

Market Transparency Report

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

May 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.

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 2020

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	-11	-12.1%	0.2
CD	-65	-38.3%	-2.8
Corp	-40	-10.2%	0.1
Municipal	-22	-15.3%	-0.1
Treasury	0	-9.3%	0.8

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

Yield Matrix

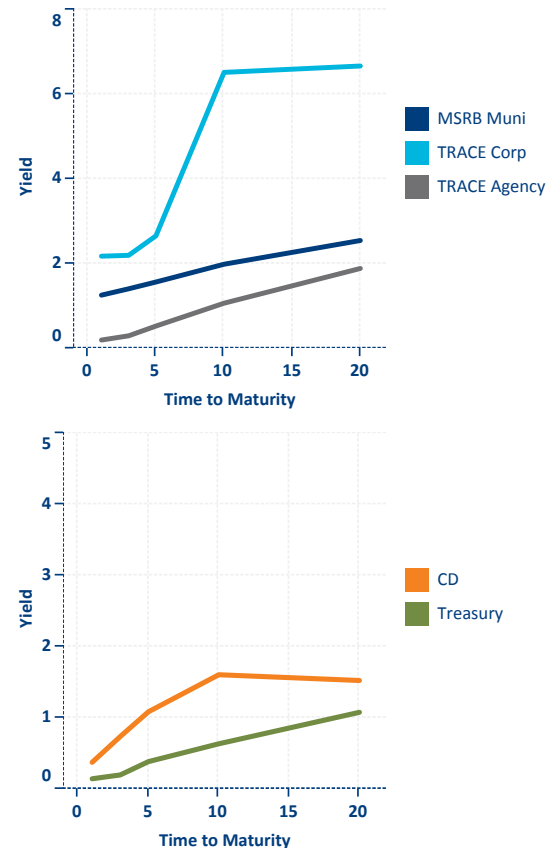
Average Yield, % for May 2020

Market	TTM					Median Maturity (Years)
	1	3	5	10	20	
MSRB Muni	1.3	1.4	1.6	2.0	2.6	9
TRACE Corp	2.2	2.2	2.7	6.5	6.7	3
TRACE Agency	0.2	0.3	0.5	1.1	1.9	4
CD	0.4	0.7	1.1	1.6	1.5	1
Treasury	0.1	0.2	0.4	0.6	1.1	0

Asset Class

Market	Category (Filtered)	Rating Key	1	3	5	10	20	Median Maturity (Years)
TRACE Corp	Financial	AA	0.6	1.0	1.6			1
		A	0.7	1.1	1.5	2.4	3.5	3
		BBB	3.7	2.8	2.7	3.9	5.1	3
		HY	5.4	3.8	8.4	10.0	6.4	2
		AAA	0.2	0.4		1.3	2.4	4
	Non-Financial	AA	0.4	1.1	1.1	1.9	2.6	5
		A	1.0	1.1	1.9	2.5	3.1	3
		BBB	2.2	4.3	3.9	6.8	5.4	5
		HY	6.7	6.3	8.1	14.8	17.5	8
MSRB Muni	GO	AAA	0.8	0.9	1.0	1.4	1.8	6
		AA	0.9	1.0	1.2	1.6	2.1	8
		A	1.3	1.5	1.8	2.1	2.4	7
		BBB	3.6	3.9	4.5	4.7	4.7	7
		HY	4.0	4.5	3.9	4.8	5.9	8
	Revenue	AAA	0.9	1.0	1.1	1.6	2.0	7
		AA	1.0	1.2	1.4	1.7	2.2	9
		A	1.9	2.1	2.4	2.6	2.9	12
		BBB	3.3	3.7	3.8	4.0	4.0	12
		HY	8.3	6.5	8.6	6.0	5.5	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.

