

Market Transparency Report

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

February 2023

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 February 2023

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	21	22.4%	3.9
CD	25	3.1%	0.5
Corp	24	5.9%	0.2
Municipal	17	-1.0%	0.1
Treasury	16	12.6%	1.5

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

Yield Matrix

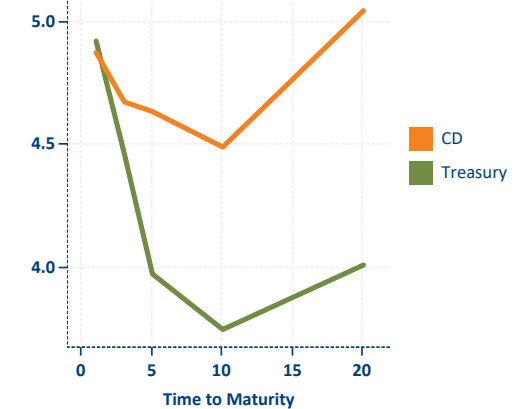
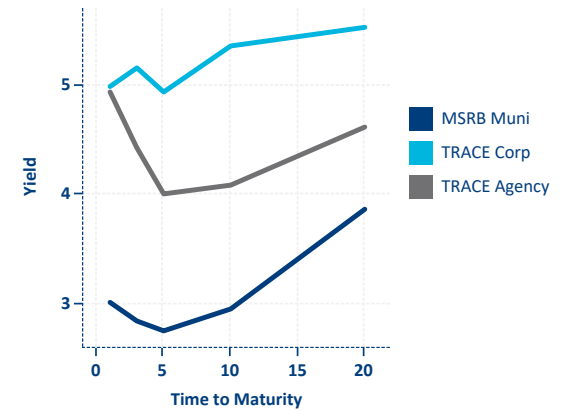
Average Yield, % for February 2023

Market	TTM					Median Maturity (Years)
	1	3	5	10	20	
MSRB Muni	3.0	2.9	2.8	3.0	3.9	10
TRACE Corp	5.0	5.2	4.9	5.4	5.5	2
TRACE Agency	4.9	4.4	4.0	4.1	4.6	1
CD	4.9	4.7	4.6	4.5	5.0	1
Treasury	4.9	4.5	4.0	3.7	4.0	0

Asset Class

Market	Category (Filtered)	Rating Key	TTM					Median Maturity (Years)
			1	3	5	10	20	
TRACE Corp	Financial	AA	4.9	4.7	4.6			3
		A	4.9	4.7	4.6	4.7	5.2	1
		BBB	5.2	5.0	5.0	5.6	5.5	3
		HY	6.2	6.5	8.3	9.0		4
	Non-Financial	AAA	2.6				4.5	18
		AA	4.7	4.5	4.1	4.1	4.7	7
		A	4.2	4.5	4.7	4.4	5.5	5
		BBB	5.2	5.1	5.0	5.2	6.4	2
		HY		14.3	7.0	7.2	7.2	6
MSRB Muni	GO	AAA	2.9	2.7	2.6	2.8	3.6	7
		AA	3.0	2.8	2.7	2.9	3.8	9
		A	3.1	3.0	2.8	3.2	4.0	7
		BBB	3.5	3.5	3.7	3.9	4.4	7
	Revenue	HY				5.2	5.1	7
		AAA	3.0	2.8	2.7	2.8	3.7	9
		AA	3.0	2.8	2.7	2.9	3.8	11
		A	3.2	3.0	3.0	3.2	4.0	14
		BBB	3.8	3.9	3.6	4.0	4.7	17
		HY	3.8	8.0	5.7	5.9	5.7	13

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.

