

Market Transparency Report

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

September 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 September 2020

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	-5	8.1%	0.0
CD	-3	-7.2%	-0.1
Corp	-1	-3.8%	0.0
Municipal	7	8.7%	0.0
Treasury	0	6.2%	0.1

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

Yield Matrix

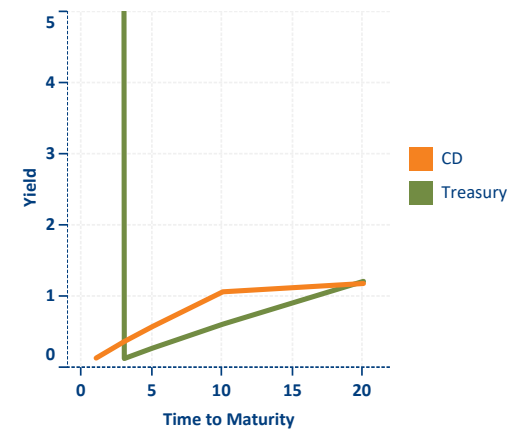
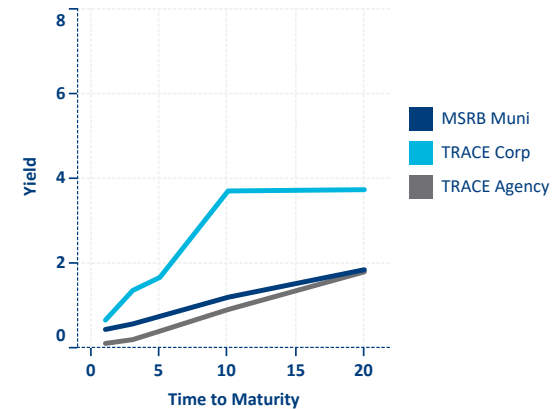
Average Yield, % for September 2020

Market	TTM					Median Maturity (Years)
	1	3	5	10	20	
MSRB Muni	0.5	0.6	0.8	1.2	1.9	10
TRACE Corp	0.7	1.4	1.7	3.7	3.8	4
TRACE Agency	0.1	0.2	0.4	0.9	1.8	4
CD	0.1	0.4	0.6	1.1	1.2	1
Treasury	0.1	0.1	0.3	0.6	1.2	1

Asset Class

Market	Category (Filtered)	Rating Key	1	3	5	10	20	Median Maturity (Years)
TRACE Corp	Financial	AA	0.2	0.5	0.7			1
		A	0.3	0.5	0.8	1.8	2.9	3
		BBB	0.8	1.1	1.6	2.8	4.1	4
		HY	3.3	2.6	7.9	9.0	5.6	7
		AAA		0.2		1.2	2.1	20
	Non-Financial	AA	0.1	0.5	0.8	1.7	2.3	9
		A	0.4	0.5	1.2	1.9	2.9	3
		BBB	0.7	1.5	2.0	3.5	4.5	8
		HY	2.7	8.9	6.1	6.6	5.4	6
MSRB Muni	GO	AAA	0.3	0.3	0.4	0.8	1.3	7
		AA	0.3	0.4	0.5	1.0	1.7	9
		A	0.4	0.6	0.7	1.2	1.5	7
		BBB	1.8	2.2	2.3	2.8	3.3	9
		HY	3.0	9.2	3.3	4.1	4.5	14
	Revenue	AAA	0.3	0.4	0.5	1.0	1.4	8
		AA	0.4	0.5	0.6	1.1	1.6	9
		A	0.6	0.7	0.9	1.3	1.7	13
		BBB	1.4	1.7	2.0	2.4	2.7	15
		HY	4.4	5.0	5.1	5.9	4.6	16

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.

