

Market Transparency Report

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

June 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 June 2020

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	-11	2.3%	0.1
CD	-10	-12.9%	-1.5
Corp	-62	-1.0%	-0.1
Municipal	-47	-10.6%	0.0
Treasury	3	6.4%	0.2

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

Yield Matrix

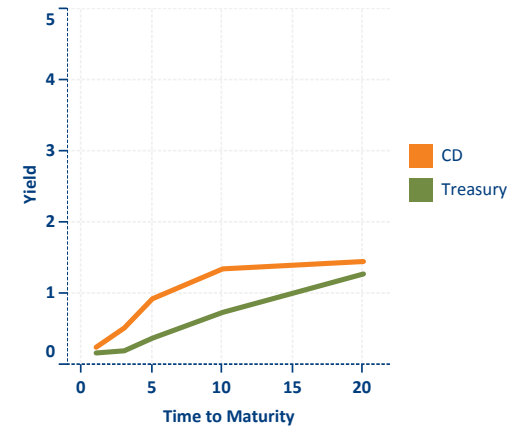
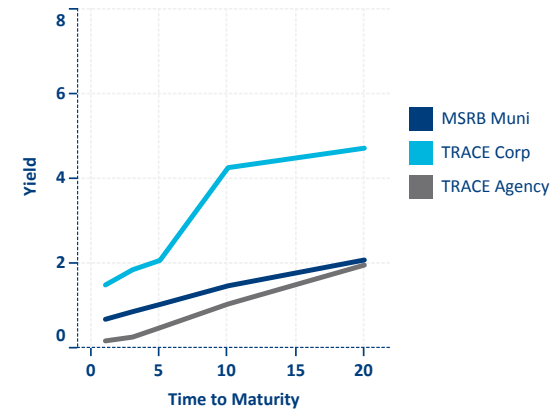
Average Yield, % for June 2020

Market	TTM					Median Maturity (Years)
	1	3	5	10	20	
MSRB Muni	0.7	0.9	1.0	1.5	2.1	10
TRACE Corp	1.5	1.9	2.1	4.3	4.7	3
TRACE Agency	0.2	0.3	0.5	1.1	2.0	4
CD	0.2	0.5	0.9	1.4	1.5	1
Treasury	0.2	0.2	0.4	0.7	1.3	0

Asset Class

Market	Category (Filtered)	Rating Key	1	3	5	10	20	Median Maturity (Years)
TRACE Corp	Financial	AA	0.3	0.5		2.0		1
		A	0.4	0.7	1.1	2.0	3.1	3
		BBB	1.7	1.7	1.9	3.6	4.5	4
		HY	3.3	3.4	9.4	9.5	6.2	6
	Non-Financial	AAA	0.2	0.3		1.3	2.2	3
		AA	0.4	0.8	0.9	2.0	2.5	4
		A	0.6	0.7	1.5	2.0	3.1	3
		BBB	1.3	3.4	2.3	5.7	5.0	6
		HY	4.8	9.1	6.8	8.1	9.9	3
MSRB Muni	GO	AAA	0.4	0.5	0.6	1.0	1.6	7
		AA	0.5	0.6	0.8	1.2	1.9	9
		A	0.8	1.0	1.2	1.6	2.0	8
		BBB	2.5	2.9	2.8	3.3	3.8	8
	Revenue	HY	2.9	5.5	3.2	4.7	4.6	12
		AAA	0.5	0.6	0.7	1.1	1.6	8
		AA	0.6	0.7	0.8	1.3	1.8	10
		A	1.1	1.3	1.5	1.9	2.3	12
		BBB	2.2	2.9	3.1	3.3	3.3	13
		HY	14.2	5.6	5.9	4.8	4.4	11

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.

