

Market Transparency Report

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

December 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 December 2020

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	2	1.8%	0.0
CD	0	-7.5%	-0.4
Corp	-15	1.8%	0.0
Municipal	-23	4.1%	-0.1
Treasury	-1	-3.3%	-0.2

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

Yield Matrix

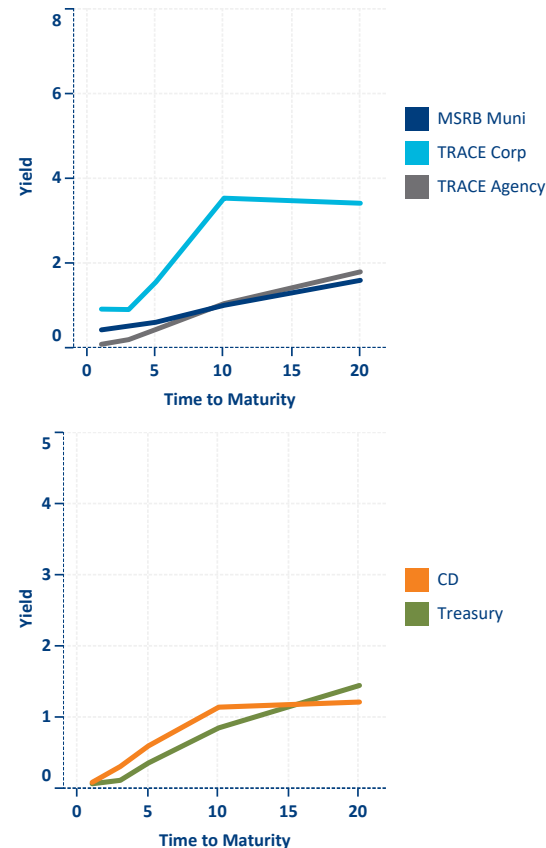
Average Yield, % for December 2020

Market	TTM					Median Maturity (Years)
	1	3	5	10	20	
MSRB Muni	0.4	0.5	0.6	1.0	1.6	9
TRACE Corp	0.9	0.9	1.6	3.6	3.4	4
TRACE Agency	0.1	0.2	0.5	1.1	1.8	5
CD	0.1	0.3	0.6	1.2	1.2	1
Treasury	0.1	0.1	0.4	0.9	1.5	1

Asset Class

Market	Category (Filtered)	Rating Key	1	3	5	10	20	Median Maturity (Years)
TRACE Corp	Financial	AA	0.2	0.2		1.5		1
		A	0.3	0.5	0.8	1.7	2.8	3
		BBB	0.6	0.9	1.2	2.2	3.5	4
		HY	6.4	2.6	6.7	7.5		8
		AAA	0.2	0.2		1.3	2.0	3
	Non-Financial	AA	0.6	0.4	0.5	1.5	2.2	9
		A	0.2	0.3	0.7	1.7	2.7	2
		BBB	0.6	1.2	1.7	3.1	3.6	6
		HY	1.5	5.5	4.5	5.7	4.9	6
MSRB Muni	GO	AAA	0.3	0.3	0.4	0.7	1.0	6
		AA	0.4	0.4	0.5	0.9	1.4	8
		A	0.4	0.6	0.7	1.0	1.7	7
		BBB	1.6	1.8	2.0	2.3	2.6	8
		HY	3.0	4.0	2.9	4.1	4.0	19
	Revenue	AAA	0.4	0.4	0.4	0.8	1.2	7
		AA	0.4	0.4	0.5	0.9	1.4	9
		A	0.5	0.6	0.7	1.1	1.5	11
		BBB	1.0	1.3	1.6	2.1	2.3	13
		HY	5.5	7.1	4.4	5.5	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.