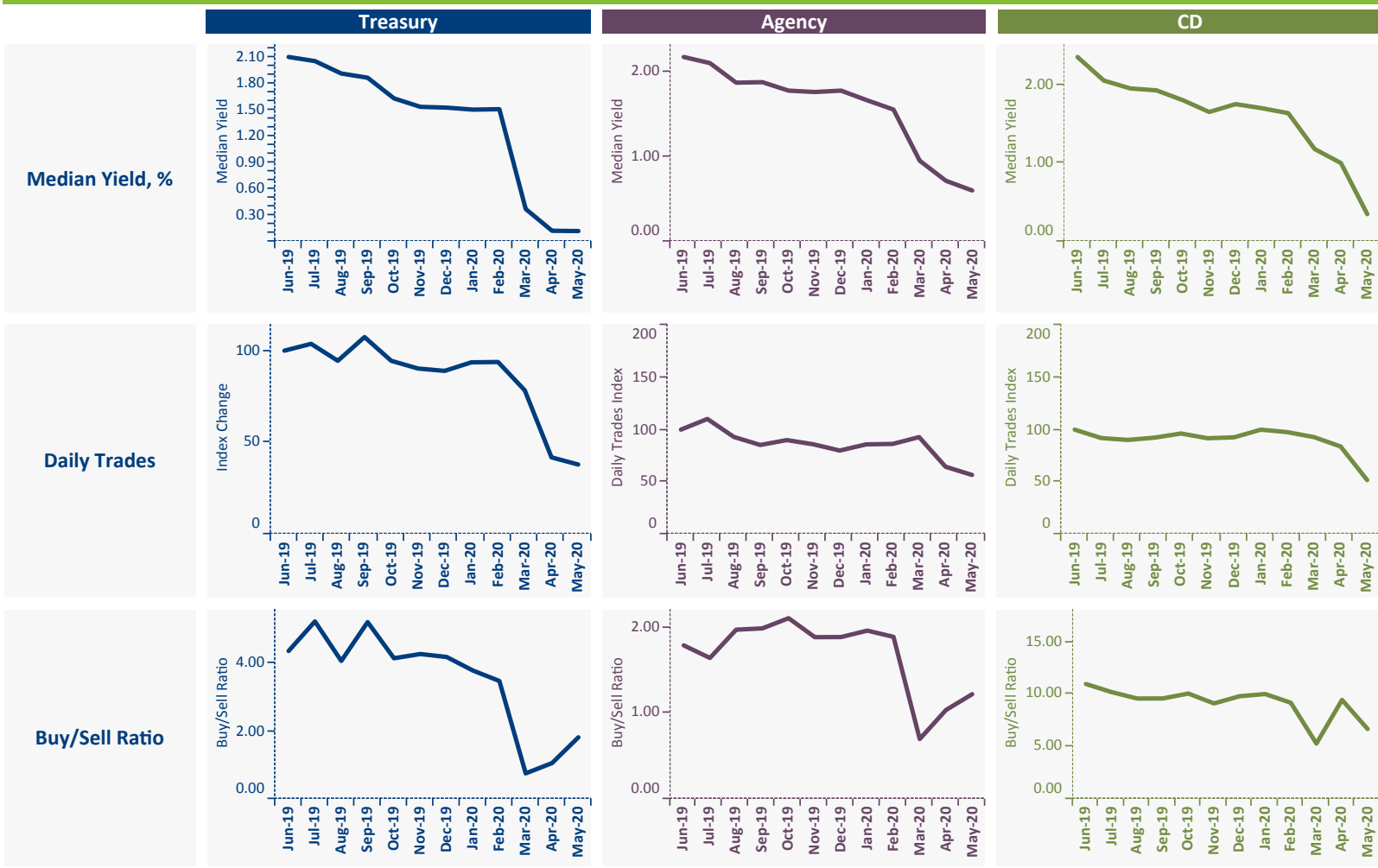
-The weights are based on transaction size.

