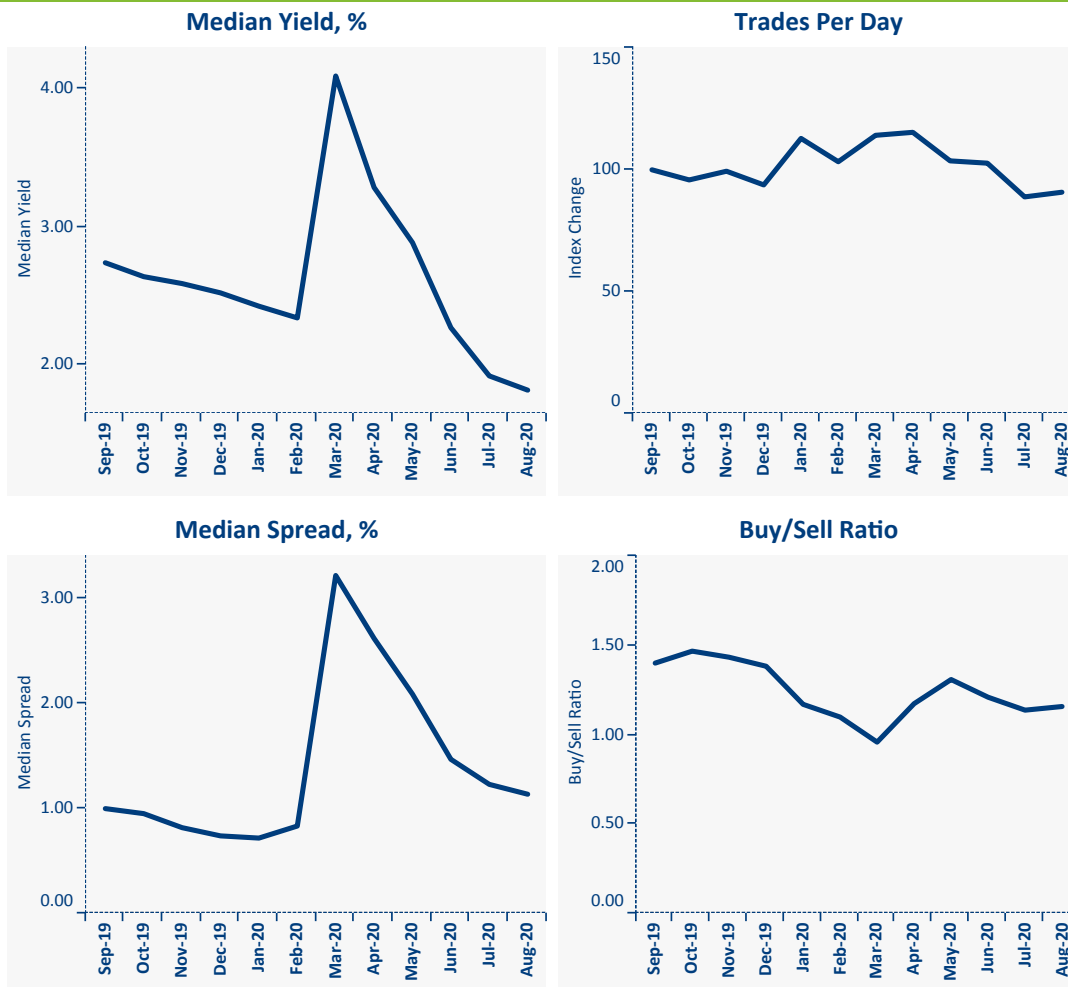
-Treasury and CD are based on transactions on the Tradeweb Direct Platform. Median yields are based on all customer buy transactions.