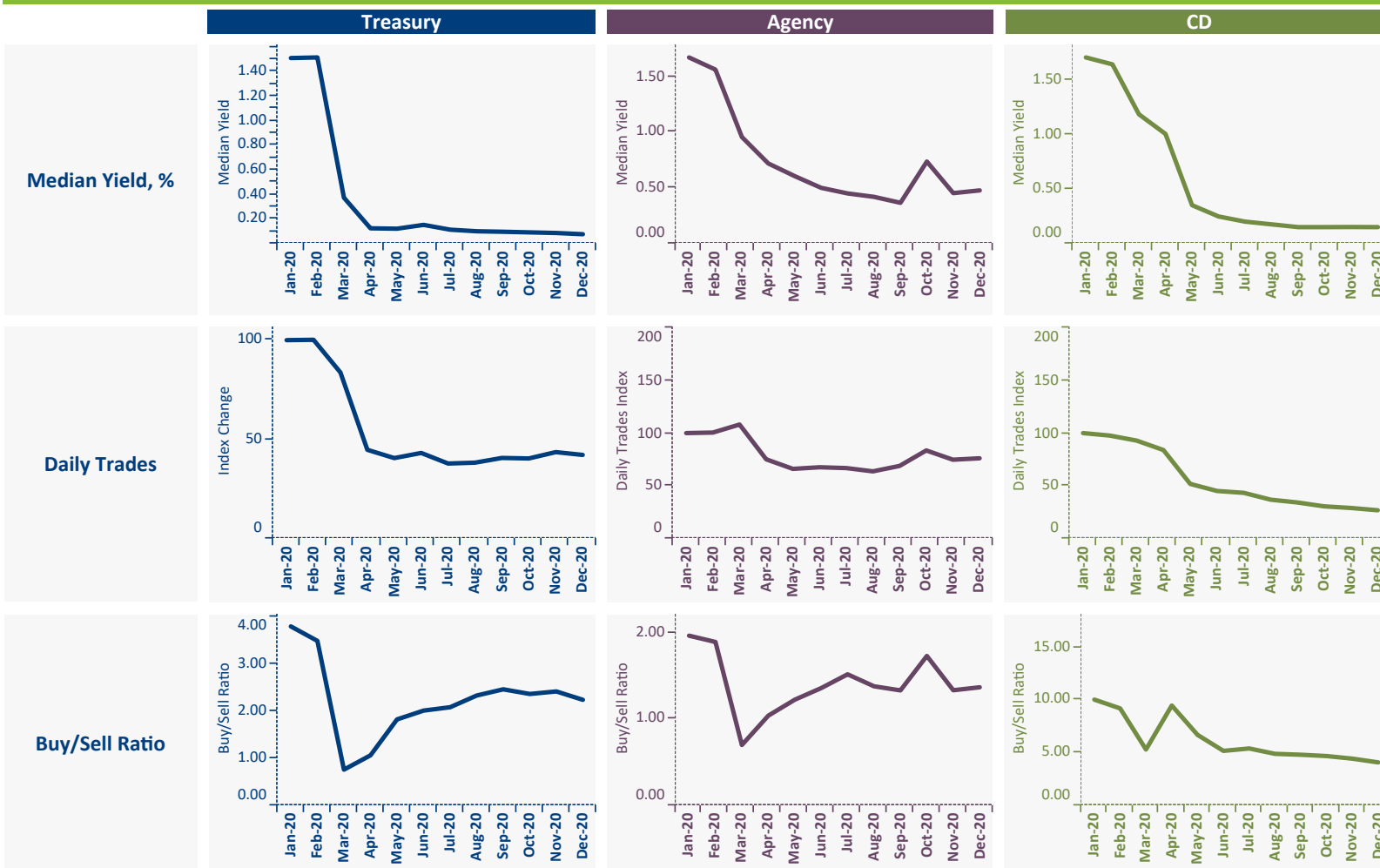
-The weights are based on transaction size.

-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.

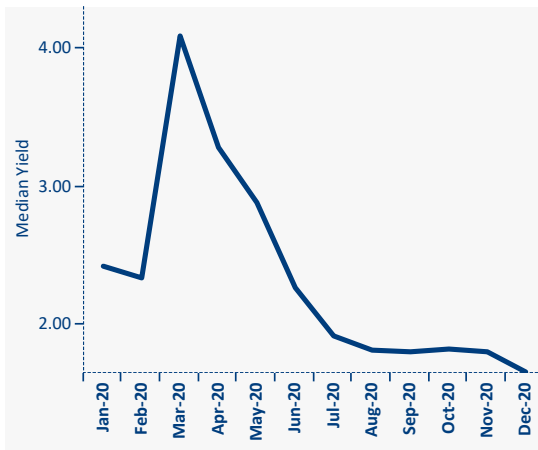
-Agency is based on odd-lot customer transactions (<100M) reported in TRACE. Median yields are based on all odd-lot customer buy transactions.