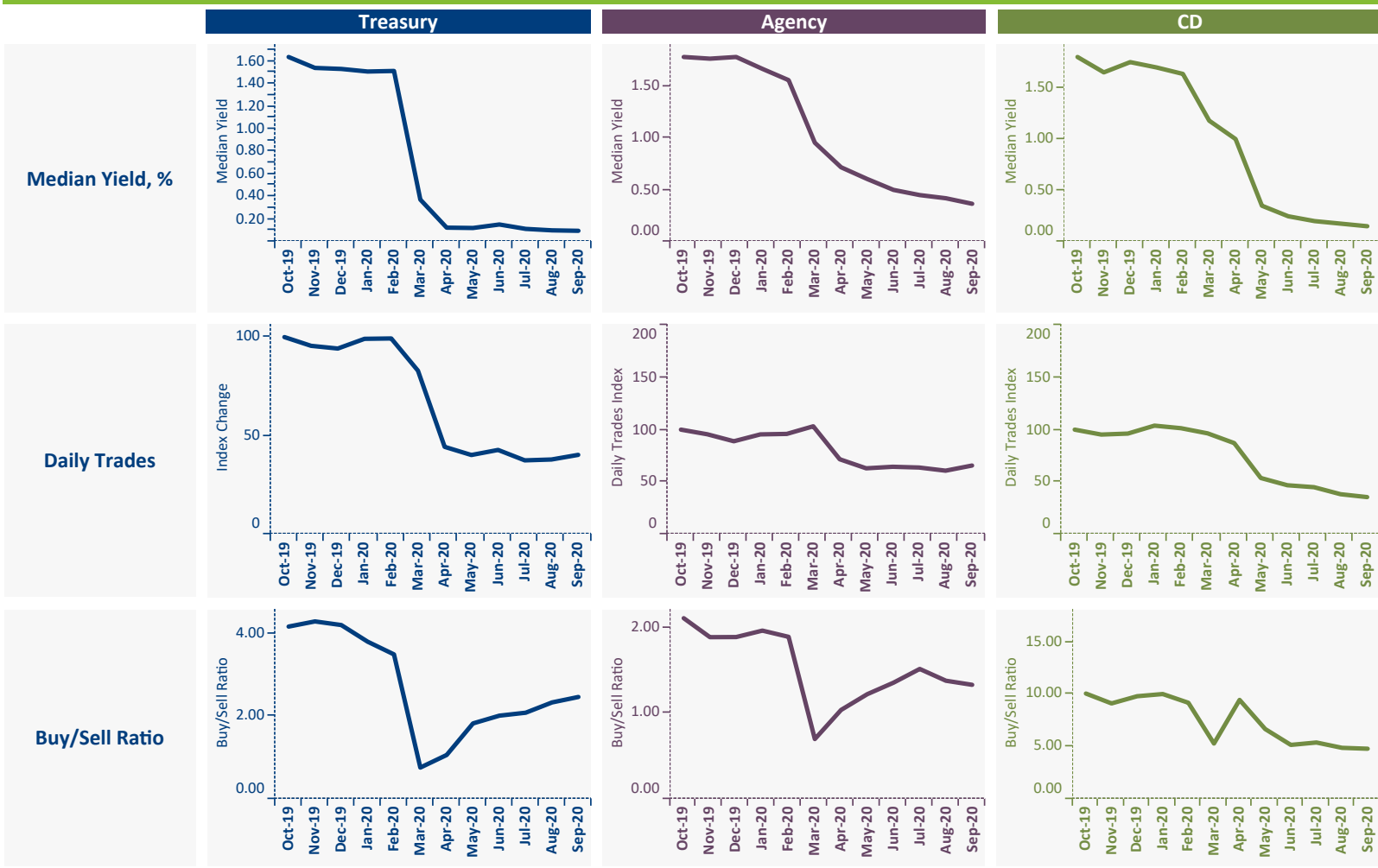
-The weights are based on transaction size.

