

Market Transparency Report

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

March 2018

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 March 2018

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	9	-14.0%	0.1
CD	15	-4.1%	2.4
Corp	23	-14.4%	0.3
Municipal	0	-9.2%	0.0
Treasury	4	-7.0%	1.1

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

Yield Matrix

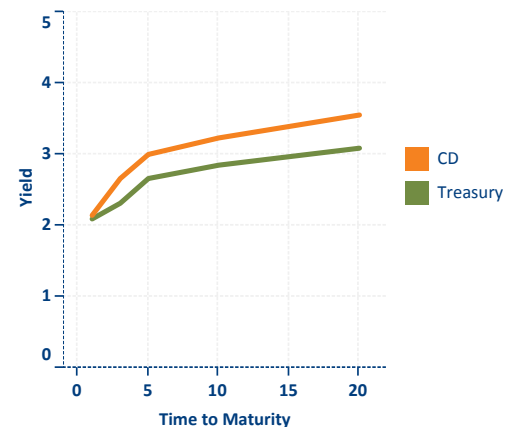
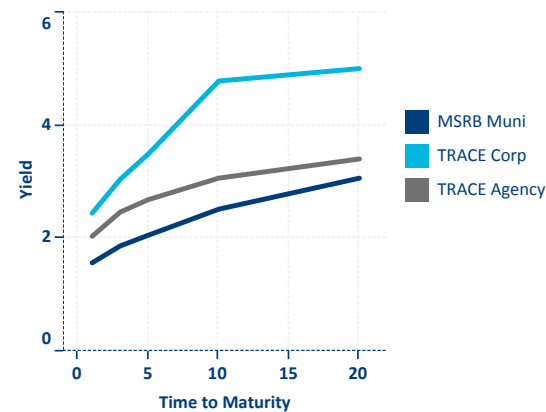
Average Yield, % for March 2018

Market	TTM					Median Maturity (Years)
	1	3	5	10	20	
MSRB Muni	1.6	1.9	2.1	2.5	3.1	11
TRACE Corp	2.5	3.1	3.5	4.8	5.0	3
TRACE Agency	2.0	2.5	2.7	3.1	3.4	3
CD	2.1	2.7	3.0	3.3	3.6	1
Treasury	2.1	2.3	2.7	2.9	3.1	0

Asset Class

Market	Category (Filtered)	Rating Key	1	3	5	10	20	Median Maturity (Years)
TRACE Corp	Financial	AA	2.4	2.8	3.2	3.8		2
		A	2.4	3.1	3.4	3.8	4.4	3
		BBB	2.7	3.3	3.6	4.1	4.8	6
		HY	2.5	3.8	4.2	8.5	6.3	7
		AAA	2.1	2.6	2.7	3.3	3.8	3
	Non-Financial	AA	2.3	2.6	3.1	3.8		1
		A	2.4	2.9	3.3	3.9	4.4	8
		BBB	2.5	3.2	3.9	5.1	5.4	7
		HY		5.1	5.2	10.1	12.2	9
MSRB Muni	GO	AAA	1.5	1.7	1.9	2.4	3.1	9
		AA	1.5	1.8	2.0	2.5	3.1	10
		A	1.6	2.0	2.2	2.7	3.3	9
		BBB	2.6	3.6	3.3	3.8	4.1	7
		HY	3.9	3.0	4.6	5.1	5.2	9
		AAA	1.5	1.7	1.9	2.3	2.7	8
		AA	1.5	1.8	2.0	2.4	2.9	11
	Revenue	A	1.6	1.9	2.2	2.6	3.1	15
		BBB	2.3	2.5	3.0	3.5	3.7	15
		HY	9.7	35.3	6.6	6.5	6.3	14

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.