-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

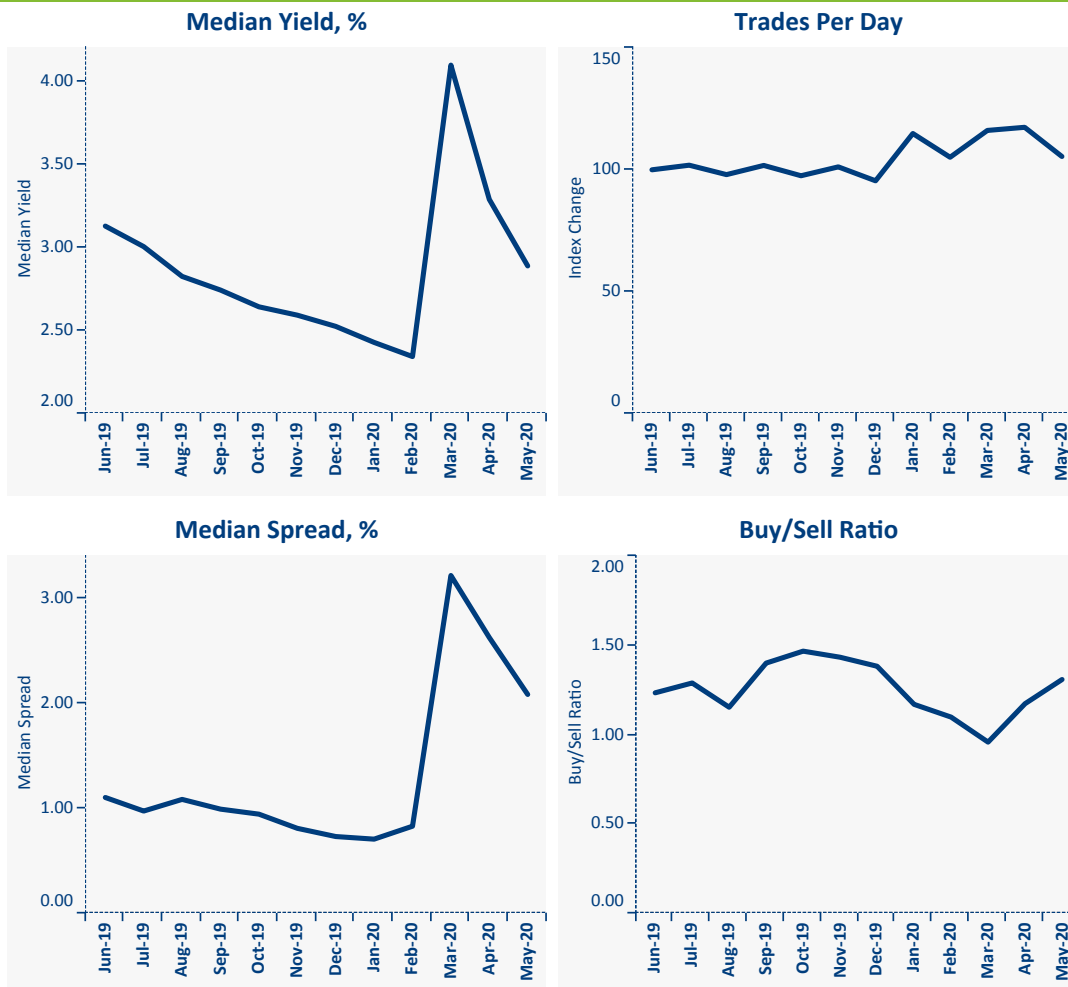
-Treasury and CD are based on transactions on the Tradeweb Direct Platform. Median yields are based on all customer buy transactions.

