

Market Transparency Report

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

March 2024

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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 March 2024

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	8	-7.8%	-0.6
CD	12	8.9%	0.6
Corp	0	-2.8%	0.0
Municipal	3	3.0%	0.0
Treasury	0	-12.7%	-0.9

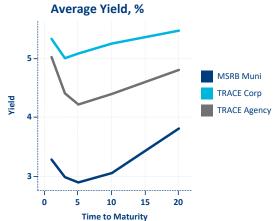
For monthly security trend data, see slides 5, 6 and 7



Yield Matrix

Average Yield, % for March 2024

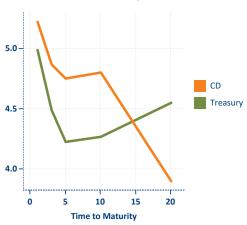
			TTM			Median Maturity
Market	1	3	5	10	20	(Years)
MSRB Muni	3.3	3.0	2.9	3.1	3.8	8
TRACE Corp	5.4	5.0	5.1	5.3	5.5	3
TRACE Agency	5.0	4.4	4.2	4.4	4.8	2
CD	5.2	4.9	4.8	4.8	3.9	1
Treasury	5.0	4.5	4.2	4.3	4.6	0



Median

Asset Class

								ivicalali
Market	Category (Filtered)	Rating Key	1	3	5	10	20	Maturity
								(Years)
		AA	4.3	4.9	4.8			5
	Financial	Α	5.1	4.8	4.7	4.9	5.2	3
	rinanciai	BBB	5.5	5.3	5.6	5.4	6.2	3
TRACE -		HY		7.3	8.0	8.1		5
Corp		AAA			4.2		4.6	17
согр		AA	4.2	4.2	4.4	4.5	4.9	6
	Non-Financial	Α	4.9	4.7	4.6	4.9	5.4	5
		BBB	5.5	5.1	5.0	5.3	6.2	3
		HY	8.6	6.7	15.4			4
								Median
			1	3	5	10	20	Maturity (Years)
		AAA	3.2	2.9	2.8	2.9	3.7	6
		AA	3.3	3.0	2.9	3.0	3.8	7
	GO	Α	3.4	3.2	3.0	3.3	4.0	6
		BBB	4.1	3.8	3.7	4.0	4.4	9
/ISRB		HY			7.1	5.1	5.0	19
/luni		AAA	3.2	2.9	2.8	2.9	3.8	8
		AA	3.3	3.0	2.9	3.0	3.8	9
	Revenue	A	3.4	3.2	3.1	3.3	3.9	10
		BBB	4.1	3.8	3.9	4.0	4.7	14



WA Yield = "Weighted Average Yield"

Source: TRACE, RTRS (MSRB's Real-time Transactional Reporting System) and Tradeweb Direct

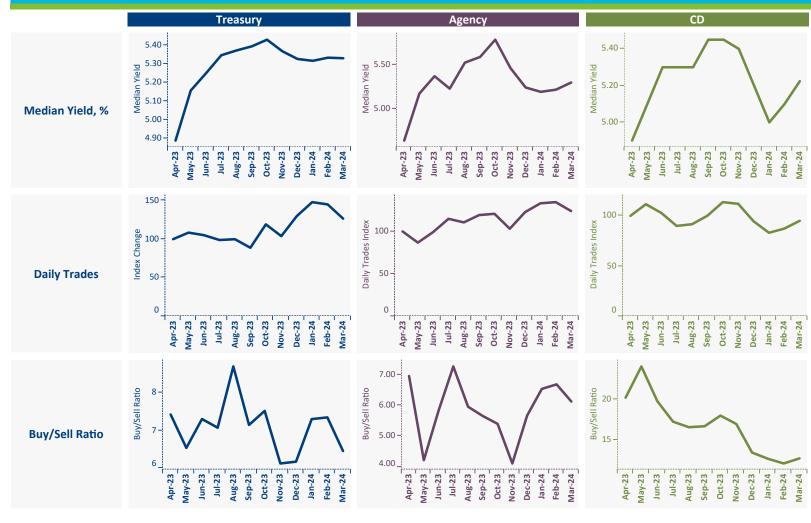
- -The yields in each cell for Corporate/Agency/Municipal are the weighted average yield based on odd-lot customer buy transcations reported in TRACE/MSRB.
- -The yields in each cell for Treasury/CD are the weighted average yield based on buy transactions on the Tradeweb Direct Platform.
- -The weights 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.