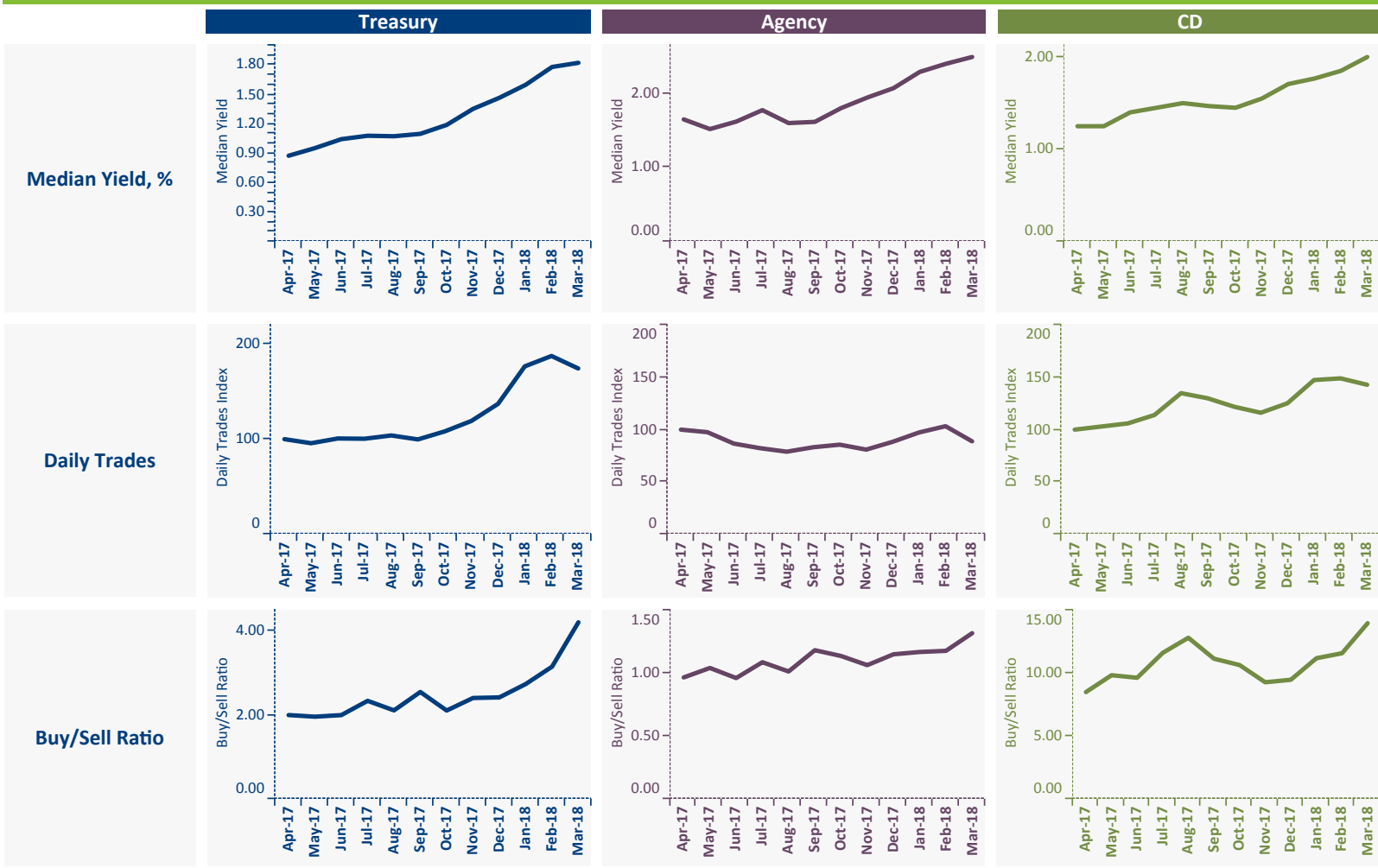
-The weights are based on transaction size.