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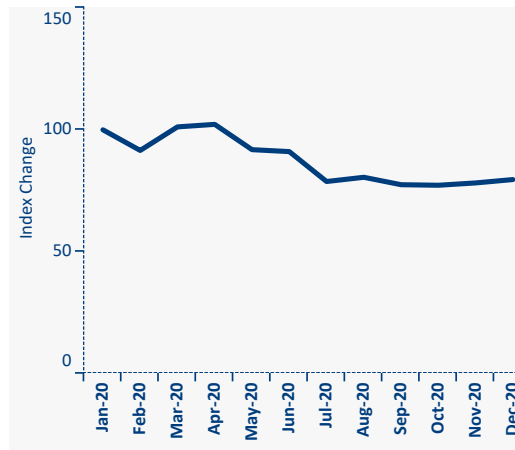


Corporate Bonds: Odd-Lot Customer Transaction Trend Summary

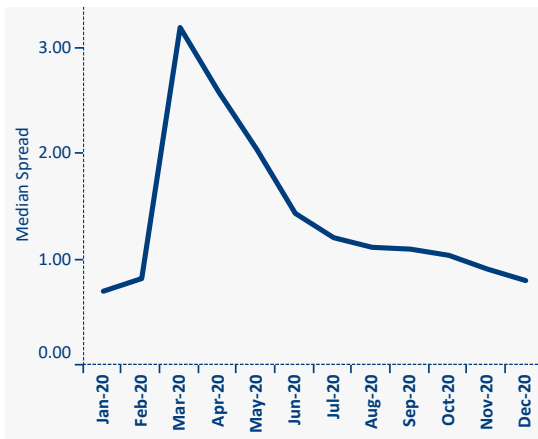
Median Yield, %



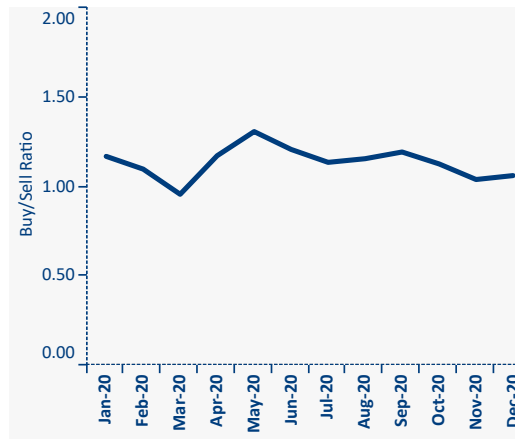
Trades Per Day



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.

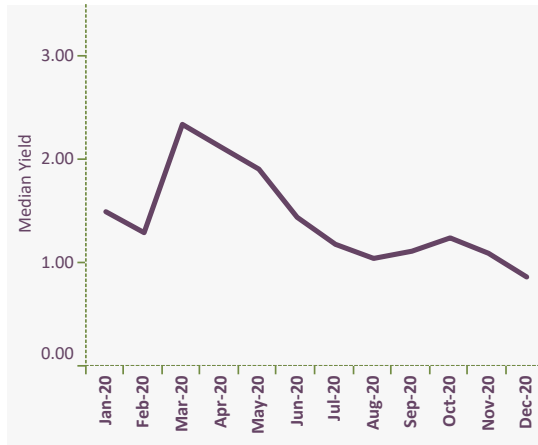
-Median yields and spreads are based on all odd-lot customer buy transactions...