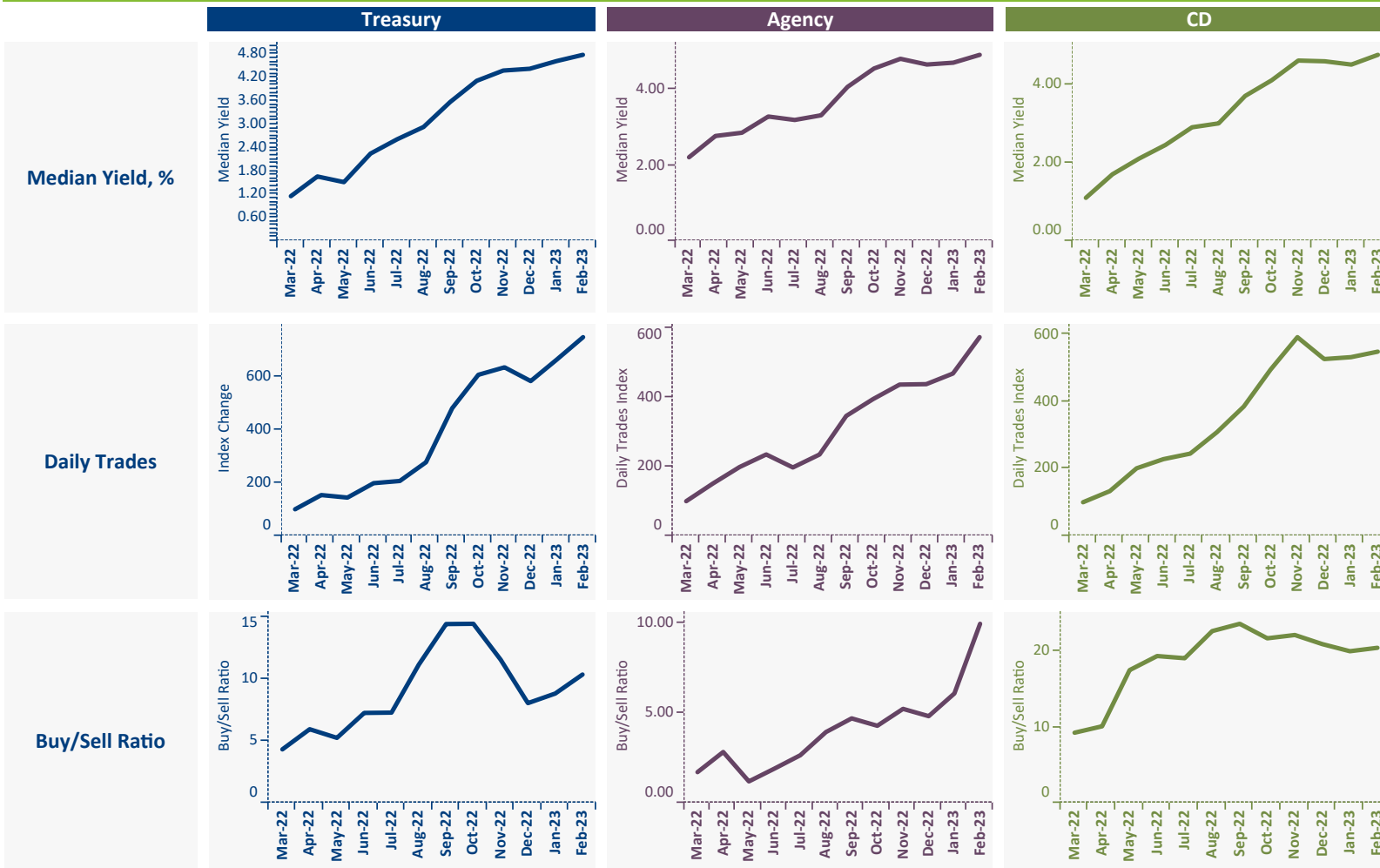
-The weights are based on transaction size.