-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

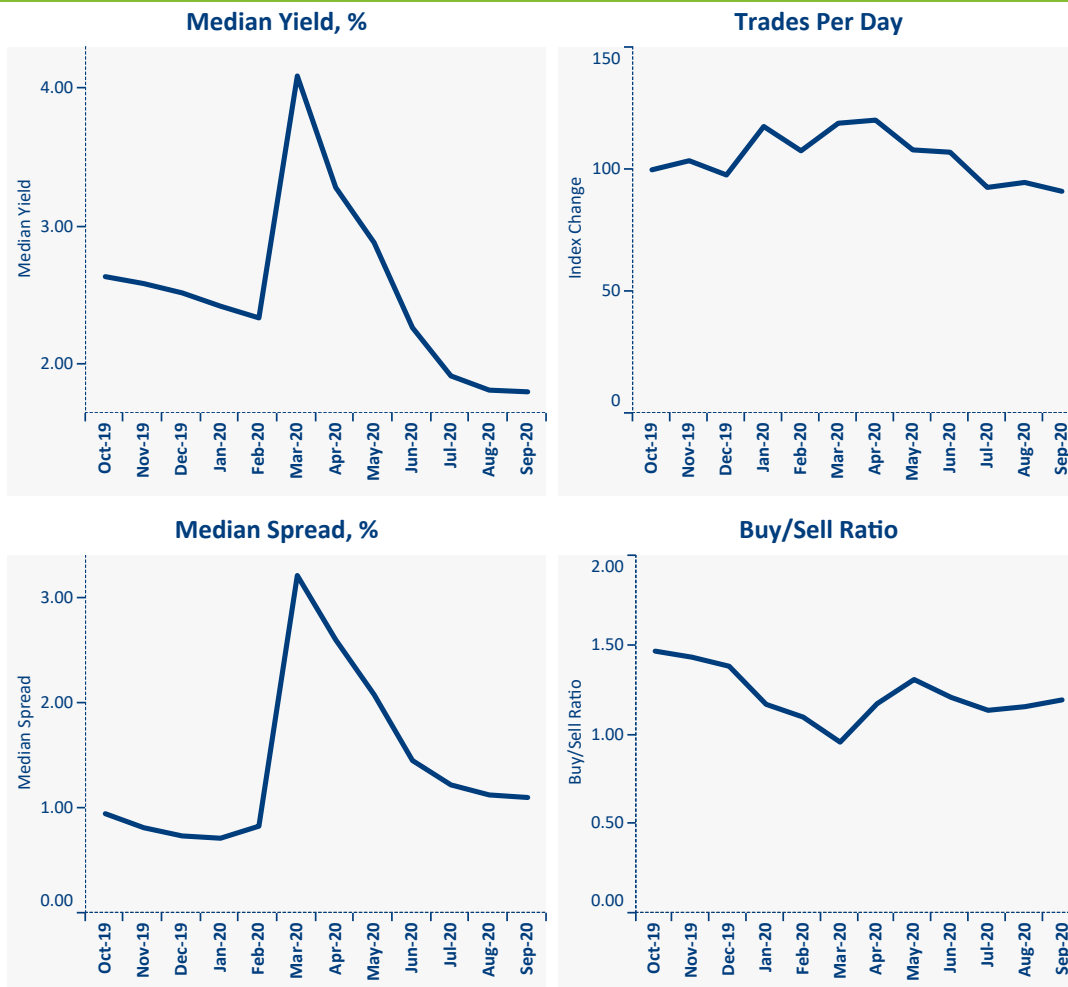
-Treasury and CD are based on transactions on the Tradeweb Direct Platform. Median yields are based on all customer buy transactions.

-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.

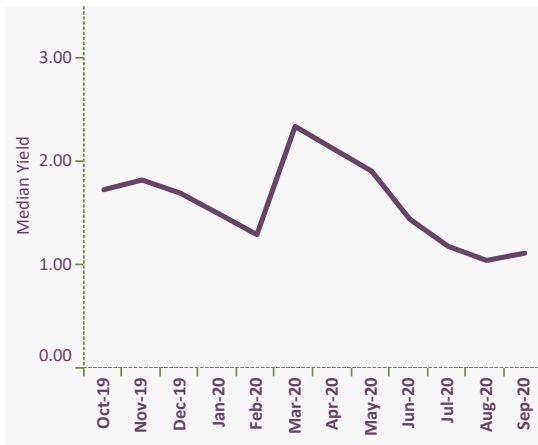
-Median yields and spreads are based on all odd-lot customer buy transactions...