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5.2

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.

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...

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.

Corporate Bonds: Top 20 Most Active Issuers

March 2024

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	Α	1,117	3.8%	41,138	1.6	669	5.2	4.9	4.9	5.3	5.3
2	RBC	Null	Α	110	3.0%	32,176	74.2	101		4.9	5.1	5.2	
3	GS	GOLDMAN SACHS	Α	1,413	2.6%	27,920	1.4	435	5.4	5.1	5.0	5.1	5.3
4	ABBV	ABBVIE INC	Α	27	2.4%	25,506	8.6	182	5.2	4.8	4.8	4.9	5.2
5	С	CITIGROUP	BBB	832	2.3%	24,702	1.7	444	5.4	5.2	5.2	5.5	5.5
6	WFC	WELLS FARGO	А	212	2.0%	21,427	1.7	308	5.4	5.1	5.0	5.6	5.7
7	BAC	BANK OF AMERICA	А	524	1.9%	20,768	1.6	434	5.4	5.0	5.2	5.5	5.3
8	MS	MORGAN STANLEY	А	1,320	1.5%	16,240	1.4	299	5.3	5.0	5.2	5.1	5.3
9	Т	AT&T	BBB	104	1.1%	12,270	1.9	162	21.9	5.0	5.1	5.3	5.6
10	AAPL	APPLE INC	AA	52	1.1%	11,630	1.6	184	5.0	4.5	4.4	4.5	5.0
11	CVS	CVS CAREMARK CORP	BBB	44	1.1%	11,321	1.9	158	5.3	5.0	5.0	5.2	5.8
12	VZ	VERIZON	BBB	154	1.1%	11,243	1.6	163	5.4	5.0	4.9	5.1	5.4
13	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	90	1.0%	10,884	1.9	219	5.6	5.3	5.3	5.6	6.1
14	ORCL	ORACLE CORP	BBB	38	1.0%	10,783	1.7	189	5.4	5.1	5.0	5.2	5.7
15	FITB	FIFTH THIRD BANCORP	BBB	18	1.0%	10,283	11.2	54	5.6	5.1			
16	CMCS	COMCAST	Α	66	1.0%	10,176	1.5	157	5.0	4.8	4.8	5.0	5.4
17	so	GEORGIA POWER CO	BBB	79	0.9%	9,927	5.8	111	5.3	5.0	5.0	5.2	5.6
18	BRK	BERKSHIRE HATHAWAY	Α	152	0.9%	9,506	2.1	197	5.2	4.7	4.9	5.3	5.3
19	DUK	DUKE ENERGY	BBB	132	0.9%	9,351	2.3	158	5.3	5.1	4.9	5.2	5.5
20	NEE	FPL GROUP CAP INC	BBB	72	0.8%	8,821	2.8	169	5.5	5.0	5.0	5.1	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