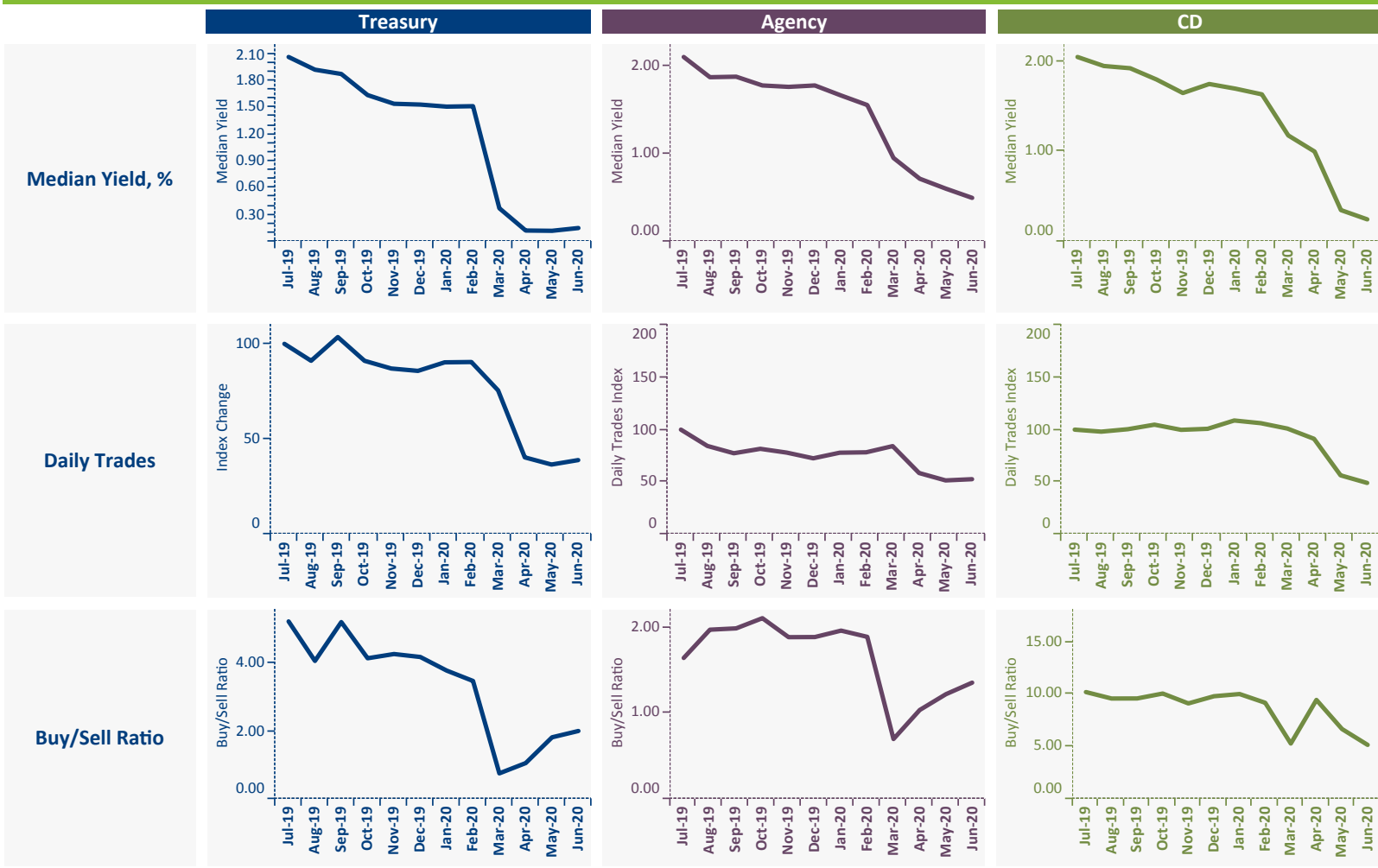
-The weights are based on transaction size.