-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



Daily Trades: First month = 100

Source: TRACE and Tradeweb Direct

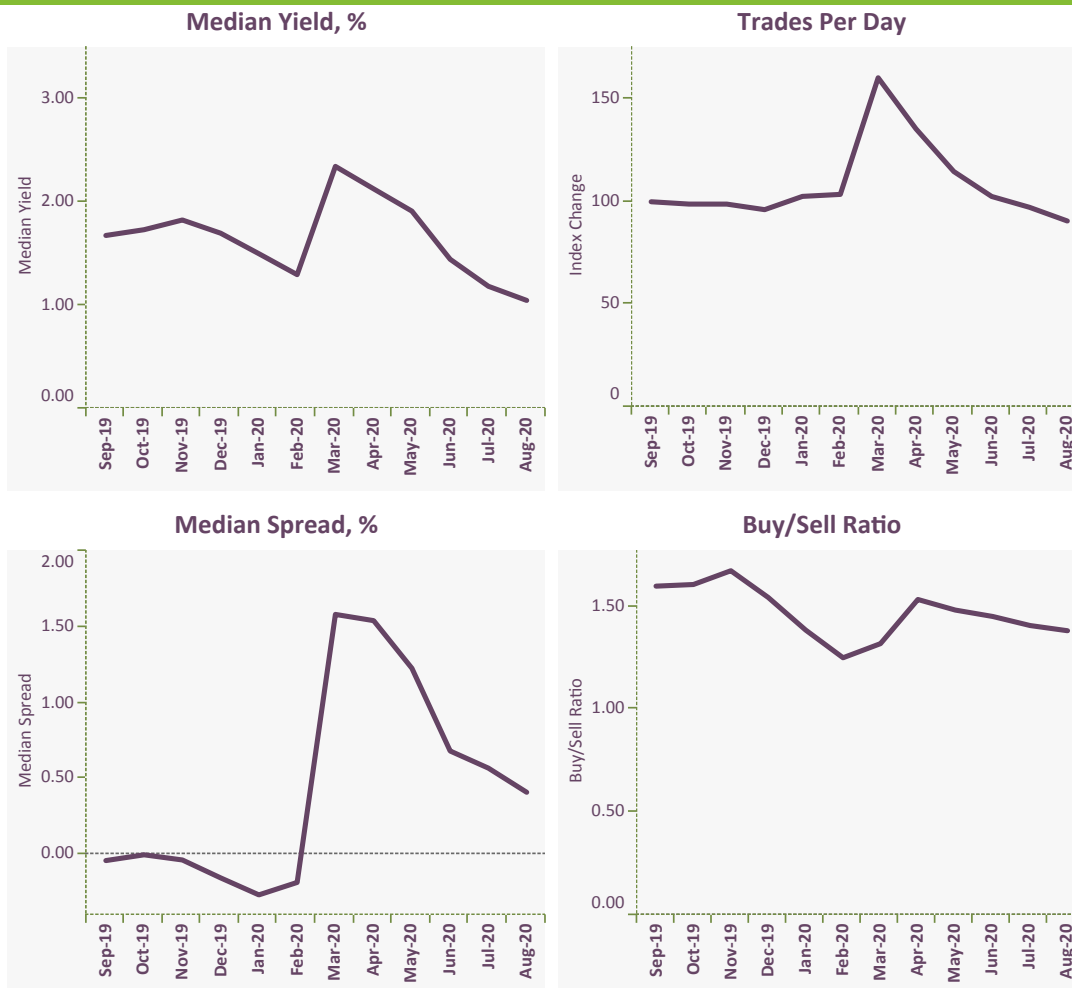
-Based on odd-lot customer transactions (<100M) reported in TRACE.