March 2024

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	RBC	Null	Α	110	3.0%	32,176	31,748	428	74.2	101		4.9	5.1	5.2	
2	AMG	AFFILIATED MANAGERS GROUP INC	BBB	3	0.4%	4,069	3,899	170	22.9	6	5.4				
3	LNT	ALLIANT ENERGY CORP	BBB	20	0.2%	2,504	2,391	113	21.2	22	5.5	4.9	5.0	5.2	5.7
4	FITB	FIFTH THIRD BANCORP	BBB	18	1.0%	10,283	9,440	843	11.2	54	5.6	5.1			
5	PPL	PPL ENERGY SUPPLY	BBB	27	0.2%	2,642	2,402	240	10.0	19		4.3		5.1	5.4
6	csco	CISCO	AA	12	0.6%	5,981	5,364	617	8.7	83	4.8	4.7	4.7	5.0	5.1
7	ABBV	ABBVIE INC	Α	27	2.4%	25,506	22,837	2,669	8.6	182	5.2	4.8	4.8	4.9	5.2
8	so	GEORGIA POWER CO	BBB	79	0.9%	9,927	8,456	1,471	5.8	111	5.3	5.0	5.0	5.2	5.6
9	KDP	Null	BBB	21	0.3%	2,974	2,485	489	5.1	64		5.0	4.9	5.2	5.5
10	CAT	CATERPILLAR	Α	53	0.5%	5,754	4,520	1,234	3.7	75	5.1	4.7	4.7	4.7	5.1
11	PSX	PHILLIPS 66	BBB	26	0.2%	2,606	1,996	610	3.3	49	5.4	4.9	5.0	5.2	5.5
12	MAR	MARRIOTT INTL INC NEW	BBB	24	0.3%	3,400	2,591	809	3.2	64	5.3	5.1	5.0	5.3	
13	AEP	AMERICAN ELEC PWR CO INC	BBB	76	0.3%	3,055	2,310	745	3.1	65	5.5	5.0	5.1	5.4	5.8
14	INTC	INTEL CORP	Α	41	0.7%	7,827	5,888	1,939	3.0	158	5.2	4.8	4.8	5.1	5.3
15	HON	HONEYWELL INTL INC	А	23	0.3%	2,748	2,059	689	3.0	58	5.1	4.6	4.6	4.9	5.1
16	PM	PHILIP MORRIS INTL INC	А	34	0.6%	6,696	4,983	1,713	2.9	132	5.3	4.9	5.0	5.4	5.6
17	SBUX	STARBUCKS CORP	BBB	20	0.3%	2,869	2,130	739	2.9	55	5.2	4.9	4.8	5.1	5.4
18	UTX	UNITED TECHNOLOGIES CORP	BBB	60	0.7%	7,617	5,627	1,990	2.8	123	5.2	5.1	4.9	5.2	5.5
19	NEE	FPL GROUP CAP INC	BBB	72	0.8%	8,821	6,497	2,324	2.8	169	5.5	5.0	5.0	5.1	5.3
20	NOC	NORTHROP GRUMMAN CORP	BBB	22	0.4%	3,860	2,823	1,037	2.7	45	5.4	4.9	4.8	5.1	5.3

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

March 2024

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	BKNG	Null	Α	5	0.2%	2,561	278	2,283	0.12	22	5.4	5.0			
2	VIA	VIACOM INC NEW	BBB	26	0.4%	4,203	1,975	2,228	0.89	68	6.6	6.6	6.7	7.8	7.9
3	RDS	SHELL	AA	24	0.3%	2,925	1,447	1,478	0.98	44	5.1	4.8	4.6	4.9	5.2
4	EXC	EXELON GENERATION CO LLC	BBB	93	0.2%	2,664	1,422	1,242	1.14	57	5.5	5.1	5.0	5.4	5.7
5	DELL	DELL	BBB	25	0.3%	2,941	1,571	1,370	1.15	69	5.4	5.3	5.1	5.3	5.8
6	BTI	BAT INTERNATIONAL FINANCE PLC	BBB	37	0.4%	4,041	2,292	1,749	1.31	94	5.7	5.3	5.4	5.9	6.5
7	MS	MORGAN STANLEY	Α	1,320	1.5%	16,240	9,389	6,851	1.37	299	5.6	5.1	5.7	5.1	5.3
8	GS	GOLDMAN SACHS	Α	1,413	2.6%	27,920	16,310	11,610	1.40	435	5.6	5.2	5.1	5.3	5.4
9	EDP	ENTERPRISE PRODS OPER LLC	Α	35	0.4%	4,273	2,504	1,769	1.42	66	5.4	4.8	4.9	5.1	5.4
10	DIS	DISNEY WALT CO NEW MEDIUM TERM NTS BOOK	Α	62	0.5%	5,175	3,042	2,133	1.43	87	5.3	4.6	4.8	5.0	5.3
11	PEMX	PETROLEOS MEXICANOS	ВВ	33	0.3%	3,576	2,152	1,424	1.51	90	7.5	9.2	9.8	10.4	10.9
12	CMCS	COMCAST	Α	66	1.0%	10,176	6,177	3,999	1.54	157	5.1	4.9	4.8	5.1	5.4
13	F	FORD	BBB	169	0.4%	4,683	2,837	1,846	1.54	98	6.7	5.6	5.8	6.0	6.4
14	BNS	BANK NOVA SCOTIA B C	Α	176	0.3%	3,654	2,229	1,425	1.56	72	5.5	5.1	5.0	5.3	
15	RY	ROYAL BANK OF CANADA	Α	275	0.4%	4,384	2,676	1,708	1.57	88	5.5	5.0	6.3	5.1	5.9
16	AMT	AMERICAN TOWER CORP NEW	BBB	34	0.3%	3,211	1,966	1,245	1.58	57	5.7	5.3	5.3	5.4	
17	BAC	BANK OF AMERICA	Α	524	1.9%	20,768	12,705	8,063	1.58	434	5.7	5.1	5.6	5.6	5.3
18	JPM	JP MORGAN CHASE	Α	1,117	3.8%	41,138	25,185	15,953	1.58	669	5.5	5.0	5.6	5.6	5.3
19	AAPL	APPLE INC	AA	52	1.1%	11,630	7,157	4,473	1.60	184	5.2	4.5	4.5	4.4	5.0
20	ANTM	Null	Α	27	0.3%	3,424	2,110	1,314	1.61	49	5.7	4.9	5.0	5.2	5.5