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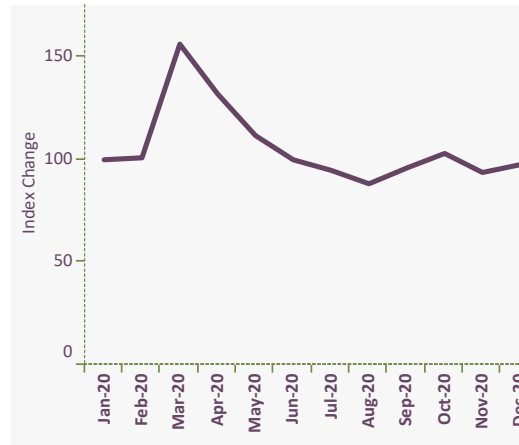


Municipal Bonds: Odd-Lot Customer Transaction Trend Summary

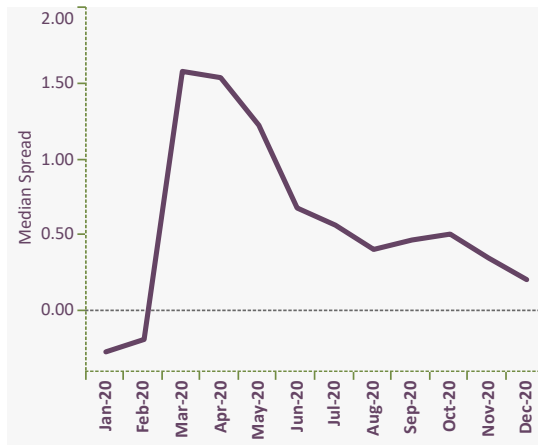
Median Yield, %



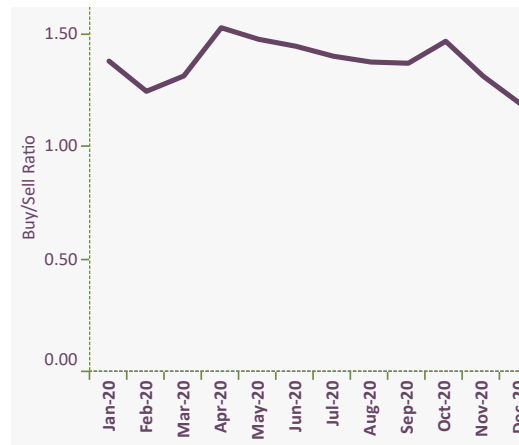
Trades Per Day



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

December 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	835	3.0%	13,895	1.0	334	0.2	0.5	1.0	1.0	2.4
2	GS	GOLDMAN SACHS	BBB	955	2.8%	13,136	1.1	281	0.3	0.7	1.2	2.3	3.5
3	C	CITIGROUP	BBB	552	2.4%	11,391	1.1	260	0.3	0.6	1.1	2.0	2.6
4	BAC	BANK OF AMERICA	A	345	2.3%	10,854	1.1	251	0.2	0.5	1.0	2.0	3.0
5	MS	MORGAN STANLEY	A	1,064	1.7%	8,012	0.8	193	0.3	0.7	1.0	1.6	2.5
6	WFC	WELLS FARGO	A	232	1.7%	7,983	1.0	180	0.3	0.6	1.0	1.7	3.0
7	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	BBB	277	1.4%	6,770	1.0	153	0.5	0.9	1.5	3.1	3.3
8	T	AT&T	BBB	114	1.3%	5,913	1.0	129	0.4	0.6	0.7	1.9	3.2
9	F	FORD	BB	245	1.2%	5,542	1.2	122	1.6	3.0	3.4	4.3	4.7
10	AAPL	APPLE INC	AA	50	1.1%	5,339	1.0	118	0.2	0.4	0.7	1.3	2.3
11	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	109	1.1%	5,324	0.9	130	0.6	1.0	1.4	2.2	3.7
12	VZ	VERIZON	BBB	132	1.1%	5,141	1.1	110	0.3	0.5	0.7	1.6	2.5
13	CMCS	COMCAST	A	61	0.9%	4,427	1.1	97	0.3	0.5	0.7	1.6	2.4
14	CVS	CVS CAREMARK CORP	BBB	48	0.9%	4,116	0.9	92	0.3	0.5	0.8	1.8	2.8
15	ORCL	ORACLE CORP	A	31	0.8%	3,915	1.2	84	0.2	0.5	0.7	1.5	2.5
16	BRK	BERKSHIRE HATHAWAY	A	146	0.8%	3,650	0.8	101	0.2	0.3	1.7	1.5	2.5
17	BA	BOEING CO	BBB	57	0.7%	3,490	2.2	92	0.6	1.3	1.7	2.6	3.6
18	AXP	AMERICAN EXPRESS	BBB	28	0.7%	3,484	1.4	76	0.3	0.4	0.8		2.6
19	DIS	DISNEY WALT CO NEW MEDIUM TERM NTS BOOK	A	84	0.7%	3,085	1.6	72	0.3	0.6	0.8	1.6	2.5
20	MSFT	MICROSOFT CORP	AAA	34	0.6%	3,010	0.8	64	0.2	0.3	0.7		2.0