-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 2020

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	BBB	737	3.4%	15,274	1.2	342	0.3	0.5	0.9	0.5	2.4
2	GS	GOLDMAN SACHS	BBB	971	2.9%	13,262	1.1	274	0.3	0.8	1.1	1.9	3.6
3	C	CITIGROUP	BBB	508	2.4%	10,934	1.0	234	0.4	0.8	1.2	2.0	2.6
4	BNKQ	Null	A	320	2.1%	9,724	1.1	212	0.3	0.5	1.0	2.0	3.1
5	WFC	WELLS FARGO	A	237	1.8%	8,177	1.3	182	0.3	0.8	1.0	1.6	2.9
6	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	BBB	299	1.5%	6,989	1.2	147	0.8	1.2	2.3	3.5	4.3
7	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	101	1.5%	6,791	1.6	141	1.1	1.7	2.0	3.1	4.5
8	MS	MORGAN STANLEY	BBB	777	1.5%	6,755	0.8	155	0.4	0.7	0.9	1.7	2.5
9	T	AT&T	BBB	112	1.4%	6,455	0.8	148	0.6	0.6	1.0	1.9	3.1
10	F	FORD	BB	254	1.3%	5,937	0.7	128	2.6	4.0	4.6	5.3	5.3
11	BA	BOEING CO	BBB	54	1.2%	5,507	5.6	128	0.9	2.4	2.8	3.3	4.6
12	AAPL	APPLE INC	AA	51	1.2%	5,410	1.1	117	0.2	0.4	0.6	1.2	2.3
13	VZ	VERIZON	BBB	126	1.1%	5,115	1.0	98	0.3	0.5	0.6	1.5	2.3
14	CVS	CVS CAREMARK CORP	BBB	47	1.0%	4,458	0.7	82	0.3	0.5	0.9	1.7	2.9
15	CMCS	COMCAST	A	66	0.9%	4,202	1.3	94		0.5	0.7	1.3	2.4
16	ORCL	ORACLE CORP	A	31	0.8%	3,532	1.3	75	0.3	0.4	0.7	1.5	2.6
17	LUV	SOUTHWEST AIRLS CO	BBB	12	0.7%	3,328	4.6	62		2.4	3.4	3.5	
18	AXP	AMERICAN EXPRESS	BBB	31	0.7%	3,317	1.2	69	0.3	0.5	0.7		2.4
19	MET	METLIFE	BBB	23	0.7%	3,313	1.5	71		0.5	0.6	3.2	2.7
20	BRK	BERKSHIRE HATHAWAY	A	148	0.7%	3,312	0.7	93	0.2	0.3	0.8	1.4	2.6

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 2020

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	BLL	BALL CORP	BB	5	0.3%	1,222	1,100	122	9.0	10		1.8	2.2	2.9	
2	BA	BOEING CO	BBB	54	1.2%	5,507	4,670	837	5.6	128	0.9	2.4	2.8	3.3	4.6
3	LUV	SOUTHWEST AIRLS CO	BBB	12	0.7%	3,328	2,735	593	4.6	62		2.4	3.4	3.5	
4	GEO	GEO GROUP INC	B	4	0.3%	1,191	960	231	4.2	11	7.0	11.2	10.9		
5	CCL	CARNIVAL CORP	B	6	0.4%	1,788	1,414	374	3.8	19		11.5			
6	OKE	ONEOK INC NEW	BBB	29	0.3%	1,140	887	253	3.5	27	1.0	1.3	2.2	3.5	5.2
7	EIX	EDISON MISSION	BBB	38	0.3%	1,387	1,078	309	3.5	33	0.3	1.2	1.2	2.1	3.2
8	JWN	NORDSTROM INC	BBB	7	0.5%	2,461	1,834	627	2.9	45	3.3			7.0	7.8
9	LOW	LOWES COS INC	BBB	26	0.4%	1,848	1,373	475	2.9	28	0.2	0.4	0.7	1.7	2.7
10	MAR	MARRIOTT INTL INC NEW	BBB	25	0.4%	1,719	1,259	460	2.7	39	1.0	2.2	3.0	3.5	
11	STT	STATE STR CORP	BBB	20	0.3%	1,482	1,017	465	2.2	27	0.2	0.4	0.7	1.3	
12	DAL	DELTA AIR LINES INC DEL	BB	16	0.5%	2,453	1,675	778	2.2	52	3.2	5.4	6.6	5.5	
13	FITB	FIFTH THIRD BANCORP	BBB	18	0.3%	1,248	847	401	2.1	30	0.2	0.8	0.9	1.4	3.1
14	KO	COCA COLA CO	A	35	0.5%	2,375	1,608	767	2.1	49	0.2	0.3	0.6	1.2	2.2
15	CAT	CATERPILLAR	A	89	0.4%	1,766	1,161	605	1.9	38	0.2	0.4	0.7	1.4	2.4
16	TD	TORONTO DOMINION BK SR MEDIUM TERM BK NT	AA	71	0.3%	1,167	767	400	1.9	30	0.2	0.6	0.7		
17	MSI	MOTOROLA SOLUTIONS INC	BBB	12	0.3%	1,214	781	433	1.8	21		0.9	1.2	2.2	4.3
18	PSEC	PROSPECT CAP CORP INTERNOTES BOOK ENTRY	BBB	174	0.3%	1,142	726	416	1.8	19		4.5	5.4	5.8	6.3
19	DWDP	Null	BBB	15	0.2%	1,106	699	407	1.7	25		0.8	1.1	1.7	3.0
20	LMT	LOCKHEED MARTIN CORP	A	22	0.3%	1,203	759	444	1.7	21	0.2	0.4	0.7	1.3	2.4