-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

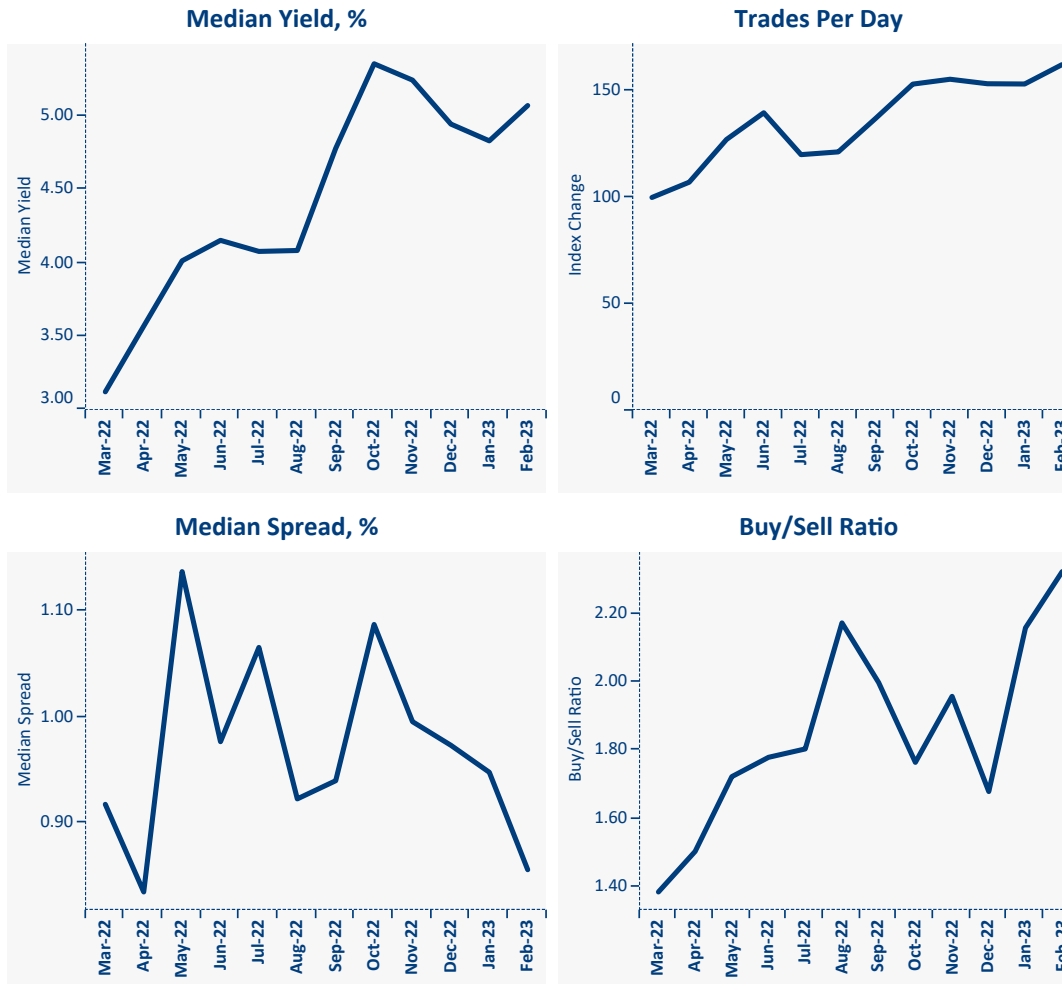
-Treasury and CD are based on transactions on the Tradeweb Direct Platform. Median yields are based on all customer buy transactions.

-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

February 2023

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	A	811	3.1%	25,366	2.0	438	4.9	4.8	4.8	5.2	5.3
2	GS	GOLDMAN SACHS	A	1,001	2.6%	21,504	2.0	371	5.1	5.1	4.8	5.0	5.2
3	C	CITIGROUP	BBB	704	2.5%	20,274	1.8	370	4.9	5.0	5.1	5.4	5.4
4	BAC	BANK OF AMERICA	A	392	2.4%	19,531	2.4	405	5.1	5.0	5.0	4.8	5.2
5	MS	MORGAN STANLEY	A	781	1.8%	14,905	2.1	267	5.1	5.0	5.0	5.1	5.2
6	WFC	WELLS FARGO	A	147	1.7%	14,279	2.0	222	5.0	4.9	4.8	5.4	5.5
7	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	90	1.6%	12,808	3.6	280	5.2	5.3	5.3	5.9	6.4
8	AAPL	APPLE INC	AA	51	1.5%	12,084	2.9	199	4.8	4.5	4.3	4.3	4.8
9	VZ	VERIZON	BBB	134	1.3%	10,883	2.0	154	5.0	5.0	5.0	5.0	5.3
10	ORCL	ORACLE CORP	BBB	41	1.2%	10,082	2.0	163	5.1	5.1	5.0	5.4	5.8
11	RY	ROYAL BANK OF CANADA	A	244	1.2%	9,750	5.1	144	5.0	5.0	4.9	5.1	
12	T	AT&T	BBB	100	1.1%	9,101	2.1	138	5.1	5.5	4.9	5.2	5.5
13	CVS	CVS CAREMARK CORP	BBB	42	1.1%	8,916	2.5	135	5.1	5.0	5.0	5.3	5.5
14	CI	CIGNA CORP	BBB	36	1.0%	8,362	8.1	67	5.2	4.9	4.7	5.0	5.4
15	CMCS	COMCAST	A	62	1.0%	8,322	1.7	124	5.0	4.9	4.7	4.8	5.2
16	AMGN	AMGEN INC	BBB	42	1.0%	8,258	2.8	114	5.1	4.8	4.8	4.9	5.4
17	INTC	INTEL CORP	A	38	0.9%	7,400	4.8	150	4.9	5.0	4.9	5.1	5.2
18	COF	CAPITAL ONE FINL CORP	BBB	29	0.9%	7,219	3.5	116	5.2	5.2	5.0		
19	NEE	FPL GROUP CAP INC	BBB	62	0.9%	7,117	5.3	129	5.2	5.6	5.1	5.0	5.1
20	DUK	DUKE ENERGY	BBB	120	0.8%	6,876	2.9	104	5.1	4.9	4.8	5.0	5.3