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 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	TDS	UNITED STATES CELLULAR CORP	BB	2	0.4%	2,068	1,923	145	13.3	7					
2	PSEC	PROSPECT CAP CORP INTERNOTES BOOK ENTRY	BBB	179	0.3%	1,597	1,250	347	3.6	29		3.5	5.0	5.2	5.4
3	CNP	CENTERPOINT ENERGY INC	BBB	28	0.3%	1,530	1,122	408	2.8	39	0.3	3.1		4.4	5.5
4	LUV	SOUTHWEST AIRLS CO	BBB	11	0.3%	1,538	1,077	461	2.3	24		1.0	1.6	2.4	
5	SCHW	SCHWAB CHARLES CORP NEW	BBB	27	0.6%	2,705	1,884	821	2.3	78	0.3	0.5	0.7	1.5	
6	BA	BOEING CO	BBB	57	0.7%	3,490	2,397	1,093	2.2	92	0.6	1.3	1.7	2.6	3.6
7	HBAN	HUNTINGTON NATL BK COLUMBUS OHIO MEDIUM	BBB	13	0.2%	1,138	775	363	2.1	26	0.2	0.7	0.8	1.6	
8	WAG	WALGREEN CO	BBB	10	0.3%	1,431	972	459	2.1	29	0.3	0.9	1.4	2.1	3.8
9	GEO	GEO GROUP INC	B	4	0.4%	1,923	1,300	623	2.1	20	6.1	10.4	11.3		
10	DAL	DELTA AIR LINES INC DEL	BB	19	0.4%	2,039	1,363	676	2.0	42	1.7	3.2	4.1	4.2	
11	PRU	PRUDENTIAL	BBB	44	0.4%	1,694	1,125	569	2.0	30	0.3	0.5	0.8	1.6	2.0
12	TMUS	T-MOBILE USA INC	BB	23	0.3%	1,277	827	450	1.8	29	1.4	2.0	2.1	2.6	
13	BMY	BRISTOL MYERS SQUIBB CO	A	56	0.3%	1,240	790	450	1.8	38	0.2	0.5	0.7	1.4	2.3
14	GILD	GILEAD SCIENCES INC	BBB	22	0.4%	1,743	1,111	632	1.8	36	0.2	0.4	0.8	1.7	2.8
15	MAR	MARRIOTT INTL INC NEW	BBB	24	0.3%	1,212	759	453	1.7	28	0.8	1.3	1.7	2.5	
16	DIS	DISNEY WALT CO NEW MEDIUM TERM NTS BOOK	A	84	0.7%	3,085	1,916	1,169	1.6	72	0.3	0.6	0.8	1.6	2.5
17	EXC	EXELON GENERATION CO LLC	BBB	72	0.3%	1,423	885	538	1.6	38	0.4	0.7	0.9	1.8	4.6
18	CTL	CENTURYLINK	B	27	0.5%	2,390	1,469	921	1.6	46	1.3	2.8	2.3	5.4	5.8
19	ETP	ENERGY TRANSFER PARTNERS L P	BBB	39	0.5%	2,424	1,475	949	1.6	62	0.6	1.4	1.8	3.0	4.9
20	TEVA	TEVA PHARMACEUTICAL FIN CO B V	BB	12	0.3%	1,402	823	579	1.4	35	2.0	3.0	3.7		5.4