-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

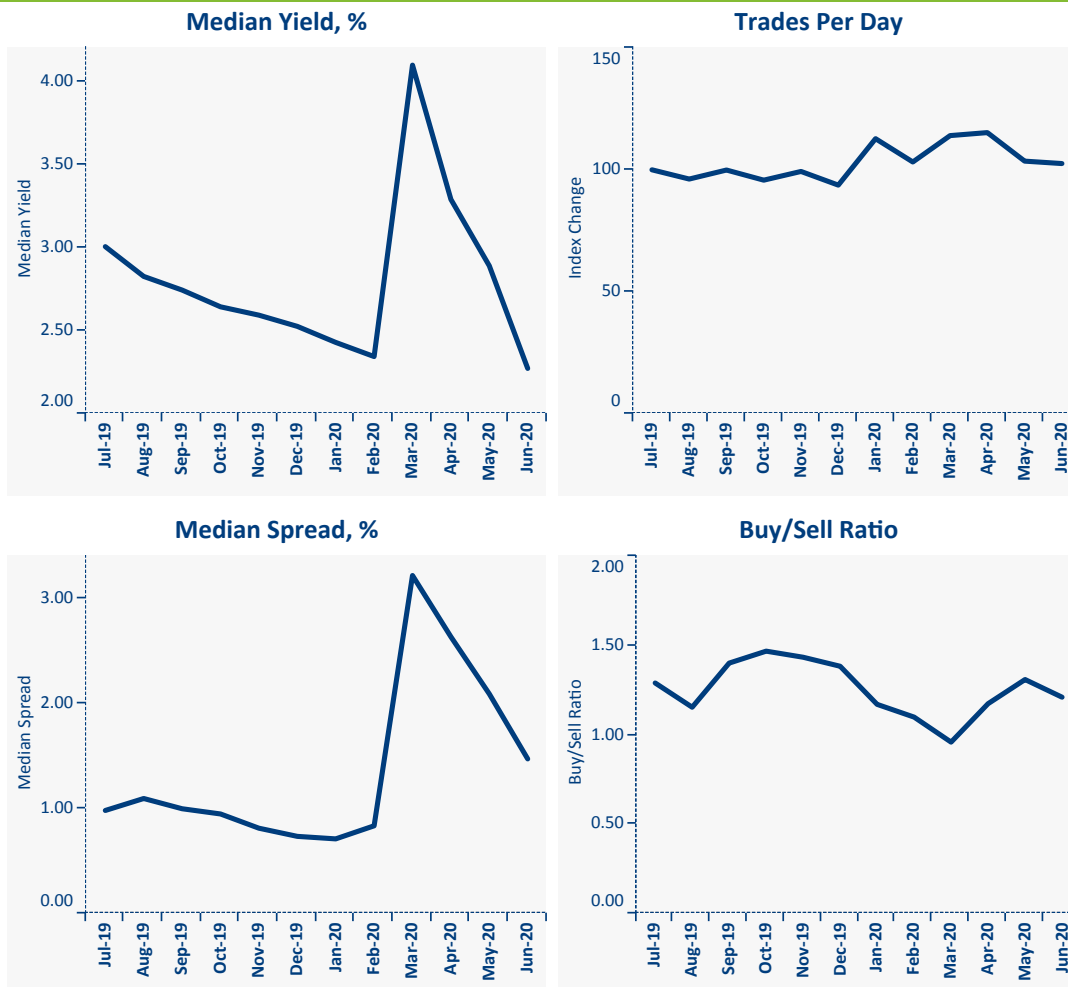
-Treasury and CD are based on transactions on the Tradeweb Direct Platform. Median yields are based on all customer buy transactions.