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.

Corporate Bonds: Top 20 Most Bought Issues

March 2024

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	RBC	Null	Feb-34	Α	5.150	30,910	117	31,027	79	5.2	5.2	99.6	99.6
2	ABBV	ABBVIE INC	Mar-31	Α	4.950	16,556	135	16,691	56	4.9	4.9	100.3	100.5
3	FITB	FIFTH THIRD BANCORP	Jul-29	BBB	6.339	8,085	275	8,360	19			103.1	103.0
4	so	GEORGIA POWER CO	Dec-25	BBB	3.875	6,190	52	6,242	32	4.4	4.8	99.2	98.5
5	JPM	JP MORGAN CHASE	Jan-35	Α	5.336	5,843	190	6,033	52			100.6	100.0
6	AMG	AFFILIATED MANAGERS GROUP INC	Mar-64	BBB	6.750	3,858	159	4,017	5			25.2	25.0
7	csco	CISCO	Feb-34	AA	5.050	3,054	66	3,120	32	5.0	4.9	100.7	101.0
8	JPM	JP MORGAN CHASE	Null	BBB	6.875	2,959	130	3,089	92			102.5	101.7
9	CAT	CATERPILLAR	Feb-29	Α	4.850	2,640	77	2,717	13	4.7	4.7	100.6	100.6
10	CVS	CVS CAREMARK CORP	Mar-28	BBB	4.300	2,255	1,222	3,477	28	5.0	5.0	97.6	97.5
11	PPL	PPL ENERGY SUPPLY	Mar-28	BBB	2.875	2,096	62	2,158	7	4.3	4.3	95.0	95.0
12	LNT	ALLIANT ENERGY CORP	Mar-26	BBB	3.875	2,071	25	2,096	13	4.9	5.2	98.1	97.5
13	UTX	UNITED TECHNOLOGIES CORP	Aug-25	BBB	3.950	1,903	494	2,397	12	5.2	5.2	98.3	98.3
14	RLUX	Null	Feb-31	N/R	9.750	1,885	13	1,898	17			106.8	104.5
15	Т	AT&T	Mar-29	BBB	4.350	1,882	538	2,420	21	5.1	5.0	96.9	97.2
16	LOW	LOWES COS INC	Apr-26	BBB	2.500	1,714	500	2,214	10	5.0	5.1	95.1	95.0
17	ABBV	ABBVIE INC	Nov-29	A	3.200	1,694	215	1,909	18	4.8	4.8	92.1	92.1
18	HPQ	HEWLETT PACKARD	Oct-25	BBB	4.900	1,684	628	2,312	17	5.2	5.3	99.5	99.4
19	ВР	ВР	Sep-27	A	3.279	1,679	473	2,152	11	4.8	4.8	95.2	95.1
20	CMCS	COMCAST	Oct-28	A	4.150	1,661	896	2,557	20	4.7	4.8	97.6	97.5