-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



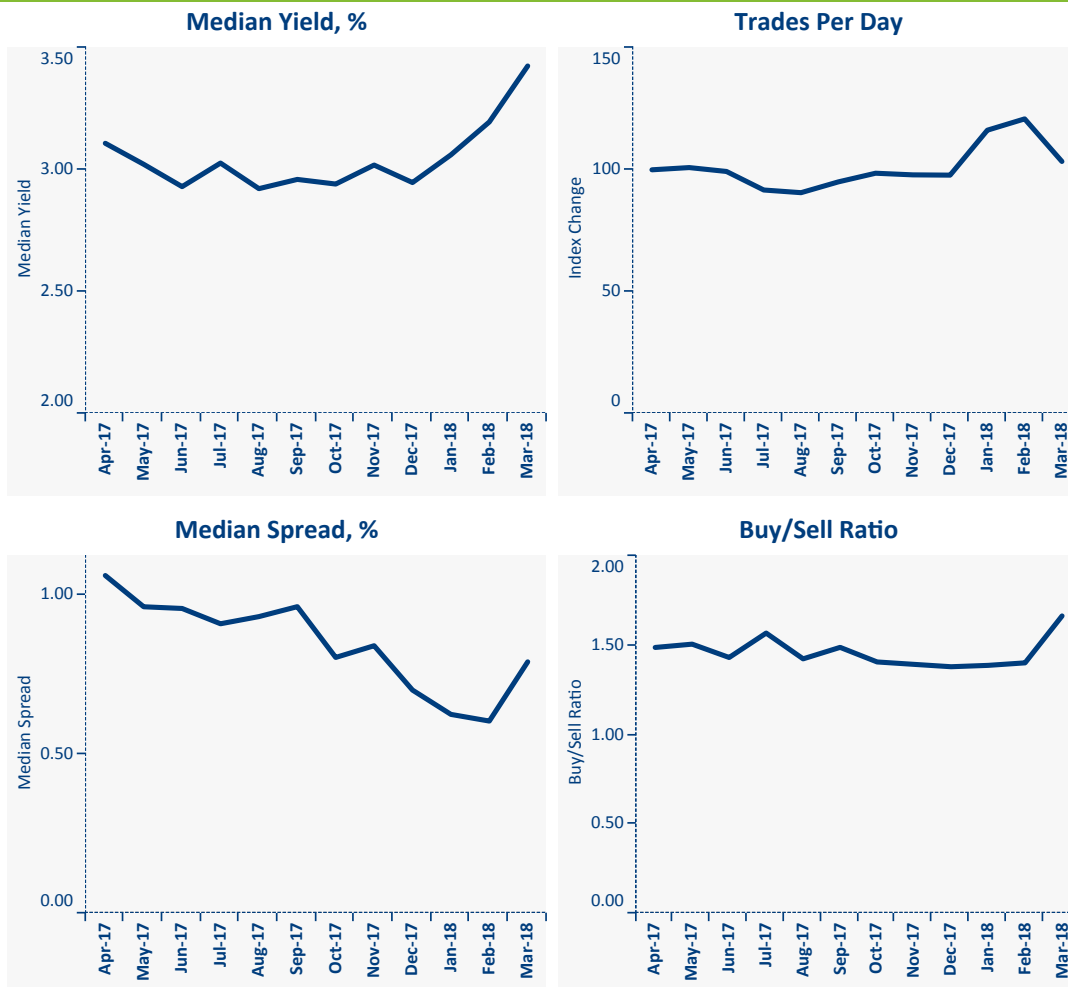
Daily Trades: First month = 100

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.