-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

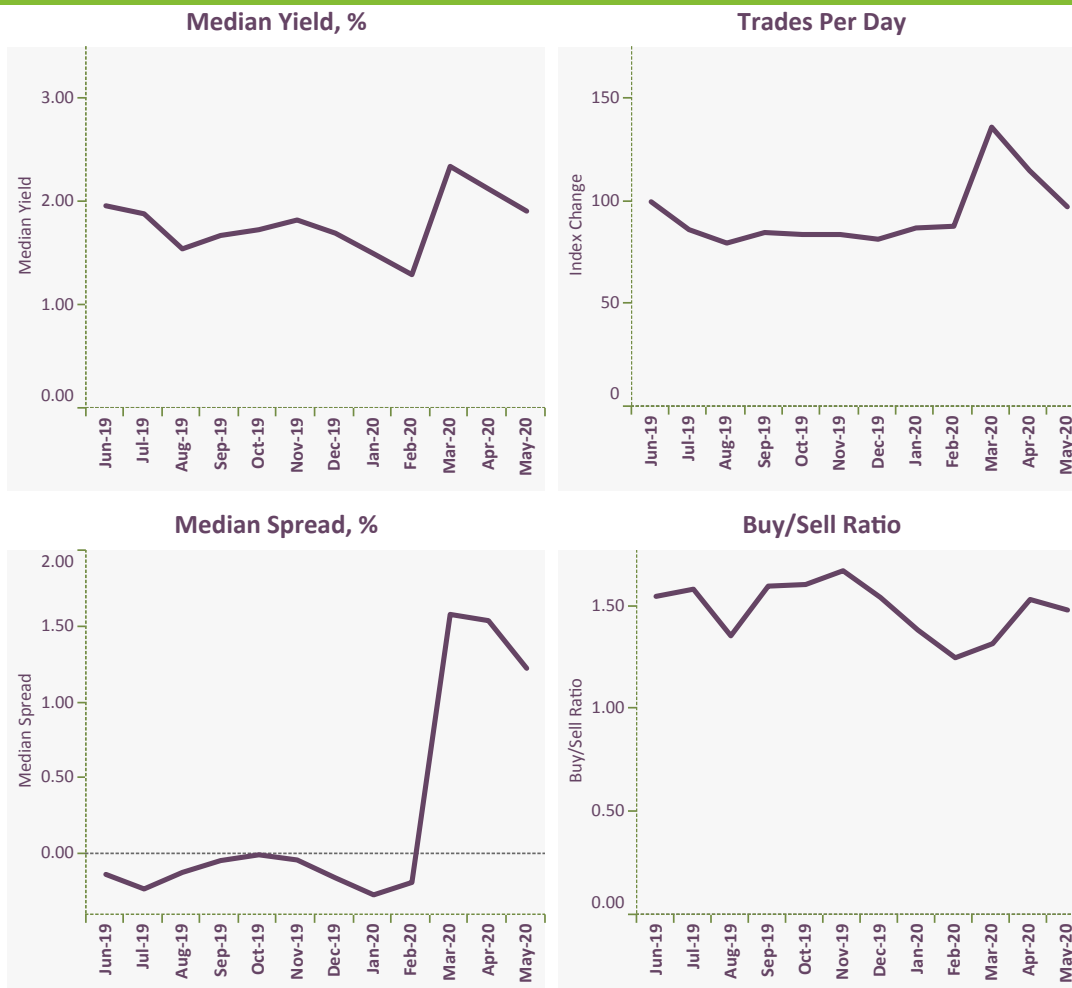
-Based on odd-lot customer transactions (<100M) reported in TRACE.

-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

May 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	481	3.0%	14,737	1.3	313	0.7	1.2	1.7	2.2	3.1
2	GS	GOLDMAN SACHS	BBB	793	2.7%	13,139	1.2	273	1.0	1.5	2.1	3.0	4.0
3	C	CITIGROUP	BBB	413	2.1%	10,278	1.2	229	1.0	1.5	2.2	3.0	3.3
4	BNKQ	Null	A	353	1.9%	9,478	1.1	205	0.8	1.3	1.9	2.7	3.6
5	BA	BOEING CO	BBB	53	1.8%	8,779	6.1	201	2.7	3.8	4.4	5.0	5.6
6	WFC	WELLS FARGO	A	239	1.8%	8,775	1.4	196	0.8	1.4	1.8	2.4	3.6
7	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	100	1.8%	8,680	2.6	183	3.8	4.6	5.1	5.7	6.8
8	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	BBB	298	1.7%	8,558	1.7	170	2.0	3.0	4.2	3.8	4.9
9	F	FORD	BB	254	1.6%	7,989	1.8	142	6.2	8.3	8.0	9.0	7.9
10	T	AT&T	BBB	115	1.4%	7,028	1.1	154	0.8	1.5	2.0	2.8	3.8
11	MS	MORGAN STANLEY	BBB	657	1.3%	6,604	0.9	148	1.1	1.5	1.8	2.7	3.2
12	LUV	SOUTHWEST AIRLS CO	BBB	11	1.2%	6,085	4.1	104	2.4	5.8	5.9	5.0	
13	AAPL	APPLE INC	AA	49	1.1%	5,655	1.1	126	0.3	0.6	1.0	1.5	2.7
14	VZ	VERIZON	BBB	127	1.0%	5,084	0.9	113	0.6	0.9	1.2	2.1	2.9
15	CVS	CVS CAREMARK CORP	BBB	46	0.9%	4,564	1.2	105	1.1	1.3	1.7	2.5	3.4
16	CMCS	COMCAST	A	64	0.9%	4,389	1.1	100		1.0	1.3	2.0	2.8
17	BRK	BERKSHIRE HATHAWAY	A	153	0.9%	4,257	1.1	109	0.5	0.5	1.3	1.9	3.3
18	COF	CAPITAL ONE FINL CORP	BBB	29	0.8%	3,817	2.0	81	1.3	2.3	2.7	3.5	
19	ORCL	ORACLE CORP	A	32	0.7%	3,572	1.2	76	0.7	0.8	1.2	1.8	2.8
20	AXP	AMERICAN EXPRESS	BBB	32	0.7%	3,410	1.6	77	0.9	1.3	1.6		3.0