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

March 2024

1 JPM JP MORGAN CHASE Apr-31 A 2.522 82 4,815 4,897 33 86.4 85.7 2 BKNG Null May-25 A 0.750 78 2,077 2,155 14 188.1 183.9 3 ETSY Null Jun-28 N/R 0.250 7 2,069 2,076 7 5.8 6.0 79.5 78.5 4 GS GOLDMAN SACHS Feb-26 A 3.750 1,158 1,870 3,028 19 5.0 5.1 97.7 97.7 5 NRG NRG ENERGY Jun-48 N/R 2.750 88 1,566 1,654 10 - 96.3 96.3 6 WFC WELLS FARGO Apr-26 A 2.188 159 1,442 1,601 12 - 96.3 96.3 7 CVS CVS CAREMARK CORP Mar-28 BBB 4.300 2,255 1,222 3,477 28 5.0 5.0 97.6 97.5 8 VIA VIACOM INC NEW Apr-36 BBB 6.875 330 1,078 1,408 14 7.7 7.8 93.6 92.5 9 KEY KEYCORP MEDIUM TERM SR NTS BOOK ENTRY Null BB 5.000 91 1,038 1,129 6 5.8 5.9 85.8 85.0 10 CMCS COMCAST Ott-28 A 4.150 1,661 896 2,557 20 4.7 4.8 97.6 97.5 11 NFLX NETFLIX INC Apr-28 BBB 4.875 289 805 1,094 12 4.9 4.9 100.0 99.9 12 JPM JP MORGAN CHASE Jan-25 A 3.125 391 732 1,123 17 5.4 5.5 98.2 98.1 13 VZ VERIZON Mar-27 BBB 4.190 1,684 628 2,312 17 5.2 5.3 99.5 99.4 14 HPQ HEWLETT PACKARD Ott-25 BBB 4.190 1,684 628 2,312 17 5.2 5.3 99.5 99.4 15 GS GOLDMAN SACHS Jan-25 A 3.500 281 580 861 12 5.4 5.6 98.4 98.4 17 CC Null May-27 B 5.375 129 540 669 9 6.8 8.0 95.9 92.7 18 T ATAT May-27 BBB 4.350 1,682 538 2,420 21 5.1 5.0 96.9 97.2 19 AAPL APPLEINC Nov-28 A 4.250 946 501 1,447 13 4.7 4.7 98.3 98.2 19 AAPL APPLEINC Nov-28 A 4.250 946 501 1,447 13 4.7 4.7 98.3 98.2 19 AAPL APPLEINC Nov-28 A 4.250 946 501 1,447 13 4.7 4.7 98.3 98.2 10 ABBV ABBVIEINC Nov-28 A 4.250 946 501 1,447 13 4.7	Index	c Ticker	Company	Maturity	Rating Key (Med)	Coupon	Trades (Buy)	Trades (Sell)	Trades	Dollar Vol. Traded (MM)	Yield (Buy)	Yield (Sell)	Price (Buy)	Price (Sell)
3 ETSY Null Jun-28 N/R 0.250 7 2,069 2,076 7 5.8 6.0 79.5 78.5 4 GS GOLDMAN SACHS Feb-26 A 3,750 1,158 1,870 3,028 19 5.0 5.1 97.7 97.7 5 NRG NRG ENERGY Jun-48 N/R 2,750 88 1,566 1,654 10	1	JPM	JP MORGAN CHASE	Apr-31	Α	2.522	82	4,815	4,897	33			86.4	85.7
4 GS GOLDMAN SACHS Feb-26 A 3.750 1,158 1,870 3,028 19 5.0 5.1 97.7 97.7 5.5 NRG NRG ENERGY Jun-48 N/R 2.750 88 1,566 1,654 10	2	BKNG	Null	May-25	Α	0.750	78	2,077	2,155	14			188.1	183.9
5 NRG NRG ENERGY Jun-48 N/R 2.750 88 1,566 1,654 10 163.0 153.6 6 WFC WELLS FARGO Apr-26 A 2.188 159 1,442 1,601 12 96.3 96.3 7 CVS CVS CAREMARK CORP Mar-28 BBB 4.300 2,255 1,222 3,477 28 5.0 5.0 97.6 97.5 8 VIA VIACOM INC NEW Apr-36 BBB 6.875 330 1,078 1,408 14 7.7 7.8 93.6 92.5 9 KEY KEYCORP MEDIUM TERM SR NTS BOOK ENTRY Null BB 5.000 91 1,038 1,129 6 5.8 5.9 85.8 85.0 10 CMCS COMCAST OCT-28 A 4.150 1,661 896 2,557 20 4.7 4.8 97.6 97.5 11 NFLX NETHIX INC Apr-28 BBB	3	ETSY	Null	Jun-28	N/R	0.250	7	2,069	2,076	7	5.8	6.0	79.5	78.5