-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

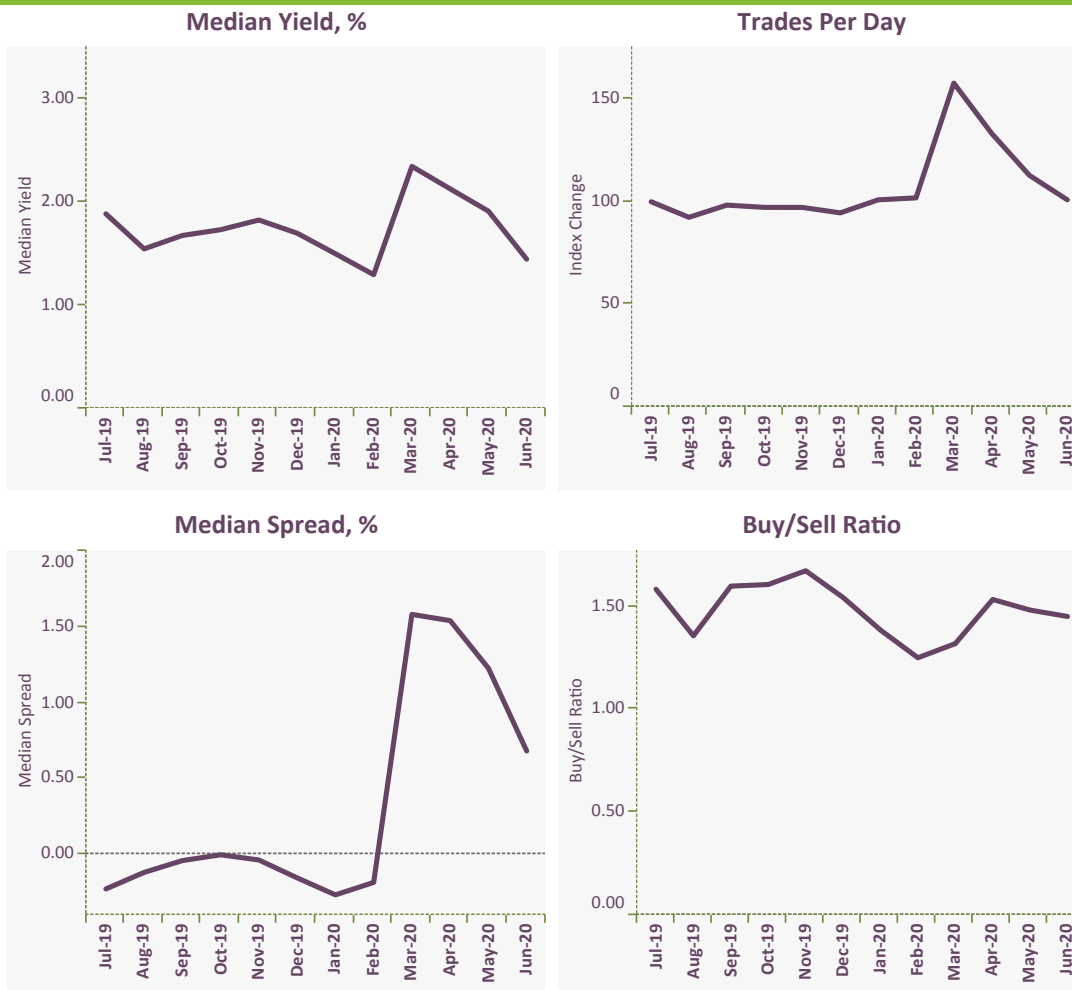
-Based on odd-lot customer transactions (<100M) reported in TRACE.

-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

June 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	634	3.1%	16,461	1.2	360	0.4	0.7	1.1	2.0	2.7
2	GS	GOLDMAN SACHS	BBB	917	2.9%	15,713	1.2	326	0.5	1.0	1.5	2.7	3.8
3	C	CITIGROUP	BBB	440	2.3%	12,166	1.1	263	0.6	1.0	1.6	2.3	2.8
4	BNKQ	Null	A	348	2.1%	11,428	1.2	240	0.3	0.8	1.5	2.1	3.4
5	WFC	WELLS FARGO	A	252	2.0%	10,977	1.6	234	0.4	1.0	1.4	2.0	3.0
6	AAPL	APPLE INC	AA	47	1.7%	9,144	0.5	152	0.2	0.5	0.8	1.4	2.5
7	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	BBB	296	1.6%	8,569	1.3	170	1.1	1.7	2.8	3.6	4.5
8	MS	MORGAN STANLEY	BBB	1,001	1.5%	8,187	1.0	190	0.5	1.1	1.3	2.3	3.0
9	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	104	1.5%	8,040	1.5	176	2.0	2.7	3.0	3.9	5.3
10	T	AT&T	BBB	112	1.4%	7,647	0.9	177	0.4	0.9	1.4	2.4	3.5
11	F	FORD	BB	246	1.2%	6,668	1.2	146	4.7	5.5	6.2	6.6	6.3
12	BA	BOEING CO	BBB	53	1.0%	5,184	2.8	124	2.0	2.2	2.7	3.5	4.6
13	LUV	SOUTHWEST AIRLS CO	BBB	12	0.9%	5,040	3.1	96		3.2	3.8	3.6	
14	CVS	CVS CAREMARK CORP	BBB	47	0.9%	4,887	1.1	108	0.6	0.8	1.3	2.0	3.3
15	CMCS	COMCAST	A	66	0.9%	4,883	1.3	106		0.7	1.0	1.6	2.7
16	VZ	VERIZON	BBB	127	0.9%	4,633	1.0	106	0.4	0.7	0.9	1.7	2.6
17	APC	ANADARKO PETE CORP	BB	77	0.8%	4,404	1.2	79	5.8	5.6	6.3	9.0	7.6
18	AXP	AMERICAN EXPRESS	BBB	32	0.8%	4,401	2.0	85	0.4	0.7	1.0		2.8
19	DAL	DELTA AIR LINES INC DEL	BB	19	0.8%	4,246	3.0	85	4.9	6.9	7.3	6.3	
20	ORCL	ORACLE CORP	A	32	0.8%	4,234	1.3	92	0.4	0.6	0.9	1.7	2.8