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

February 2023

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	CI	CIGNA CORP	BBB	36	1.0%	8,362	7,445	917	8.1	67	5.2	4.9	4.7	5.0	5.4
2	NEE	FPL GROUP CAP INC	BBB	62	0.9%	7,117	5,993	1,124	5.3	129	5.2	5.6	5.1	5.0	5.1
3	PM	PHILIP MORRIS INTL INC	A	31	0.6%	4,681	3,940	741	5.3	99	5.3	5.0	5.0	5.4	5.5
4	CE	CELANESE US HLDGS LLC	BBB	7	0.4%	3,046	2,562	484	5.3	63	5.7	5.9	6.0	6.5	
5	SO	GEORGIA POWER CO	BBB	69	0.8%	6,648	5,565	1,083	5.1	68	5.0	5.0	5.1	5.0	5.4
6	RY	ROYAL BANK OF CANADA	A	244	1.2%	9,750	8,145	1,605	5.1	144	5.0	5.0	4.9	5.1	
7	FITB	FIFTH THIRD BANCORP	BBB	19	0.5%	4,128	3,425	703	4.9	52	5.1	4.9	4.8		5.5
8	ARCC	ARES CAP CORP	BBB	9	0.2%	1,885	1,563	322	4.9	31	5.6	6.2	6.5	6.4	
9	INTC	INTEL CORP	A	38	0.9%	7,400	6,125	1,275	4.8	150	4.9	5.0	4.9	5.1	5.2
10	VIA	VIACOM INC NEW	BBB	28	0.4%	3,440	2,844	596	4.8	68	5.4	5.2	5.4	6.3	6.9
11	IBM	IBM	A	30	0.2%	1,913	1,577	336	4.7	27	5.0	4.7	5.0	5.0	4.9
12	PRU	PRUDENTIAL	BBB	43	0.3%	2,334	1,917	417	4.6	38		4.7	4.5	5.0	5.2
13	MO	ALTRIA GROUP INC	BBB	23	0.4%	3,481	2,857	624	4.6	71	5.2	4.9	5.1	5.9	6.3
14	BX	APRIA HEALTHCARE GROUP INC	BBB	30	0.3%	2,816	2,284	532	4.3	63	5.7	5.8	6.6	5.7	4.5
15	UPS	UNITED PARCEL SVC INC	A	22	0.3%	2,089	1,680	409	4.1	25		4.7	4.4	4.9	4.9
16	PNC	PNC FDG CORP	BBB	32	0.8%	6,757	5,433	1,324	4.1	149	5.0	4.8	4.7		
17	DE	DEERE JOHN CAP CORP MEDIUM TERM NTS-BOOK	A	61	0.5%	4,126	3,297	829	4.0	87	4.8	4.7	4.6	4.6	4.4
18	HPQ	HEWLETT PACKARD	BBB	19	0.6%	5,037	4,010	1,027	3.9	79	5.3	5.1	5.2	5.9	6.1
19	LOW	LOWES COS INC	BBB	38	0.7%	5,823	4,629	1,194	3.9	76	4.9	4.8	4.7	5.1	5.4
20	ALLY	ALLY FINANCIAL	BBB	55	0.5%	4,333	3,444	889	3.9	82	5.2	5.8	5.6	6.6	