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 2020

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	ECR	Null	B	1	0.4%	2,039	333	1,706	0.20	25		8.6			
2	LTD	LIMITED BRANDS INC	B	11	0.3%	1,335	246	1,089	0.23	34	3.9	5.1		6.8	7.1
3	CRK	COMSTOCK RES INC	C	2	0.4%	1,874	391	1,483	0.26	21			9.4		
4	PEP	PEPSICO	A	38	0.5%	2,247	676	1,571	0.43	47	0.4	0.4	0.6	1.2	2.2
5	EQT	EQT CORP	BB	11	0.3%	1,218	372	846	0.44	35	2.9	3.9	4.7	5.2	
6	CTL	CENTURYLINK	B	28	0.3%	1,561	512	1,049	0.49	37	1.9	3.3	3.8	6.9	6.3
7	HBC	HSBC	N/R	409	0.4%	1,719	587	1,132	0.52	54	0.6	1.6	1.9	3.7	3.2
8	PBI	PITNEY BOWES	BB	5	0.3%	1,226	466	760	0.61	19	5.1	6.7			8.1
9	F	FORD	BB	254	1.3%	5,937	2,356	3,581	0.66	128	3.8	4.3	5.1	5.5	5.4
10	CVS	CVS CAREMARK CORP	BBB	47	1.0%	4,458	1,784	2,674	0.67	82	0.5	0.6	0.9	1.7	3.1
11	M	MACYS RETAIL HLDGS INC	B	20	0.2%	1,063	446	617	0.72	17	9.6	11.6	15.6	14.0	9.4
12	BRK	BERKSHIRE HATHAWAY	A	148	0.7%	3,312	1,405	1,907	0.74	93	0.3	0.4	1.6	2.6	2.6
13	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	BBB	49	0.5%	2,485	1,058	1,427	0.74	51		0.7	1.0	1.8	3.1
14	PTRB	PETROBRAS	BB	25	0.3%	1,491	637	854	0.75	59	2.4	3.0	3.4	4.7	5.7
15	APC	ANADARKO PETE CORP	BB	76	0.4%	1,863	817	1,046	0.78	39	4.1	5.2	5.9	7.2	6.4
16	BCS	BARCLAYS	N/R	647	0.5%	2,294	1,014	1,280	0.79	51	2.1	2.3	1.7	2.6	2.9
17	QCOM	QUALCOMM	A	12	0.3%	1,157	511	646	0.79	25		0.6	0.7	1.5	2.7
18	T	AT&T	BBB	112	1.4%	6,455	2,848	3,607	0.79	148	1.1	0.7	1.0	1.9	3.3
19	V	VIVENDI	AA	14	0.4%	1,822	814	1,008	0.81	32		0.3	0.7	1.3	1.9
20	DE	DEERE JOHN CAP CORP MEDIUM TERM NTS-BOOK	A	59	0.3%	1,392	631	761	0.83	32	0.3	0.4	0.6	1.4	2.1

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.

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Corporate Bonds: Top 20 Most Bought Issues