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.

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Corporate Bonds: Top 20 Issuers with Highest Buy/Sell Ratio

June 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	WMI	WASTE MGMT INC DEL	BBB	17	0.3%	1,870	1,553	317	4.9	32	0.4	1.4	2.0	2.0	3.2
2	MAR	MARRIOTT INTL INC NEW	BBB	24	0.5%	2,447	1,898	549	3.5	51	2.3	2.7	3.3	3.8	
3	LUV	SOUTHWEST AIRLS CO	BBB	12	0.9%	5,040	3,803	1,237	3.1	96		3.2	3.8	3.6	
4	CCL	CARNIVAL CORP	BB	5	0.4%	1,960	1,475	485	3.0	32		9.4		10.0	
5	DAL	DELTA AIR LINES INC DEL	BB	19	0.8%	4,246	3,194	1,052	3.0	85	4.9	6.9	7.3	6.3	
6	ALLY	ALLY FINANCIAL	BBB	43	0.2%	1,260	939	321	2.9	29	1.5	2.7	3.1	4.5	
7	HBAN	HUNTINGTON NATL BK COLUMBUS OHIO MEDIUM	BBB	15	0.2%	1,323	984	339	2.9	34	0.5	1.5	1.2	2.3	
8	JWN	NORDSTROM INC	BBB	7	0.4%	1,908	1,411	497	2.8	33	3.8			7.0	7.4
9	AMT	AMERICAN TOWER CORP NEW	BBB	24	0.3%	1,512	1,115	397	2.8	26	0.4	1.0	1.2	2.1	
10	SBUX	STARBUCKS CORP	BBB	20	0.4%	2,075	1,531	544	2.8	35	0.5	0.6	1.1	1.8	3.4
11	EIX	EDISON MISSION	A	39	0.2%	1,242	914	328	2.8	26	0.6	1.3	1.6	2.1	3.4
12	BA	BOEING CO	BBB	53	1.0%	5,184	3,805	1,379	2.8	124	2.0	2.2	2.7	3.5	4.6
13	TFC	Null	BBB	50	0.7%	3,987	2,909	1,078	2.7	99	0.4	0.7	0.9	1.8	
14	SCHW	SCHWAB CHARLES CORP NEW	BBB	19	0.4%	1,887	1,334	553	2.4	44	0.3	0.5	0.9	1.7	
15	NFLX	NETFLIX INC	BB	11	0.3%	1,497	1,056	441	2.4	29	1.4	2.8	2.9	3.4	
16	MRO	MARATHON OIL CORP	BBB	24	0.3%	1,646	1,143	503	2.3	36	0.9	2.7	2.0	5.7	6.0
17	BCS	BARCLAYS	A	567	0.5%	2,498	1,668	830	2.0	49	1.3	1.1	1.6	2.5	
18	AXP	AMERICAN EXPRESS	BBB	32	0.8%	4,401	2,919	1,482	2.0	85	0.4	0.7	1.0		2.8
19	SPG	SIMON PPTY GROUP L P	A	20	0.2%	1,314	858	456	1.9	29	0.9	1.5	2.0	2.8	4.0
20	WAG	WALGREEN CO	BBB	10	0.3%	1,499	954	545	1.8	34	0.8	0.9	1.4	2.7	4.1