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

February 2023

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	PYPL	Null	A	11	0.4%	2,936	1,201	1,735	0.69	51		5.0	4.6	5.0	
2	RDS	SHELL	AA	25	0.3%	2,583	1,397	1,186	1.18	38	5.0	4.8	4.5	4.7	5.1
3	TKPH	Takeda Pharmaceutical Co Ltd	BBB	9	0.3%	2,137	1,173	964	1.22	16	5.6	5.3	5.1		5.4
4	XOM	XTO ENERGY INC	AA	21	0.4%	3,645	2,039	1,606	1.27	52	5.1	4.6	4.4	4.5	5.0
5	CAT	CATERPILLAR	A	59	0.4%	3,203	1,796	1,407	1.28	58	5.0	4.8	4.5	4.6	4.9
6	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	BBB	215	0.7%	5,388	3,229	2,159	1.50	109	5.7	5.7	5.3	5.5	5.4
7	EDP	ENTERPRISE PRODS OPER LLC	BBB	35	0.4%	3,014	1,824	1,190	1.53	40	5.4	5.1	5.1	5.4	5.6
8	BK	BANK NEW YORK INC MEDIUM TERM SR NTS BOO	A	50	0.5%	4,050	2,463	1,587	1.55	71	5.3	5.0	4.8	4.9	
9	SCHW	SCHWAB CHARLES CORP NEW	BBB	34	0.4%	3,457	2,102	1,355	1.55	70	5.3	4.9	4.7	4.8	
10	BA	BOEING CO	BBB	53	0.8%	6,579	4,074	2,505	1.63	125	5.5	5.4	5.1	5.6	5.9
11	UNP	UNION PAC CORP	A	59	0.2%	2,049	1,271	778	1.63	39	5.2	4.8	4.7	4.8	5.2
12	CTL	CENTURYLINK	B	20	0.3%	2,675	1,664	1,011	1.65	32		9.4	15.2	12.5	16.2
13	CS	CREDIT SUISSE	A	255	0.2%	1,859	1,161	698	1.66	34	6.6	7.4	6.3	6.3	7.4
14	CMCS	COMCAST	A	62	1.0%	8,322	5,225	3,097	1.69	124	5.2	4.9	4.9	4.9	5.2
15	C	CITIGROUP	BBB	704	2.5%	20,274	12,915	7,359	1.75	370	5.2	5.3	5.3	5.6	5.6
16	TFC	Null	A	40	0.6%	5,076	3,295	1,781	1.85	84	5.0	5.0	4.6		
17	SBUX	STARBUCKS CORP	BBB	20	0.2%	1,997	1,310	687	1.91	34	5.2	5.0	5.0	5.0	5.2
18	HD	HOME DEPOT	A	36	0.4%	3,669	2,413	1,256	1.92	63	5.0	4.7	4.6	4.7	5.1
19	AXP	AMERICAN EXPRESS	A	28	0.6%	5,314	3,501	1,813	1.93	98	5.4	4.9	4.9		4.9
20	GILD	GILEAD SCIENCES INC	BBB	17	0.2%	1,897	1,258	639	1.97	34	5.4	5.0	4.8	4.7	5.2