Corporate Bonds: Odd-Lot Customer Transaction Trend Summary



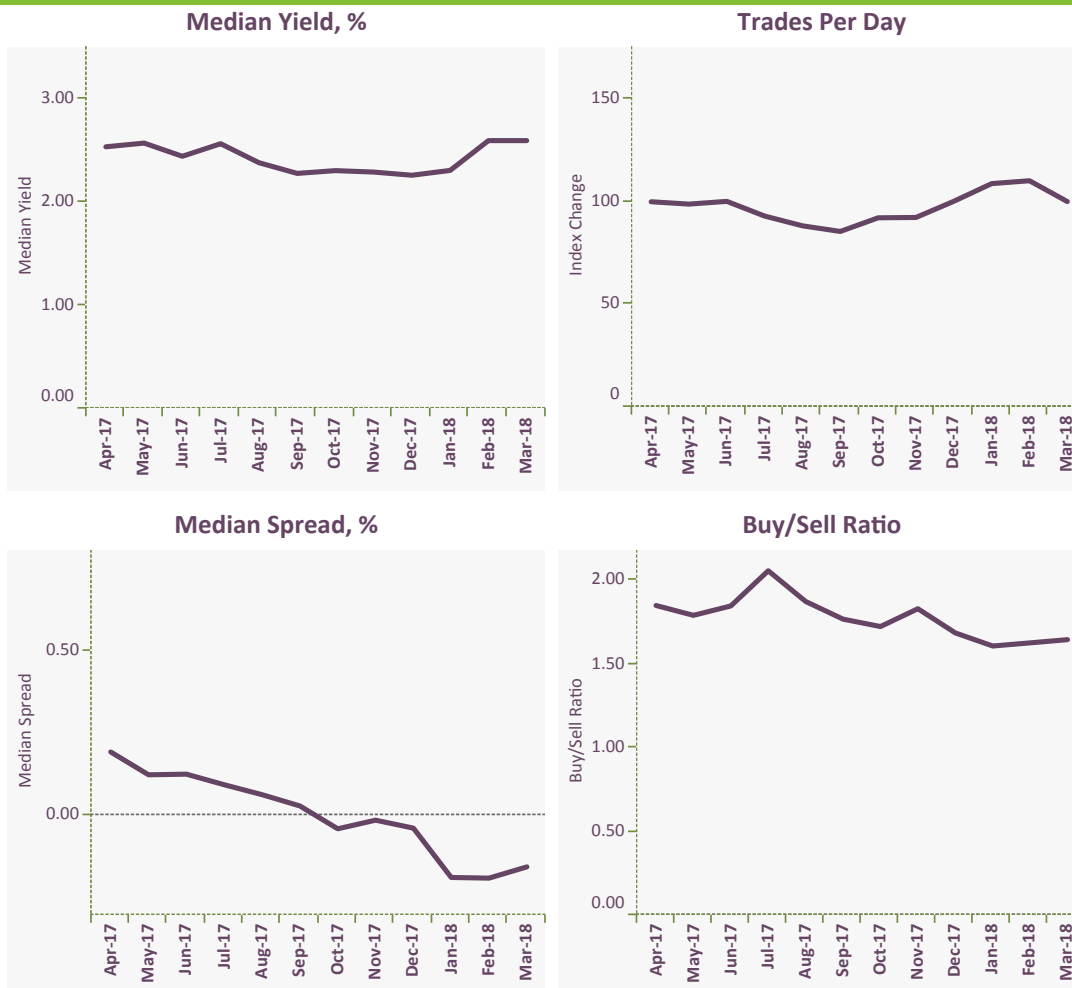
Daily Trades: First month = 100

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.

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Corporate Bonds: Top 20 Most Active Issuers