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

June 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	FTR	FRONTIER COMMUNICATIONS CORP	N/R	26	0.4%	2,127	232	1,895	0.12	24					
2	HTZ	HERTZ CORP	N/R	6	0.5%	2,476	405	2,071	0.20	23					
3	AAPL	APPLE INC	AA	47	1.7%	9,144	3,152	5,992	0.53	152	0.4	0.6	0.9	1.4	2.6
4	KMI	KINDER MORGAN ENERGY PARTNERS L P	BBB	58	0.4%	2,119	786	1,333	0.59	39	1.3	1.4	1.7	4.2	4.2
5	HBC	HSBC	BBB	366	0.3%	1,815	693	1,122	0.62	44	2.0	2.0	2.3	3.9	3.5
6	CTL	CENTURYLINK	B	28	0.3%	1,784	701	1,083	0.65	41	3.1	4.3	4.6	6.7	7.1
7	ETP	ENERGY TRANSFER PARTNERS L P	BBB	39	0.3%	1,409	602	807	0.75	34	1.9	2.3	2.6	3.8	5.5
8	RY	ROYAL BANK OF CANADA	A	190	0.3%	1,711	739	972	0.76	41	0.5	0.8	1.2	2.8	3.2
9	VIA	VIACOM INC NEW	BBB	35	0.2%	1,204	546	658	0.83	29	1.5	1.9	1.7	2.7	4.4
10	BNS	BANK NOVA SCOTIA B C	A	125	0.3%	1,476	682	794	0.86	37	0.4	0.9	1.2	2.7	
11	CAT	CATERPILLAR	A	98	0.3%	1,708	793	915	0.87	37	0.5	0.7	0.9	1.7	2.8
12	T	AT&T	BBB	112	1.4%	7,647	3,561	4,086	0.87	177	0.6	1.0	1.5	2.4	3.6
13	BRK	BERKSHIRE HATHAWAY	A	152	0.8%	4,096	1,964	2,132	0.92	114	0.6	0.6	1.1	2.6	3.0
14	QCOM	QUALCOMM	A	11	0.3%	1,427	682	745	0.92	31		0.8	1.0	1.7	3.1
15	MCD	MCDONALDS	BBB	31	0.4%	1,921	924	997	0.93	43	0.6	0.7	1.1	1.9	3.1
16	MSFT	MICROSOFT CORP	AAA	36	0.7%	3,568	1,717	1,851	0.93	81	0.3	0.4	0.7		2.3
17	MO	ALTRIA GROUP INC	BBB	22	0.3%	1,578	775	803	0.97	49	0.7	1.1	1.5	2.7	4.1
18	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	BBB	48	0.5%	2,806	1,386	1,420	0.98	66	1.8	0.9	1.3	2.0	3.4
19	VZ	VERIZON	BBB	127	0.9%	4,633	2,289	2,344	0.98	106	0.6	0.7	0.9	1.8	2.7
20	RDS	SHELL	AA	29	0.3%	1,858	926	932	0.99	46	0.4	0.6	1.0	1.7	2.9