August 2020

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	LUV	SOUTHWEST AIRL CO	May-25	BBB	5.250	1,308	157	1,465	20	3.4	3.5	107.8	107.6
2	JPM	JP MORGAN CHASE	Null	BBB	4.600	1,094	163	1,257	33	4.6	4.7	99.7	97.9
3	BLL	BALL CORP	Nov-23	BB	4.000	974	50	1,024	5	1.8	2.0	107.0	106.4
4	BA	BOEING CO	May-23	BBB	4.508	941	51	992	16	2.4	2.5	105.3	105.1
5	LOW	LOWES COS INC	Apr-30	BBB	4.500	897	11	908	7	1.7	1.7	123.8	124.0
6	CCL	CARNIVAL CORP	Jan-28	B	6.650	871	175	1,046	9	10.2	10.3	81.6	81.2
7	KO	COCA COLA CO	Mar-25	A	2.950	813	28	841	15	0.6	0.6	110.4	110.4
8	GM	GENERAL MOTORS FINANCIAL COMPANY INC	Jan-25	BBB	4.000	813	58	871	6	2.0	2.2	107.7	107.2
9	GS	GOLDMAN SACHS	Null	BB	5.000	657	155	812	10	5.1	5.2	97.7	95.4
10	STT	STATE STR CORP	Sep-49	BBB	5.625	630	108	738	10	5.4	5.5	103.6	101.9
11	TDS	UNITED STATES CELLULAR CORP	Sep-69	BB	6.250	615	176	791	5			25.4	25.1
12	CFG	Null	Dec-49	BB	6.000	603	32	635	6	6.1	6.2	98.0	96.2
13	ETFC	E TRADE FINL CORP	Null	BB	5.300	589	45	634	6	5.3	5.5	100.0	96.8
14	TEVA	TEVA PHARMACEUTICAL FIN CO B V	Jul-21	BB	2.200	553	84	637	9	2.4	3.2	99.8	99.1
15	MSI	MOTOROLA SOLUTIONS INC	Feb-28	BBB	4.600	552	17	569	7	2.2	2.2	115.9	115.7
16	LMT	LOCKHEED MARTIN CORP	Jan-26	A	3.550	549	174	723	8	0.7	0.8	114.5	114.0
17	MET	METLIFE	Null	BBB	3.888	548	189	737	16	4.0	4.0	98.0	97.3
18	JWN	NORDSTROM INC	Oct-21	BBB	4.000	517	114	631	9	3.3	3.7	100.6	100.3
19	RIG	TRANSOCEAN INC	Nov-20	C	6.500	512	360	872	11	13.6	21.6	98.3	96.5
20	PRU	PRUDENTIAL	Sep-60	BBB	4.125	508	203	711	4			25.6	25.3

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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Corporate Bonds: Top 20 Most Sold Issues

August 2020

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	ECR	Null	Jul-23	B	8.875	333	1,706	2,039	25	8.6	8.6	100.3	100.2
2	CRK	COMSTOCK RES INC	Aug-26	C	9.750	387	1,478	1,865	21	9.4	9.4	101.1	101.1
3	F	FORD	Dec-26	BB	4.346	197	1,277	1,474	23	4.2	4.2	100.7	101.0
4	JPM	JP MORGAN CHASE	Null	BBB	3.738	282	1,163	1,445	20	3.9	3.9	96.9	96.0
5	PEP	PEPSICO	May-23	A	0.750	28	743	771	13	0.2	0.4	101.5	101.0
6	AAWW	ATLAS AIR WORLDWIDE HLDGS INC	Jun-22	N/R	2.250	17	719	736	16	0.6	1.1	107.0	105.8
7	C	CITIGROUP	Aug-70	BB	6.125	358	618	976	12	6.1	6.1	100.5	100.0
8	CVS	CVS CAREMARK CORP	Mar-48	BBB	5.050	79	553	632	6	3.2	3.3	133.4	131.1
9	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Dec-49	BBB	5.000	432	552	984	19	6.2	6.3	80.7	79.6
10	V	VIVENDI	Dec-45	AA	4.300	48	509	557	4	2.4	2.5	135.6	132.4
11	GS	GOLDMAN SACHS	Oct-37	BBB	6.750	43	498	541	5	3.1	3.2	148.3	145.9
12	VZ	VERIZON	Aug-33	BBB	4.500	29	498	527	4	2.1	2.2	127.6	125.8
13	CVS	CVS CAREMARK CORP	Mar-38	BBB	4.780	35	490	525	3	2.9	3.1	124.8	122.1
14	T	AT&T	May-46	BBB	4.750	25	476	501	3	3.5	3.6	120.8	118.5
15	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	Feb-36	BBB	4.700	17	473	490	3	2.8	3.1	123.4	119.6
16	STZ	CONSTELLATION BRANDS INC	May-47	BBB	4.500	5	470	475	2	2.8	3.2	130.5	123.1
17	RNG	Null	Mar-23	N/R	0.000	17	439	456	4			350.5	354.3
18	HLX	HELIX ENERGY SOLUTIONS GROUP INC	May-22	N/R	4.250	14	433	447	2	7.2	7.2	95.4	95.3
19	NOW	Null	Jun-22	N/R	0.000	20	433	453	4			326.0	329.1
20	EQT	EQT CORP	Jul-48	BB	6.500	21	397	418	16	6.5	6.4	100.3	101.0

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 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.

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