6 WFC WELLS FARGO Apr-26 A 2.188 159 1,442 1,601 12 96.3 96.3 96.3 7 CVS CVS CAREMARK CORP Mar-28 BBB 4.300 2,255 1,222 3,477 28 5.0 5.0 97.6 97.5 8 VIA VIACOM INC NEW Apr-36 BBB 6.875 330 1,078 1,408 14 7.7 7.8 93.6 92.5 9 KEY KEYCORP MEDIUM TERM SR NTS BOOK ENTRY Null BB 5.000 91 1,038 1,129 6 5.8 5.9 85.8 85.0 10 CMCS COMCAST Oct-28 A 4.150 1,661 896 2,557 20 4.7 4.8 97.6 97.5 11 NFLX NETFLIX INC Apr-28 BBB 4.875 289 805 1,094 12 4.9 4.9 100.0 99.9 12 JPM J	4	GS	GOLDMAN SACHS	Feb-26	Α	3.750	1,158	1,870	3,028	19	5.0	5.1	97.7	97.7
7 CVS CVS CAREMARK CORP Mar-28 BBB 4.300 2,255 1,222 3,477 28 5.0 5.0 97.6 97.5 8 VIA VIACOM INC NEW Apr-36 BBB 6.875 330 1,078 1,408 14 7.7 7.8 93.6 92.5 9 KEY KEYCORP MEDIUM TERM SR NTS BOOK ENTRY Null BB 5.00 91 1,038 1,129 6 5.8 5.9 85.8 85.0 10 CMCS COMCAST Oct-28 A 4.150 1,661 896 2,557 20 4.7 4.8 97.6 97.5 11 NFLX NETFLIX INC Apr-28 BBB 4.875 289 805 1,094 12 4.9 4.9 100.0 99.9 12 JPM JP MORGAN CHASE Jan-25 A 3.125 391 732 1,123 17 5.4 5.5 98.2 98.1 13	5	NRG	NRG ENERGY	Jun-48	N/R	2.750	88	1,566	1,654	10			163.0	153.6
8 VIA VIACOM INC NEW Apr-36 BBB 6.875 330 1,078 1,408 14 7.7 7.8 93.6 92.5 9 KEY KEYCORP MEDIUM TERM SR NTS BOOK ENTRY Null BB 5.000 91 1,038 1,129 6 5.8 5.9 85.8 85.0 10 CMCS COMCAST Oct-28 A 4.150 1,661 896 2,557 20 4.7 4.8 97.6 97.5 11 NFLX NETFLIX INC Apr-28 BBB 4.875 289 805 1,094 12 4.9 4.9 100.0 99.9 12 JPM JP MORGAN CHASE Jan-25 A 3.125 391 732 1,123 17 5.4 5.5 98.2 98.1 13 VZ VERIZON Mar-27 BBB 4.125 738 642 1,380 16 4.9 5.0 97.8 97.7 14 HPQ	6	WFC	WELLS FARGO	Apr-26	Α	2.188	159	1,442	1,601	12			96.3	96.3
9 KEY KEYCORP MEDIUM TERM SR NTS BOOK ENTRY Null BB 5.000 91 1,038 1,129 6 5.8 5.9 85.8 85.0 10 CMCS COMCAST Oct-28 A 4.150 1,661 896 2,557 20 4.7 4.8 97.6 97.5 11 NFLX NETFLIX INC Apr-28 BBB 4.875 289 805 1,094 12 4.9 4.9 100.0 99.9 12 JPM JP MORGAN CHASE Jan-25 A 3.125 391 732 1,123 17 5.4 5.5 98.2 98.1 13 VZ VERIZON Mar-27 BBB 4.125 738 642 1,380 16 4.9 5.0 97.8 97.7 14 HPQ HEWLETT PACKARD Oct-25 BBB 4.900 1,684 628 2,312 17 5.2 5.3 99.5 99.4 15 GS	7	CVS	CVS CAREMARK CORP	Mar-28	BBB	4.300	2,255	1,222	3,477	28	5.0	5.0	97.6	97.5