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

June 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	JPM	JP MORGAN CHASE	Dec-49	BBB	5.000	1,225	205	1,430	40	5.1	5.2	98.3	96.7
2	WMI	WASTE MGMT INC DEL	Jun-29	BBB	3.450	1,072	68	1,140	12	2.0	2.1	111.4	110.8
3	LUV	SOUTHWEST AIRLS CO	May-23	BBB	4.750	1,007	379	1,386	32	3.3	3.5	104.0	103.4
4	JPM	JP MORGAN CHASE	Dec-49	BBB	4.600	1,000	154	1,154	22	5.1	5.1	90.6	89.6
5	DAL	DELTA AIR LINES INC DEL	Jan-26	BB	7.375	921	85	1,006	21	7.4	7.5	100.0	99.4
6	LUV	SOUTHWEST AIRLS CO	May-25	BBB	1.250	901	61	962	5			126.6	121.9
7	AMZN	AMAZON COM INC	Jun-27	AA	1.200	849	12	861	13	1.1	1.1	100.3	100.4
8	CHK	CHESAPEAKE ENERGY	Jan-25	N/R	11.500	838	422	1,260	5			13.6	12.3
9	SBUX	STARBUCKS CORP	Aug-29	BBB	3.550	771	59	830	8	1.8	2.0	114.0	112.9
10	AXP	AMERICAN EXPRESS	Dec-49	BBB	3.820	708	269	977	15	4.4	4.5	86.0	85.0
11	MET	METLIFE	Dec-49	BBB	3.888	706	340	1,046	15	5.7	5.7	92.4	90.2
12	COF	CAPITAL ONE FINL CORP	Dec-49	BB	4.150	699	665	1,364	17	5.0	5.1	83.3	82.0
13	DUK	DUKE ENERGY	Dec-49	BBB	4.875	679	43	722	11			99.9	99.8
14	LVS	Null	Aug-24	BBB	3.200	651	68	719	9	3.5	3.2	98.8	99.9
15	APC	ANADARKO PETE CORP	Jun-25	BB	3.500	650	195	845	8	6.1	6.3	89.0	88.3
16	SCHW	SCHWAB CHARLES CORP NEW	Dec-49	BBB	5.375	650	108	758	18			107.2	106.7
17	LUV	SOUTHWEST AIRLS CO	May-25	BBB	5.250	641	294	935	22	3.8	4.0	106.4	105.6
18	PNC	PNC FDG CORP	Null	BBB	6.750	640	225	865	11	6.7	6.8	101.4	99.8
19	DAL	DELTA AIR LINES INC DEL	Apr-21	BB	3.400	635	190	825	17	5.3	5.9	98.5	97.9
20	NFLX	NETFLIX INC	Feb-22	BB	5.500	615	60	675	5	2.2	2.4	105.5	105.0

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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Corporate Bonds: Top 20 Most Sold Issues

June 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	AAPL	APPLE INC	May-21	AA	2.850	63	3,261	3,324	18	0.3	0.4	102.3	102.3
2	HTZ	HERTZ CORP	Oct-22	N/R	6.250	168	1,023	1,191	10			29.2	37.5
3	AMZN	AMAZON COM INC	Dec-25	AA	5.200	27	732	759	5	0.7	0.9	122.8	121.9
4	JPM	JP MORGAN CHASE	Null	BBB	4.230	231	732	963	16	4.6	4.6	91.7	91.2
5	COF	CAPITAL ONE FINL CORP	Dec-49	BB	4.150	699	665	1,364	17	5.0	5.1	83.3	82.0
6	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Dec-27	A	3.337	347	500	847	9	2.1	2.3	108.2	106.9
7	F	FORD	Jul-31	BB	7.450	146	499	645	19	6.6	6.7	106.4	105.7
8	ILMN	ILLUMINA INC	Jun-21	BBB	0.500	48	497	545	4			146.2	144.0
9	HTZ	HERTZ CORP	Oct-24	B	5.500	128	486	614	6			25.9	37.0
10	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Null	BBB	5.000	448	485	933	18	6.1	6.2	81.4	81.0
11	KMI	KINDER MORGAN ENERGY PARTNERS L P	Mar-22	BBB	4.150	8	438	446	1	0.9	1.4	105.4	104.5
12	T	AT&T	Feb-22	BBB	3.000	221	436	657	7	0.6	0.8	103.9	103.7
13	ESV	ENSCO PLC	Jan-24	D	3.000		427	427	0		88.6		10.1
14	CHK	CHESAPEAKE ENERGY	Jan-25	N/R	11.500	838	422	1,260	5			13.6	12.3
15	C	CITIGROUP	Aug-24	BBB	4.000	155	417	572	5	1.6	1.6	109.6	109.7
16	FTR	FRONTIER COMMUNICATIONS CORP	Feb-28	N/R	6.860	5	402	407	6			88.8	86.9
17	XEC	CIMAREX ENERGY CO	May-27	BBB	3.900	47	393	440	5	3.7	4.1	101.4	98.7
18	CVS	CVS CAREMARK CORP	Mar-23	BBB	3.700	295	391	686	13	0.8	0.9	107.5	107.3
19	TUP	TUPPERWARE BRANDS CORP	Jun-21	C	4.750	176	389	565	4	102.4	104.8	47.1	46.6
20	LUV	SOUTHWEST AIRLS CO	May-23	BBB	4.750	1,007	379	1,386	32	3.3	3.5	104.0	103.4

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.

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