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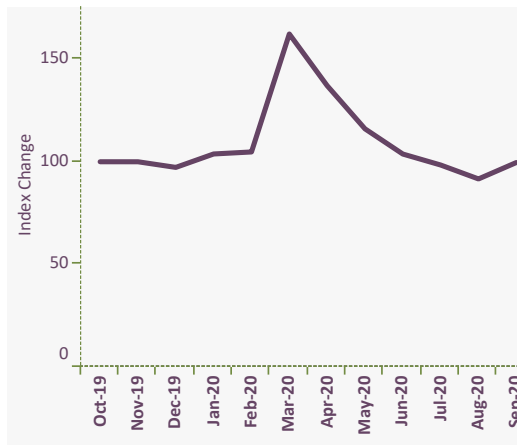


Municipal Bonds: Odd-Lot Customer Transaction Trend Summary

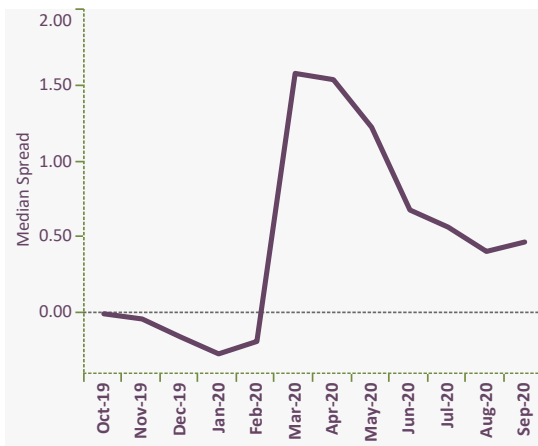
Median Yield, %



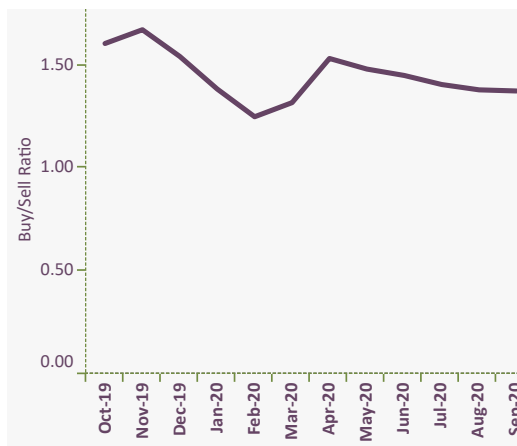
Trades Per Day



Median Spread, %



Buy/Sell Ratio



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

September 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	695	3.1%	13,465	1.2	305	0.2	0.5	0.8	1.4	2.5
2	GS	GOLDMAN SACHS	BBB	958	2.6%	11,372	1.0	245	0.4	0.9	1.2	1.9	3.6
3	C	CITIGROUP	BBB	496	2.3%	9,870	1.1	222	0.3	0.8	1.4	2.0	2.8
4	BNKQ	Null	A	342	2.0%	8,865	1.0	190	0.2	0.6	1.1	2.3	3.1
5	WFC	WELLS FARGO	A	232	1.8%	7,789	1.1	168	0.4	0.8	1.1	1.7	3.1
6	MS	MORGAN STANLEY	BBB	935	1.6%	7,001	1.0	166	0.4	0.8	1.1	1.7	2.8
7	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	BBB	295	1.5%	6,504	1.1	135	0.7	1.2	2.2	3.6	4.3
8	T	AT&T	BBB	112	1.4%	5,995	0.9	143	0.5	0.7	1.0	2.0	3.1
9	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	99	1.3%	5,675	1.5	136	0.9	1.6	2.0	3.0	4.5
10	AAPL	APPLE INC	AA	51	1.2%	5,261	1.1	114	0.2	0.4	0.6	1.2	2.4
11	CVS	CVS CAREMARK CORP	BBB	46	1.1%	4,585	1.0	101	0.3	0.5	0.9	1.7	2.9
12	SO	GEORGIA POWER CO	BBB	61	1.0%	4,411	1.5	50	0.3	0.6	1.0	1.6	3.2
13	F	FORD	BB	244	1.0%	4,348	1.2	103	2.5	4.1	4.7	5.4	5.3
14	VZ	VERIZON	BBB	118	1.0%	4,192	1.1	91	0.3	0.5	0.6	1.5	2.5
15	CMCS	COMCAST	A	66	0.9%	4,063	1.2	91		0.5	0.7	1.5	2.5
16	BA	BOEING CO	BBB	53	0.9%	3,827	4.0	92	0.9	1.9	2.5	3.3	4.5
17	ORCL	ORACLE CORP	A	31	0.9%	3,801	1.2	78	0.2	0.4	0.8	1.6	2.6
18	MET	METLIFE	BBB	23	0.9%	3,784	1.5	81		0.5	0.6	3.3	2.7
19	BRK	BERKSHIRE HATHAWAY	A	142	0.8%	3,277	0.9	85	0.2	0.3	0.8	1.5	2.8
20	MSFT	MICROSOFT CORP	AAA	36	0.7%	3,175	1.1	63	0.2	0.3	0.7		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