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

December 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	HBC	HSBC	N/R	458	0.3%	1,642	364	1,278	0.28	39	0.5	1.0	1.7	3.1	2.9
2	STX	SEAGATE HDD CAYMAN	BB	9	0.3%	1,290	292	998	0.29	33	1.8	2.3	2.7		
3	BCS	BARCLAYS	N/R	700	0.4%	2,019	558	1,461	0.38	38	1.1	1.5	1.5	2.1	
4	QUAD	Null	C	1	0.3%	1,513	526	987	0.53	14	15.3				
5	PTRB	PETROBRAS	BB	24	0.3%	1,231	494	737	0.67	52	1.1	1.8	2.2	3.8	5.0
6	PEP	PEPSICO	A	38	0.4%	1,915	794	1,121	0.71	41	0.2	0.4	0.7	1.4	2.4
7	NEE	FPL GROUP CAP INC	BBB	49	0.3%	1,208	506	702	0.72	30	0.3	0.4	0.8	1.7	2.5
8	CVX	CHEVRON CORP NEW	AA	39	0.4%	1,657	698	959	0.73	33	0.3	0.4	0.7	1.5	2.8
9	X	UNITED STS STL CORP NEW	C	5	0.6%	2,645	1,125	1,520	0.74	53			8.1		8.4
10	DE	DEERE JOHN CAP CORP MEDIUM TERM NTS-BOOK	A	59	0.3%	1,458	623	835	0.75	33	0.3	0.3	0.6	1.4	2.3
11	SO	GEORGIA POWER CO	BBB	60	0.2%	1,131	502	629	0.80	28	0.4	0.5	1.0	1.5	2.9
12	BNS	BANK NOVA SCOTIA B C	A	129	0.2%	1,152	515	637	0.81	30	0.3	0.5	0.9	1.7	
13	MS	MORGAN STANLEY	A	1,064	1.7%	8,012	3,597	4,415	0.81	193	0.4	0.7	1.0	2.0	2.6
14	MSFT	MICROSOFT CORP	AAA	34	0.6%	3,010	1,348	1,662	0.81	64	0.2	0.3	0.7		2.2
15	HD	HOME DEPOT	A	28	0.5%	2,462	1,111	1,351	0.82	49	0.3	0.3	0.6	1.3	2.2
16	BRK	BERKSHIRE HATHAWAY	A	146	0.8%	3,650	1,659	1,991	0.83	101	0.4	0.4	0.8	1.6	2.6
17	HPQ	HEWLETT PACKARD	BBB	23	0.4%	1,905	871	1,034	0.84	48	0.6	0.7	1.2	2.2	3.9
18	PNC	PNC FDG CORP	A	33	0.3%	1,433	654	779	0.84	33	0.3	0.6	0.8	1.5	
19	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	109	1.1%	5,324	2,455	2,869	0.86	130	0.8	1.0	1.5	2.3	3.8
20	LUK	JEFFERIES GROUP INC NEW	BBB	71	0.3%	1,359	644	715	0.90	33		0.6	3.3	2.2	4.0