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

May 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	PYPL	Null	BBB	8	0.2%	1,138	1,010	128	7.9	17		1.0	1.2	2.0	
2	HON	HONEYWELL INTL INC	A	16	0.2%	1,155	1,019	136	7.5	16	0.5	0.7	1.0	1.6	2.8
3	BA	BOEING CO	BBB	53	1.8%	8,779	7,543	1,236	6.1	201	2.7	3.8	4.4	5.0	5.6
4	MAR	MARRIOTT INTL INC NEW	BBB	24	0.6%	3,163	2,566	597	4.3	58	3.5	4.0	4.6	4.8	
5	MRO	MARATHON OIL CORP	BBB	24	0.4%	1,972	1,593	379	4.2	42	2.8	4.5	4.4	7.5	8.3
6	LUV	SOUTHWEST AIRLS CO	BBB	11	1.2%	6,085	4,880	1,205	4.1	104	2.4	5.8	5.9	5.0	
7	CCL	CARNIVAL CORP	BBB	5	0.4%	1,814	1,422	392	3.6	25		10.0		10.7	
8	HMC	AMERICAN HONDA FIN CORP MED TERM NTS BOO	A	31	0.4%	1,727	1,349	378	3.6	37	1.3	1.8	2.0	2.6	
9	SPG	SIMON PPTY GROUP L P	A	20	0.4%	2,129	1,638	491	3.3	47	1.7	2.7	3.3	3.7	4.5
10	CVX	CHEVRON CORP NEW	AA	22	0.4%	2,039	1,530	509	3.0	43	0.6	0.9	1.0	2.0	3.0
11	SCHW	SCHWAB CHARLES CORP NEW	BBB	19	0.5%	2,290	1,709	581	2.9	52	0.4	0.9	1.3	2.2	
12	DIS	DISNEY WALT CO NEW MEDIUM TERM NTS BOOK	A	81	0.6%	3,117	2,291	826	2.8	74	0.5	0.9	1.4	2.1	3.1
13	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	100	1.8%	8,680	6,277	2,403	2.6	183	3.8	4.6	5.1	5.7	6.8
14	SBUX	STARBUCKS CORP	BBB	20	0.3%	1,723	1,232	491	2.5	38	0.7	1.1	1.7	2.5	
15	D	DOMINION RES INC VA NEW	BBB	68	0.4%	2,031	1,424	607	2.4	45	1.3	1.3	1.5	3.0	3.7
16	FDX	FEDEX CORP	BBB	28	0.3%	1,483	1,033	450	2.3	33		1.4	2.1	2.8	4.1
17	RCL	ROYAL CARIBBEAN CRUISES LTD	BB	6	0.3%	1,539	1,020	519	2.0	21	11.9	19.6		12.4	
18	UPS	UNITED PARCEL SVC INC	A	29	0.3%	1,531	1,014	517	2.0	30	0.3	0.7	1.1	1.9	3.0
19	AIG	AIG	BBB	31	0.3%	1,720	1,136	584	2.0	37	0.9	1.7	2.3	3.2	4.0
20	COF	CAPITAL ONE FINL CORP	BBB	29	0.8%	3,817	2,522	1,295	2.0	81	1.3	2.3	2.7	3.5	