March 2018

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	GS	GOLDMAN SACHS	BBB	813	3.2%	14,754	1.6	308	2.5	3.1	3.5	4.1	4.5
2	JPM	JP MORGAN CHASE	A	518	3.1%	14,105	1.5	294	2.5	3.1	3.4	3.9	4.2
3	BAC	BANK OF AMERICA	A	422	3.0%	13,685	1.9	283	2.5	3.0	3.4	4.0	4.2
4	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	A	358	2.8%	12,712	1.7	249	2.8	3.2	3.5	4.1	4.6
5	C	CITIGROUP	BBB	374	2.4%	10,912	1.8	240	2.4	3.2	3.5	4.1	4.2
6	WFC	WELLS FARGO	A	202	2.0%	9,226	1.7	187	2.5	3.1	3.6	4.0	4.3
7	T	AT&T	BBB	97	2.0%	9,220	1.7	187	2.5	3.2	3.5	4.1	4.9
8	MS	MORGAN STANLEY	BBB	712	1.8%	8,314	1.7	191	2.5	3.2	3.6	4.1	4.3
9	AAPL	APPLE INC	AA	58	1.5%	6,684	1.9	146	2.3	2.8	3.1	3.5	3.8
10	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	70	1.4%	6,343	3.8	146	2.7	3.3	3.8	4.4	5.2
11	CVS	CVS CAREMARK CORP	BBB	31	1.3%	6,192	4.3	128	2.5	3.1	3.6	4.3	4.8
12	VZ	VERIZON	BBB	113	1.2%	5,707	1.5	116	2.5	3.1	3.5	4.0	4.6
13	BRK	BERKSHIRE HATHAWAY	A	144	1.1%	5,225	2.0	125	2.3	2.8	3.1	3.6	4.9
14	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	A	46	1.0%	4,499	2.0	101	2.4	3.0	3.3	3.8	4.3
15	MSFT	MICROSOFT CORP	AAA	42	0.9%	4,119	1.9	97	2.1	2.6	3.1	3.4	3.7
16	AXP	AMERICAN EXPRESS	A	39	0.9%	3,962	1.5	91	2.5	3.0	3.4	3.7	4.5
17	F	FORD	BBB	233	0.8%	3,845	2.6	83	2.5	3.3	3.8	4.4	5.4
18	ORCL	ORACLE CORP	AA	32	0.8%	3,585	1.4	74	2.4	2.9	3.2	3.6	3.9
19	PTRB	PETROBRAS	BB	24	0.8%	3,466	1.5	124		4.2	4.8	6.1	7.1
20	CTL	CENTURYLINK	B	36	0.7%	3,104	1.3	65	3.3	5.9	6.8	8.1	8.2

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 2018

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	CHRC	BAYSIDE CMNTY CHURCH SARASOTA INC BRADEN	N/R	132	0.3%	1,473	1,335	138	9.7	11		4.0			6.6
2	NWL	NEWELL RUBBERMAID INC	BBB	14	0.3%	1,183	1,032	151	6.8	24	2.3	3.4	3.9	4.4	5.0
3	CVS	CVS CAREMARK CORP	BBB	31	1.3%	6,192	5,025	1,167	4.3	128	2.5	3.1	3.6	4.3	4.8
4	BDX	BECTON DICKINSON & CO	BBB	21	0.2%	1,071	858	213	4.0	21	2.3	3.2	3.5	4.2	4.6
5	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	70	1.4%	6,343	5,019	1,324	3.8	146	2.7	3.3	3.8	4.4	5.2
6	COF	CAPITAL ONE FINL CORP	BBB	34	0.6%	2,572	1,942	630	3.1	57	2.5	3.2	3.6	4.2	
7	SPG	SIMON PPTY GROUP L P	BBB	23	0.3%	1,294	972	322	3.0	28	2.4	3.9	3.3	3.8	4.3
8	FITB	FIFTH THIRD BANCORP	BBB	19	0.2%	1,086	813	273	3.0	19	2.8	3.0	3.8	3.9	4.8
9	SFTBF	SPRINT	B	19	0.3%	1,281	959	322	3.0	33	3.4	5.7	6.3	7.5	
10	STI	SUNTRUST BKS INC	BBB	21	0.3%	1,536	1,135	401	2.8	34	2.5	3.1	3.3	4.0	
11	WAG	WALGREEN CO	BBB	10	0.3%	1,531	1,118	413	2.7	30	2.5	3.3	3.4	4.2	4.6
12	DISH	DISH DBS CORP	B	9	0.3%	1,220	889	331	2.7	23	3.9	5.1	6.9	8.4	
13	HTZ	HERTZ CORP	B	6	0.2%	1,072	781	291	2.7	26		6.7	7.4	8.0	
14	TD	TORONTO DOMINION BK SR MEDIUM TERM BK NT	AA	59	0.3%	1,452	1,055	397	2.7	36	2.3	3.0	3.1	3.7	
15	TWX	TIME WARNER	BBB	26	0.3%	1,397	1,013	384	2.6	30	2.6	3.1	3.5	4.1	4.8
16	F	FORD	BBB	233	0.8%	3,845	2,770	1,075	2.6	83	2.5	3.3	3.8	4.4	5.4
17	ETP	ENERGY TRANSFER PARTNERS L P	BBB	30	0.3%	1,369	981	388	2.5	31		3.5	4.2	4.5	5.6
18	AIG	AIG	BBB	29	0.3%	1,281	914	367	2.5	30	2.8	3.2	3.5	4.1	4.5
19	BNS	BANK NOVA SCOTIA B C	A	83	0.3%	1,593	1,133	460	2.5	36	2.5	3.0	3.2	4.1	
20	MET	METLIFE	BBB	22	0.6%	2,901	2,058	843	2.4	66	2.5	3.1	3.3	3.6	4.2