September 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	FLR	FLUOR CORP NEW	BBB	2	0.7%	2,909	2,613	296	8.8	33			6.4	6.8	
2	EXPE	EXPEDIA INC DEL	BBB	8	0.3%	1,330	1,158	172	6.7	28		2.6	3.3	3.7	
3	GEO	GEO GROUP INC	B	4	0.2%	1,051	855	196	4.4	9	7.0	13.3	12.3		
4	BA	BOEING CO	BBB	53	0.9%	3,827	3,068	759	4.0	92	0.9	1.9	2.5	3.3	4.5
5	GT	GOODYEAR TIRE & RUBBER	B	5	0.3%	1,331	1,042	289	3.6	25		3.9	5.2	5.7	
6	EIX	EDISON MISSION	BBB	38	0.3%	1,174	896	278	3.2	29	0.3	1.2	1.2	2.1	3.4
7	FITB	FIFTH THIRD BANCORP	BBB	17	0.4%	1,618	1,228	390	3.2	36	0.3	0.8	0.9	1.4	3.2
8	MSI	MOTOROLA SOLUTIONS INC	BBB	12	0.3%	1,143	835	308	2.7	21		1.1	2.1	2.2	4.4
9	DAL	DELTA AIR LINES INC DEL	BB	17	0.5%	2,305	1,674	631	2.7	49	3.5	4.6	6.0	5.4	
10	KSS	KOHL'S CORP	BBB	8	0.3%	1,434	1,034	400	2.6	31		2.8	4.1	5.4	5.9
11	SVC	Null	BB	13	0.3%	1,287	912	375	2.4	21		4.9	6.2	6.9	
12	MAR	MARRIOTT INTL INC NEW	BBB	25	0.3%	1,367	963	404	2.4	34	0.7	1.8	2.7	3.3	
13	LUV	SOUTHWEST AIRL'S CO	BBB	11	0.4%	1,795	1,247	548	2.3	39		1.7	2.8	3.0	
14	JWN	NORDSTROM INC	BBB	7	0.4%	1,870	1,288	582	2.2	32	3.9			6.7	8.0
15	TEVA	TEVA PHARMACEUTICAL FIN CO B V	BB	12	0.4%	1,564	1,072	492	2.2	35	2.7	4.1	0.7	5.8	5.9
16	MRO	MARATHON OIL CORP	BBB	23	0.2%	998	673	325	2.1	23	0.4	1.4	1.5	5.6	5.4
17	LUK	JEFFERIES GROUP INC NEW	BBB	61	0.4%	1,755	1,180	575	2.1	35	0.6	1.0	3.1	2.5	4.0
18	SBUX	STARBUCKS CORP	BBB	20	0.4%	1,617	1,074	543	2.0	33		0.5	0.8	1.7	3.1
19	PSEC	PROSPECT CAP CORP INTERNOTES BOOK ENTRY	BBB	163	0.3%	1,197	790	407	1.9	19		3.9	5.1	5.5	6.3
20	PFE	PFIZER	AA	49	0.4%	1,855	1,207	648	1.9	42	0.2	0.5	0.6	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