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 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	25	0.3%	1,620	197	1,423	0.14	19					
2	LTD	LIMITED BRANDS INC	B	10	0.3%	1,257	212	1,045	0.20	24	14.0	13.2		11.0	11.0
3	EQT	EQT CORP	BB	11	0.3%	1,325	279	1,046	0.27	35	6.3	5.3	7.6	8.4	
4	M	MACYS RETAIL HLDGS INC	B	21	0.3%	1,666	528	1,138	0.46	26	14.6	16.2	14.5	15.9	10.3
5	CTL	CENTURYLINK	B	30	0.3%	1,557	584	973	0.60	33	4.5	5.2	5.0	7.3	7.6
6	HBC	HSBC	A	331	0.4%	1,834	763	1,071	0.71	47	1.5	2.4	2.4	4.2	3.6
7	ETP	ENERGY TRANSFER PARTNERS L P	BBB	40	0.3%	1,445	616	829	0.74	32	4.0	4.1	4.2	4.4	6.2
8	AMZN	AMAZON COM INC	AA	14	0.3%	1,478	646	832	0.78	34		0.4	0.9		2.4
9	APC	ANADARKO PETE CORP	BB	74	0.5%	2,634	1,163	1,471	0.79	47	9.1	9.0	9.7	10.5	9.2
10	MSFT	MICROSOFT CORP	AAA	34	0.6%	2,879	1,291	1,588	0.81	66	0.4	0.5	0.9		2.5
11	EDP	ENTERPRISE PRODS OPER LLC	BBB	36	0.3%	1,284	578	706	0.82	26	2.0	1.8	1.8	3.0	4.7
12	UAL	UNITED AIRLINES	BB	23	0.5%	2,240	1,018	1,222	0.83	24	16.1	23.6	17.7		
13	HTZ	HERTZ CORP	C	6	0.4%	2,192	1,022	1,170	0.87	8		126.8		58.3	
14	TEVA	TEVA PHARMACEUTICAL FIN CO B V	BB	12	0.3%	1,567	734	833	0.88	36	4.2	5.1	1.3	6.6	6.5
15	MS	MORGAN STANLEY	BBB	657	1.3%	6,604	3,106	3,498	0.89	148	1.3	1.7	1.9	3.0	3.3
16	RY	ROYAL BANK OF CANADA	A	174	0.3%	1,264	599	665	0.90	29	0.7	1.3	1.8	3.1	
17	VZ	VERIZON	BBB	127	1.0%	5,084	2,415	2,669	0.90	113	0.9	1.0	1.2	2.1	2.9
18	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	BBB	47	0.6%	2,799	1,332	1,467	0.91	62	1.4	1.0	1.9	2.6	3.8
19	GILD	GILEAD SCIENCES INC	A	17	0.3%	1,240	598	642	0.93	25	0.8	0.9	1.2		2.4
20	KMI	KINDER MORGAN ENERGY PARTNERS L P	BBB	58	0.3%	1,543	745	798	0.93	32	2.6	2.2	2.7	4.8	5.1