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 2018

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	C	25	0.7%	3,015	1,157	1,858	0.62	52		10.1	16.3	15.9	16.1
2	GNW	GENWORTH	B	9	0.3%	1,185	579	606	0.96	23		8.6	9.0		8.9
3	EDP	ENTERPRISE PRODS OPER LLC	BBB	35	0.3%	1,202	598	604	0.99	26	2.9	3.2	3.5	3.8	4.6
4	USB	U S BANCORP MEDIUM TERM NTS- BOOK ENTRY	A	27	0.4%	1,818	936	882	1.06	34	2.6	3.0	3.3	3.8	
5	BCS	BARCLAYS	BB	452	0.4%	1,786	929	857	1.08	36	3.6	3.3	3.4	4.2	4.7
6	VIA	VIACOM INC NEW	BBB	35	0.3%	1,448	774	674	1.15	33	2.9	3.5	4.2	4.3	5.4
7	BBT	BB&T CORP SR MEDIUM TERM NTS BOOK ENTRY	A	26	0.2%	1,140	618	522	1.18	25	2.8	3.1	3.2	3.7	
8	HPQ	HEWLETT PACKARD	BBB	18	0.4%	2,025	1,106	919	1.20	45	2.7	3.3	3.5	4.4	5.6
9	CS	CREDIT SUISSE	N/R	361	0.4%	1,695	929	766	1.21	38	2.9	3.5	3.7	4.2	
10	DELL	DELL	BB	12	0.4%	1,742	972	770	1.26	40	4.0	4.4	5.1	5.7	6.5
11	CTL	CENTURYLINK	B	36	0.7%	3,104	1,734	1,370	1.27	65	3.8	5.7	5.8	8.1	7.5
12	HBC	HSBC	N/R	443	0.7%	3,066	1,730	1,336	1.29	61	2.8	3.4	3.9	4.1	4.3
13	MAT	MATTEL INC	B	8	0.3%	1,400	788	612	1.29	22	4.6	5.7	6.9		7.2
14	INTC	INTEL CORP	A	23	0.3%	1,357	769	588	1.31	34	2.6	2.8	3.1	3.5	
15	RY	ROYAL BANK OF CANADA	AA	208	0.4%	1,762	998	764	1.31	42	2.7	2.9	3.9	4.2	4.0
16	CELG	CELGENE CORP	BBB	19	0.3%	1,203	686	517	1.33	26	2.9	3.1	3.6	4.2	
17	CSCO	CISCO	AA	22	0.4%	2,045	1,169	876	1.33	42	2.5	2.9	3.2	3.4	3.9
18	DIS	DISNEY WALT CO NEW MEDIUM TERM NTS BOOK	A	30	0.3%	1,172	677	495	1.37	27	2.5	2.8	3.1	3.5	4.0
19	DUK	DUKE ENERGY	BBB	92	0.3%	1,576	912	664	1.37	36	3.0	3.0	3.3	3.9	4.1
20	RDS	SHELL	AA	29	0.4%	1,695	980	715	1.37	39	2.6	2.8	3.2	3.5	4.1

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.