10 CMCS COMCAST Oct-28 A 4.150 1,661 896 2,557 20 4.7 4.8 97.6 97.5 11 NFLX NETFLIX INC Apr-28 BBB 4.875 289 805 1,094 12 4.9 4.9 100.0 99.9 12 JPM JP MORGAN CHASE Jan-25 A 3.125 391 732 1,123 17 5.4 5.5 98.2 98.1 13 VZ VERIZON Mar-27 BBB 4.125 738 642 1,380 16 4.9 5.0 97.8 97.7 14 HPQ HEWLETT PACKARD Oct-25 BBB 4.900 1,684 628 2,312 17 5.2 5.3 99.5 99.4 15 GS GOLDMAN SACHS Mar-30 A 3.800 802 601 1,403 15 5.0 5.0 93.8 93.7 16 GS GOLDMAN SACHS<	8	VIA	VIACOM INC NEW	Apr-36	BBB	6.875	330	1,078	1,408	14	7.7	7.8	93.6	92.5
11 NFLX NETFLIX INC Apr-28 BBB 4.875 289 805 1,094 12 4.9 4.9 100.0 99.9 12 JPM JP MORGAN CHASE Jan-25 A 3.125 391 732 1,123 17 5.4 5.5 98.2 98.1 13 VZ VERIZON Mar-27 BBB 4.125 738 642 1,380 16 4.9 5.0 97.8 97.7 14 HPQ HEWLETT PACKARD Oct-25 BBB 4.900 1,684 628 2,312 17 5.2 5.3 99.5 99.4 15 GS GOLDMAN SACHS Mar-30 A 3.800 802 601 1,403 15 5.0 5.0 93.8 93.7 16 GS GOLDMAN SACHS Jan-25 A 3.500 281 580 861 12 5.4 5.6 98.4 98.4 17 CC Null May-27 B 5.375 129 540 669 9 6.8 8.0 95.9 92.7 18 T AT&T Mar-29 BBB 4.350 1,882 538 2,420 21 5.1 5.0 96.9 97.2 19 AAPL APPLE INC Nov-27 AA 3.000 1,660 520 2,180 11 4.5 4.5 95.1 95.0	9	KEY	KEYCORP MEDIUM TERM SR NTS BOOK ENTRY	Null	ВВ	5.000	91	1,038	1,129	6	5.8	5.9	85.8	85.0
12 JPM JP MORGAN CHASE Jan-25 A 3.125 391 732 1,123 17 5.4 5.5 98.2 98.1 13 VZ VERIZON Mar-27 BBB 4.125 738 642 1,380 16 4.9 5.0 97.8 97.7 14 HPQ HEWLETT PACKARD Oct-25 BBB 4.900 1,684 628 2,312 17 5.2 5.3 99.5 99.4 15 GS GOLDMAN SACHS Mar-30 A 3.800 802 601 1,403 15 5.0 5.0 93.8 93.7 16 GS GOLDMAN SACHS Jan-25 A 3.500 281 580 861 12 5.4 5.6 98.4 98.4 17 CC Null May-27 B 5.375 129 540 669 9 6.8 8.0 95.9 92.7 18 T AT&T Mar-29 </td <td>10</td> <td>CMCS</td> <td>COMCAST</td> <td>Oct-28</td> <td>Α</td> <td>4.150</td> <td>1,661</td> <td>896</td> <td>2,557</td> <td>20</td> <td>4.7</td> <td>4.8</td> <td>97.6</td> <td>97.5</td>	10	CMCS	COMCAST	Oct-28	Α	4.150	1,661	896	2,557	20	4.7	4.8	97.6	97.5
13 VZ VERIZON Mar-27 BBB 4.125 738 642 1,380 16 4.9 5.0 97.8 97.7 14 HPQ HEWLETT PACKARD Oct-25 BBB 4.900 1,684 628 2,312 17 5.2 5.3 99.5 99.4 15 GS GOLDMAN SACHS Mar-30 A 3.800 802 601 1,403 15 5.0 5.0 93.8 93.7 16 GS GOLDMAN SACHS Jan-25 A 3.500 281 580 861 12 5.4 5.6 98.4 98.4 17 CC Null May-27 B 5.375 129 540 669 9 6.8 8.0 95.9 92.7 18 T AT&T Mar-29 BBB 4.350 1,882 538 2,420 21 5.1 5.0 96.9 97.2 19 AAPL APPLE INC Nov-27 AA 3.000 1,660 520 2,180 11 4.5 4.5 95.1 95.0	11	NFLX	NETFLIX INC	Apr-28	BBB	4.875	289	805	1,094	12	4.9	4.9	100.0	99.9