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

May 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	1,638	136	1,774	30	5.3	5.3	94.5	93.5
2	SCHW	SCHWAB CHARLES CORP NEW	Dec-49	BBB	5.375	1,230	83	1,313	30			105.1	104.5
3	LUV	SOUTHWEST AIRLS CO	May-23	BBB	4.750	1,206	434	1,640	30	5.9	5.8	97.1	97.5
4	LUV	SOUTHWEST AIRLS CO	Mar-27	BBB	7.375	1,152	305	1,457	26	7.2	7.4	100.9	100.0
5	F	FORD	Apr-25	BB	9.000	1,139	142	1,281	20	8.0	8.9	104.1	100.4
6	BA	BOEING CO	May-23	BBB	4.508	1,017	72	1,089	26	4.2	4.3	100.9	100.5
7	LUV	SOUTHWEST AIRLS CO	May-25	BBB	5.250	986	221	1,207	24	5.9	5.7	97.5	97.9
8	CCL	CARNIVAL CORP	Oct-20	BBB	3.950	837	288	1,125	17	10.0	11.3	97.5	97.2
9	F	FORD	Apr-23	BB	8.500	793	143	936	25	8.3	8.5	100.4	100.1
10	BA	BOEING CO	May-25	BBB	4.875	769	26	795	21	4.5	4.3	101.5	101.9
11	PEP	PEPSICO	May-23	A	0.750	767	3	770	13	0.7	0.5	100.0	100.7
12	HON	HONEYWELL INTL INC	Jun-25	A	1.350	761	19	780	9	1.0	1.0	100.8	101.8
13	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Null	BBB	5.000	726	445	1,171	22	6.4	6.6	77.8	75.8
14	CVX	CHEVRON CORP NEW	May-25	AA	1.554	725	6	731	16	1.0	1.2	102.4	101.9
15	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Dec-27	A	3.337	724	117	841	12	3.7	3.2	97.7	100.9
16	BA	BOEING CO	May-30	BBB	5.150	719	44	763	19	5.0	4.9	101.0	102.2
17	PYPL	Null	Jun-25	BBB	1.650	677	17	694	7	1.3	1.4	100.4	101.3
18	GM	GENERAL MOTORS FINANCIAL COMPANY INC	Mar-21	BBB	4.200	611	85	696	12	4.2	4.7	100.0	99.6
19	CMA	COMERICA BK DALLAS TEX	Dec-49	BBB	5.625	583	8	591	15			101.5	99.4
20	HTZ	HERTZ CORP	Oct-22	C	6.250	581	663	1,244	4	114.3	126.8	16.5	14.5

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

May 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	F	FORD	Jul-31	BB	7.450	367	721	1,088	16	8.9	7.6	89.8	99.0
2	UAL	UNITED AIRLINES	Feb-24	BB	5.000	166	677	843	7	17.4	23.6	67.1	55.8
3	HTZ	HERTZ CORP	Oct-22	C	6.250	581	663	1,244	4	114.3	126.8	16.5	14.5
4	X	UNITED STS STL CORP NEW	Aug-25	C	6.875	222	571	793	7	16.7	17.2	66.5	65.0
5	RIG	TRANSOCEAN INC	Apr-31	C	7.500	81	484	565	2	28.0	37.3	31.0	22.0
6	BKNG	Null	Jun-20	A	0.350	25	483	508	3			107.0	115.5
7	TUP	TUPPERWARE BRANDS CORP	Jun-21	C	4.750	433	475	908	4	152.1	121.1	32.5	41.2
8	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Null	BBB	5.000	726	445	1,171	22	6.4	6.6	77.8	75.8
9	LUV	SOUTHWEST AIRLS CO	May-23	BBB	4.750	1,206	434	1,640	30	5.9	5.8	97.1	97.5
10	EQT	EQT CORP	Feb-30	BB	7.000	28	422	450	16	8.6	8.4	100.5	101.8
11	JPM	JP MORGAN CHASE	Null	BBB	4.230	279	387	666	12	4.7	4.7	90.9	90.1
12	VZ	VERIZON	Nov-24	BBB	3.500	306	375	681	8	1.2	1.2	109.5	109.4
13	AAL	AMERICAN AIRLINES INC	Jun-22	N/R	5.000	101	366	467	3			49.6	41.6
14	MYL	MYLAN INC	Jun-26	BBB	3.950	34	362	396	4	2.5	2.9	107.8	105.7
15	MTB	MFRS & TRADERS TR CO BK NT PROGRAM	Null	BBB	5.125	72	338	410	4	5.1	5.1	100.9	100.6
16	AAPL	APPLE INC	Feb-26	AA	3.250	180	329	509	6	1.2	1.2	111.2	111.0
17	ETFC	E TRADE FINL CORP	Null	BB	5.875	30	329	359	2	5.6	5.6	105.6	104.4
18	JPM	JP MORGAN CHASE	Dec-49	BBB	4.625	89	323	412	10	5.0	5.1	92.2	91.5
19	JPM	JP MORGAN CHASE	Null	BBB	6.125	173	320	493	7	6.0	6.0	102.5	101.7
20	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	Feb-23	BBB	3.300	97	317	414	6	1.0	1.0	105.7	105.8

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

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