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

December 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	TDS	UNITED STATES CELLULAR CORP	Mar-70	BB	5.500	1,911	102	2,013	5			25.1	25.0
2	F	FORD	Apr-23	BB	8.500	1,069	123	1,192	16	3.0	3.0	112.5	112.3
3	SCHW	SCHWAB CHARLES CORP NEW	Null	BBB	4.000	1,017	24	1,041	33			104.3	103.2
4	C	CITIGROUP	Aug-70	BB	4.000	1,004	46	1,050	25			101.1	101.0
5	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Aug-70	BBB	5.000	800	655	1,455	37	5.4	5.4	93.0	92.0
6	JPM	JP MORGAN CHASE	Aug-70	BBB	3.684	639	325	964	21	3.7	3.7	99.6	99.1
7	JPM	JP MORGAN CHASE	Dec-49	BBB	3.557	616	217	833	25	3.6	3.6	99.5	97.9
8	PMT	PENNYMAC MORTGAGE INVESTMENT TRUST	Nov-24	N/R	5.500	611		611	13	5.1		101.3	
9	PRU	PRUDENTIAL	Sep-42	BBB	5.875	610	71	681	5			107.3	106.9
10	STWD	STARWOOD PPTY TR INC	Dec-21	B	5.000	607	33	640	12	2.3	2.3	102.0	101.9
11	COF	CAPITAL ONE FINL CORP	Aug-70	BB	4.025	582	380	962	22	4.0	4.1	99.5	98.8
12	LUV	SOUTHWEST AIRLS CO	May-25	BBB	1.250	576	113	689	5			150.9	150.0
13	FLR	FLUOR CORP NEW	Dec-24	BBB	3.500	562	355	917	14	3.8	4.0	98.9	98.0
14	FTVQ	Null	Feb-22	BBB	0.875	561	52	613	4	0.0	0.0	102.6	101.4
15	EEFT	Null	Mar-49	BBB	0.750	553	31	584	3			112.3	107.1
16	T	AT&T	Feb-27	BBB	3.800	552	71	623	4	1.3	1.2	114.3	114.6
17	PTEN	Null	Feb-28	BBB	3.950	549	21	570	6	5.2	5.5	92.7	91.2
18	QUAD	Null	May-22	C	7.000	526	987	1,513	14	13.9	15.3	91.8	90.0
19	DIS	DISNEY WALT CO NEW MEDIUM TERM NTS BOOK	Mar-25	A	3.350	512	52	564	10	0.8	0.8	110.8	110.5
20	BKNG	Null	Sep-21	A	0.900	484	63	547	3			112.2	113.0

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).

Corporate Bonds: Top 20 Most Sold Issues

December 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	QUAD	Null	May-22	C	7.000	526	987	1,513	14	13.9	15.3	91.8	90.0
2	X	UNITED STS STL CORP NEW	Mar-26	C	6.250	439	696	1,135	22	7.9	8.1	93.1	92.1
3	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Aug-70	BBB	5.000	800	655	1,455	37	5.4	5.4	93.0	92.0
4	X	UNITED STS STL CORP NEW	Aug-25	C	6.875	474	598	1,072	21	8.0	8.1	95.6	95.3
5	UA	UNDER ARMOR	Jun-26	BB	3.250	99	522	621	7	3.2	3.3	100.4	99.9
6	DFS	DISCOVER BK NEW CASTLE DEL	Null	BB	5.500	148	406	554	13	5.2	5.3	106.4	104.3
7	CVS	CVS CAREMARK CORP	Mar-28	BBB	4.300	206	398	604	12	1.6	1.6	118.0	117.8
8	HD	HOME DEPOT	Sep-25	A	3.350	39	394	433	5	0.5	0.6	112.6	112.2
9	F	FORD	Dec-46	BB	5.291	106	387	493	17	5.0	5.2	103.8	101.1
10	COF	CAPITAL ONE FINL CORP	Aug-70	BB	4.025	582	380	962	22	4.0	4.1	99.5	98.8
11	LNC	LINCOLN NATL CORP IND	May-66	BBB	2.580	357	364	721	13			78.8	77.0
12	AAPL	APPLE INC	May-23	AA	2.400	276	359	635	12	0.3	0.4	104.9	104.9
13	FLR	FLUOR CORP NEW	Dec-24	BBB	3.500	562	355	917	14	3.8	4.0	98.9	98.0
14	CVX	CHEVRON CORP NEW	Jun-23	AA	3.191	64	343	407	5	0.3	0.4	106.5	106.3
15	T	AT&T	Mar-27	BBB	4.250	76	333	409	6	1.3	1.4	116.9	116.0
16	JPM	JP MORGAN CHASE	Aug-70	BBB	3.684	639	325	964	21	3.7	3.7	99.6	99.1
17	C	CITIGROUP	Aug-70	BB	4.699	256	322	578	12	4.7	4.7	100.5	100.2
18	STX	SEAGATE HDD CAYMAN	Dec-34	BB	5.750	57	317	374	11	4.0	4.2	117.8	116.3
19	KSS	KOHL'S CORP	Jul-45	BBB	5.550	279	302	581	15	5.2	5.3	104.6	103.5
20	BAC	BANK OF AMERICA	Jan-23	A	3.300	300	285	585	11	0.4	0.4	106.0	105.9

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).

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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

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