September 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	COP	CONOCOPHILLIPS	C	28	0.2%	960	330	630	0.52	12	186.1	92.4	1.0	2.0	2.9
2	BCS	BARCLAYS	N/R	602	0.4%	1,699	651	1,048	0.62	36	0.6	1.7	1.6	2.5	
3	HBC	HSBC	N/R	407	0.4%	1,629	631	998	0.63	39	0.6	1.5	1.9	3.3	3.2
4	CTL	CENTURYLINK	B	28	0.4%	1,530	598	932	0.64	37	2.3	3.5	3.8	6.7	6.4
5	DELL	DELL	BBB	10	0.3%	1,403	579	824	0.70	34	2.2	2.3	1.4	3.6	5.1
6	BNS	BANK NOVA SCOTIA B C	A	118	0.3%	1,119	466	653	0.71	26	0.3	0.6	0.9		
7	PTRB	PETROBRAS	BB	25	0.3%	1,481	659	822	0.80	58	1.7	2.5	3.1	4.4	5.6
8	QCOM	QUALCOMM	A	14	0.2%	1,045	472	573	0.82	24		0.6	0.8	1.5	2.7
9	PEP	PEPSICO	A	40	0.4%	1,584	725	859	0.84	35	0.3	0.4	0.6	1.3	2.3
10	BRK	BERKSHIRE HATHAWAY	A	142	0.8%	3,277	1,508	1,769	0.85	85	0.4	0.4	0.9	2.8	2.7
11	KMI	KINDER MORGAN ENERGY PARTNERS L P	BBB	63	0.3%	1,457	670	787	0.85	30	0.8	1.0	1.3	3.4	4.3
12	RY	ROYAL BANK OF CANADA	A	215	0.3%	1,356	624	732	0.85	34	0.4	0.6	0.8	1.7	3.4
13	M	MACYS RETAIL HLDGS INC	B	20	0.2%	1,028	478	550	0.87	15	8.3	12.7	13.5	13.8	9.7
14	NEE	FPL GROUP CAP INC	BBB	41	0.2%	988	461	527	0.87	25	0.4	0.5	0.7	1.6	2.5
15	AIG	AIG	BBB	33	0.2%	1,053	499	554	0.90	25	0.5	0.8	1.1	2.1	3.4
16	DE	DEERE JOHN CAP CORP MEDIUM TERM NTS-BOOK	A	59	0.3%	1,349	644	705	0.91	31	0.3	0.4	0.7	1.5	
17	AMGN	AMGEN INC	BBB	26	0.3%	1,496	718	778	0.92	31	0.6	0.6	0.8	1.7	2.9
18	T	AT&T	BBB	112	1.4%	5,995	2,910	3,085	0.94	143	1.0	0.7	1.0	2.0	3.4
19	CVS	CVS CAREMARK CORP	BBB	46	1.1%	4,585	2,238	2,347	0.95	101	0.4	0.6	0.9	1.8	3.3
20	HPQ	HEWLETT PACKARD	BBB	23	0.4%	1,854	904	950	0.95	47	0.7	0.9	1.5	2.4	4.3