14 HPQ HEWLETT PACKARD Oct-25 BBB 4.900 1,684 628 2,312 17 5.2 5.3 99.5 99.4 15 GS GOLDMAN SACHS Mar-30 A 3.800 802 601 1,403 15 5.0 5.0 93.8 93.7 16 GS GOLDMAN SACHS Jan-25 A 3.500 281 580 861 12 5.4 5.6 98.4 98.4 17 CC Null May-27 B 5.375 129 540 669 9 6.8 8.0 95.9 92.7 18 T AT&T Mar-29 BBB 4.350 1,882 538 2,420 21 5.1 5.0 96.9 97.2 19 AAPL APPLE INC Nov-27 AA 3.000 1,660 520 2,180 11 4.5 4.5 95.1 95.0	12	JPM	JP MORGAN CHASE	Jan-25	Α	3.125	391	732	1,123	17	5.4	5.5	98.2	98.1
15 GS GOLDMAN SACHS Mar-30 A 3.800 802 601 1,403 15 5.0 5.0 93.8 93.7 16 GS GOLDMAN SACHS Jan-25 A 3.500 281 580 861 12 5.4 5.6 98.4 98.4 17 CC Null May-27 B 5.375 129 540 669 9 6.8 8.0 95.9 92.7 18 T AT&T Mar-29 BBB 4.350 1,882 538 2,420 21 5.1 5.0 96.9 97.2 19 AAPL APPLE INC Nov-27 AA 3.000 1,660 520 2,180 11 4.5 4.5 95.1 95.0	13	VZ	VERIZON	Mar-27	BBB	4.125	738	642	1,380	16	4.9	5.0	97.8	97.7
16 GS GOLDMAN SACHS Jan-25 A 3.500 281 580 861 12 5.4 5.6 98.4 98.4 17 CC Null May-27 B 5.375 129 540 669 9 6.8 8.0 95.9 92.7 18 T AT&T Mar-29 BBB 4.350 1,882 538 2,420 21 5.1 5.0 96.9 97.2 19 AAPL APPLE INC Nov-27 AA 3.000 1,660 520 2,180 11 4.5 4.5 95.1 95.0	14	HPQ	HEWLETT PACKARD	Oct-25	BBB	4.900	1,684	628	2,312	17	5.2	5.3	99.5	99.4
17 CC Null May-27 B 5.375 129 540 669 9 6.8 8.0 95.9 92.7 18 T AT&T Mar-29 BBB 4.350 1,882 538 2,420 21 5.1 5.0 96.9 97.2 19 AAPL APPLE INC Nov-27 AA 3.000 1,660 520 2,180 11 4.5 4.5 95.1 95.0	15	GS	GOLDMAN SACHS	Mar-30	Α	3.800	802	601	1,403	15	5.0	5.0	93.8	93.7
18 T AT&T Mar-29 BBB 4.350 1,882 538 2,420 21 5.1 5.0 96.9 97.2 19 AAPL APPLE INC Nov-27 AA 3.000 1,660 520 2,180 11 4.5 4.5 95.1 95.0	16	GS	GOLDMAN SACHS	Jan-25	Α	3.500	281	580	861	12	5.4	5.6	98.4	98.4
19 AAPL APPLE INC Nov-27 AA 3.000 1,660 520 2,180 11 4.5 4.5 95.1 95.0	17	СС	Null	May-27	В	5.375	129	540	669	9	6.8	8.0	95.9	92.7
	18	Т	AT&T	Mar-29	ВВВ	4.350	1,882	538	2,420	21	5.1	5.0	96.9	97.2
20 ABBV ABBVIE INC Nov-28 A 4.250 946 501 1,447 13 4.7 4.7 98.3 98.2	19	AAPL	APPLE INC	Nov-27	AA	3.000	1,660	520	2,180	11	4.5	4.5	95.1	95.0
	20	ABBV	ABBVIE INC	Nov-28	Α	4.250	946	501	1,447	13	4.7	4.7	98.3	98.2

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 <= TTM <= 1.5 3Y: 2 <= TTM <= 4 5Y: 4 < TTM <= 6 10Y: 7.5 <= TTM <= 12.5 20Y: 15 <= TTM <=25

Rating

Rating buckets (AAA, AA, A, BBB, HY) in yield matrix are based on agggregate 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.)



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