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

February 2023

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	CI	CIGNA CORP	Oct-28	BBB	4.375	6,029	225	6,254	23	4.7	4.8	98.6	97.8
2	SO	GEORGIA POWER CO	Jul-23	BBB	2.950	3,339	346	3,685	13	5.3	5.4	99.2	99.1
3	PNC	PNC FDG CORP	Null	BBB	6.250	2,852	82	2,934	81			99.3	97.8
4	RY	ROYAL BANK OF CANADA	Apr-23	A	1.600	2,496	100	2,596	7	4.6	4.9	99.4	99.4
5	JPM	JP MORGAN CHASE	Sep-24	BBB	3.875	2,424	177	2,601	33	5.3	5.2	97.9	98.0
6	NEE	FPL GROUP CAP INC	Mar-25	BBB	6.051	2,292	4	2,296	34	5.6	5.7	100.8	100.6
7	CVS	CVS CAREMARK CORP	Mar-28	BBB	4.300	2,173	795	2,968	27	5.0	5.1	96.7	96.5
8	AAPL	APPLE INC	Nov-27	AA	3.000	1,901	276	2,177	11	4.3	4.5	94.5	93.8
9	HPQ	HEWLETT PACKARD	Oct-25	BBB	4.900	1,738	383	2,121	15	5.1	5.2	99.5	99.3
10	AMGN	AMGEN INC	Mar-33	BBB	5.250	1,621	12	1,633	19			99.8	99.0
11	ETP	ENERGY TRANSFER PARTNERS L P	Apr-24	BBB	4.500	1,606	19	1,625	19	5.1	5.6	99.3	98.8
12	FITB	FIFTH THIRD BANCORP	Sep-49	BBB	7.883	1,600	36	1,636	13	7.9	7.9	99.8	99.3
13	WFC	WELLS FARGO	Jul-27	BBB	4.300	1,566	305	1,871	16	4.7	5.0	98.2	97.3
14	UTX	UNITED TECHNOLOGIES CORP	Aug-25	BBB	3.950	1,527	320	1,847	11	4.8	4.8	98.1	97.9
15	ABT	ABBOTT LABS	Nov-26	AA	3.750	1,512	278	1,790	11	4.3	4.5	97.9	97.5
16	GS	GOLDMAN SACHS	Feb-26	A	3.750	1,490	413	1,903	14	4.7	4.9	97.4	96.9
17	LOW	LOWES COS INC	Apr-26	BBB	2.500	1,437	219	1,656	9	4.7	4.9	93.7	92.9
18	JPM	JP MORGAN CHASE	Jul-25	A	3.900	1,436	317	1,753	14	4.7	4.8	98.3	97.9
19	MS	MORGAN STANLEY	Apr-27	BBB	3.950	1,418	248	1,666	15	5.0	5.1	96.0	95.6
20	CMCS	COMCAST	Oct-28	A	4.150	1,393	628	2,021	17	4.7	4.9	97.2	96.5

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).

Corporate Bonds: Top 20 Most Sold Issues

February 2023

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	C	CITIGROUP	Apr-25	BBB	3.300	545	1,000	1,545	23	4.9	5.4	96.6	95.7
2	PYPL	Null	Oct-24	A	2.400	81	917	998	20	5.0	4.6	96.0	96.6
3	TKPH	Takeda Pharmaceutical Co Ltd	Sep-26	BBB	3.200	1,071	916	1,987	13	4.8	5.3	94.7	93.3
4	AMGN	AMGEN INC	Aug-29	BBB	4.050	277	887	1,164	15	5.1	5.2	94.1	93.8
5	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Null	BBB	8.099	259	797	1,056	23	8.1	8.1	100.2	100.0
6	CVS	CVS CAREMARK CORP	Mar-28	BBB	4.300	2,173	795	2,968	27	5.0	5.1	96.7	96.5
7	AXP	AMERICAN EXPRESS	Aug-23	A	3.700	412	655	1,067	10	4.9	5.4	99.4	99.3
8	BA	BOEING CO	Feb-30	BBB	2.950	24	645	669	5	5.2	4.9	87.2	88.4
9	JPM	JP MORGAN CHASE	May-23	A	2.700	87	641	728	7	4.6	5.3	99.5	99.5
10	CMCS	COMCAST	Oct-28	A	4.150	1,393	628	2,021	17	4.7	4.9	97.2	96.5
11	CAT	CATERPILLAR	Jul-23	A	0.650	175	557	732	8	4.8	5.3	98.3	98.4
12	GS	GOLDMAN SACHS	Mar-24	A	4.000	1,036	530	1,566	22	5.1	5.2	98.9	98.8
13	XOM	XTO ENERGY INC	Apr-23	AA	1.571	150	528	678	7	4.7	5.3	99.4	99.5
14	VZ	VERIZON	Mar-27	BBB	4.125	1,005	499	1,504	19	5.0	5.0	96.8	96.8
15	PXD	Pioneer Natural Res Expl Inc	May-25	BBB	0.250	64	453	517	5			227.9	211.6
16	PYPL	Null	Oct-26	A	2.650	81	450	531	9	4.7	5.0	93.2	92.5
17	V	VIVENDI	Dec-25	AA	3.150	344	444	788	13	4.6	4.7	96.3	96.0
18	BBBY	BED BATH & BEYOND INC	Aug-24	C	3.749	286	426	712	3	229.2	123.8	25.1	26.9
19	USB	U S BANCORP MEDIUM TERM NTS- BOOK ENTRY	Sep-24	A	3.600	1,170	416	1,586	11	4.7	4.8	98.4	98.1
20	GS	GOLDMAN SACHS	Feb-26	A	3.750	1,490	413	1,903	14	4.7	4.9	97.4	96.9

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).

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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