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

September 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	FLR	FLUOR CORP NEW	Dec-24	BBB	3.500	2,444	161	2,605	27	6.4	7.1	89.5	87.2
2	SO	GEORGIA POWER CO	Oct-60	BBB	4.200	1,409	1,144	2,553	4			24.9	24.9
3	KO	COCA COLA CO	Mar-28	A	1.000	843	13	856	15	1.0	1.0	100.2	100.1
4	SO	GEORGIA POWER CO	Jan-51	BBB	4.000	647	10	657	17			101.9	100.1
5	SVC	Null	Jun-23	BB	4.500	613	86	699	8	4.9	5.2	99.0	98.3
6	JPM	JP MORGAN CHASE	Null	BBB	4.600	609	208	817	23	4.6	4.6	100.0	100.0
7	JWN	NORDSTROM INC	Oct-21	BBB	4.000	538	113	651	10	3.9	4.2	100.1	99.8
8	GEO	GEO GROUP INC	Apr-23	B	5.125	523	55	578	5	13.3	13.9	82.9	81.9
9	SBUX	STARBUCKS CORP	Aug-29	BBB	3.550	518	49	567	9	1.7	1.7	114.8	115.0
10	JPM	JP MORGAN CHASE	Jan-25	A	3.125	511	93	604	8	0.8	0.9	109.3	109.0
11	LUK	JEFFERIES GROUP INC NEW	Oct-23	BBB	5.500	507	76	583	6	1.0	1.1	110.2	110.0
12	TFC	Null	Aug-70	BBB	5.050	504	94	598	12	5.1	5.1	99.0	98.1
13	GT	GOODYEAR TIRE & RUBBER	Nov-23	B	5.125	496	79	575	9	3.9	5.2	100.1	99.8
14	DD	DU PONT	May-23	BBB	2.169	482	97	579	17	1.5	1.6	101.7	101.4
15	MET	METLIFE	Jun-47	BBB	4.700	468	206	674	15	4.8	4.9	99.1	97.2
16	MET	METLIFE	Null	BBB	3.850	462	19	481	12			101.8	100.2
17	EXPE	EXPEDIA INC DEL	Feb-26	BBB	5.000	431	62	493	9	3.3	3.5	107.8	107.0
18	OSK	OSHKOSH CORP	Mar-30	BBB	3.100	430	16	446	5	2.3	2.3	106.5	106.4
19	TDOC	Null	May-25	N/R	1.375	429	12	441	4			393.8	393.0
20	VOD	VODAFONE	Jan-24	BBB	3.750	426	50	476	6	0.9	0.8	109.3	109.6

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

September 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	SO	GEORGIA POWER CO	Oct-60	BBB	4.200	1,409	1,144	2,553	4			24.9	24.9
2	KO	COCA COLA CO	Mar-25	A	2.950	73	778	851	14	0.6	0.7	110.4	110.0
3	BMRN	BIOMARIN PHARMACEUTICAL INC	Aug-24	N/R	0.599	35	519	554	3			107.5	104.7
4	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Dec-49	BBB	5.000	387	484	871	17	6.3	6.4	80.0	78.3
5	TDOC	Null	Dec-22	N/R	3.000	57	455	512	6			434.5	468.0
6	AAPL	APPLE INC	May-23	AA	2.400	272	370	642	14	0.3	0.3	105.5	105.4
7	CVS	CVS CAREMARK CORP	Mar-28	BBB	4.300	277	368	645	13	1.7	1.7	117.7	117.4
8	COP	CONOCOPHILLIPS	Mar-22	C	6.875	94	366	460	1	141.6	186.0	22.2	17.6
9	MET	METLIFE	Aug-70	BBB	3.825	355	346	701	15	3.9	3.9	99.8	98.6
10	CVS	CVS CAREMARK CORP	Mar-25	BBB	4.100	101	322	423	6	0.9	0.9	113.6	113.9
11	T	AT&T	Mar-27	BBB	4.250	121	313	434	11	1.4	1.5	116.9	116.3
12	HFC	FRONTIER OIL CORP	Apr-26	BBB	5.875	71	282	353	7	3.5	3.8	111.2	110.0
13	HTZ	HERTZ CORP	Oct-22	N/R	6.250	21	265	286	4			47.0	46.0
14	C	CITIGROUP	Aug-70	BB	4.375	227	257	484	10	4.4	4.4	99.8	99.4
15	JPM	JP MORGAN CHASE	Aug-70	BBB	3.738	238	256	494	12	3.8	3.9	97.8	96.7
16	JPM	JP MORGAN CHASE	Oct-26	A	2.950	308	256	564	5	1.0	1.1	110.7	110.4
17	BAC	BANK OF AMERICA	Jan-25	BBB	4.000	11	64	75	1	1.3	1.3	111.3	111.3
18	BNKQ	Null	Jan-25	BBB	4.000	101	191	292	5	1.2	1.4	111.8	111.0
19	BBBY	BED BATH & BEYOND INC	Aug-44	B	5.165	69	253	322	5	7.8	7.9	71.5	70.7
20	DFS	DISCOVER BK NEW CASTLE DEL	Null	BB	5.500	222	252	474	12	5.6	5.6	99.0	98.8

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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