Corporate Bonds: Top 20 Most Bought Issues

March 2018

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	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Null	BBB	5.000	1,578	993	2,571	47			99.5	99.0
2	BAC	BANK OF AMERICA	Null	BBB	5.875	1,134	28	1,162	34			101.4	100.0
3	MET	METLIFE	Null	BBB	5.875	1,034	1	1,035	28			102.3	103.1
4	GM	GENERAL MOTORS FINANCIAL COMPANY INC	Null	BB	5.750	995	104	1,099	27			99.9	98.1
5	CVS	CVS CAREMARK CORP	Mar-23	BBB	3.700	916	55	971	16	3.7	3.8	99.7	99.6
6	WFC	WELLS FARGO	Null	BBB	5.895	881	183	1,064	10			101.1	101.0
7	CVS	CVS CAREMARK CORP	Mar-20	BBB	3.125	725	20	745	16	3.1	3.1	100.1	100.1
8	ASCMA	Null	Apr-20	C	9.125	679	99	778	7	21.1	19.9	81.1	82.7
9	SATS	HUGHES SATELLITE SYS CORP	Aug-26	BB	5.250	601	47	648	8	5.4	5.5	98.9	98.5
10	CVS	CVS CAREMARK CORP	Mar-28	BBB	4.300	560	57	617	13	4.4	4.4	99.6	99.3
11	SPG	SIMON PPTY GROUP L P	Aug-24	BBB	5.950	469	11	480	8	6.5	6.8	97.2	95.8
12	WPG	Null	Aug-24	BBB	5.950	88	3	91	2	6.6	6.8	96.7	95.5
13	CVS	CVS CAREMARK CORP	Mar-25	BBB	4.100	543	21	564	11	4.2	4.1	99.7	99.8
14	PTRB	PETROBRAS	Jan-28	N/R	5.999	542	159	701	26			99.0	98.0
15	AIZ	ASSURANT INC	Mar-48	BBB	7.000	540	1	541	13			102.4	100.6
16	NVDA	NVIDIA CORPORATION	Sep-26	BBB	3.200	528	14	542	4	3.6	3.7	97.2	96.6
17	T	AT&T	Mar-27	BBB	4.250	513	146	659	14	4.2	4.3	100.5	99.4
18	MCFH	HARLAND CLARKE HLDGS CORP	Feb-21	C	5.750	496	116	612	6	14.8	15.1	79.1	78.5
19	VIAV	Null	Mar-24	N/R	1.000	492	9	501	2	0.2	0.6	104.6	102.4
20	STI	SUNTRUST BKS INC	Null	BBB	5.125	489	31	520	12			98.0	95.3

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 2018

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	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Null	BBB	5.000	1,578	993	2,571	47			99.5	99.0
2	AMD	ADVANCED MICRO DEVICES	Sep-26	B	2.125	9	488	497	2			163.9	167.3
3	CRM	SALESFORCE COM INC	Apr-18	N/R	0.250	6	479	485	3			181.8	185.0
4	JPM	JP MORGAN CHASE	Null	BBB	7.900	165	467	632	11			100.8	100.6
5	JPM	JP MORGAN CHASE	May-24	A	3.625	199	463	662	11	3.6	3.7	100.1	99.8
6	MAT	MATTEL INC	Mar-23	B	3.150	165	442	607	5	5.9	6.9	88.4	84.4
7	AXP	AMERICAN EXPRESS	Null	BBB	5.200	167	430	597	11			102.5	101.7
8	RAD	RITE AID CORP	Feb-27	C	7.700	193	403	596	7	10.0	10.2	86.9	85.4
9	FTR	FRONTIER COMMUNICATIONS CORP	Sep-21	C	6.250	123	365	488	7			89.7	89.2
10	AAPL	APPLE INC	May-23	AA	2.400	314	351	665	14	3.1	3.1	96.7	96.6
11	JPM	JP MORGAN CHASE	Null	BBB	6.750	338	323	661	8			110.6	110.1
12	VZ	VERIZON	Sep-23	BBB	5.150	287	315	602	11	3.5	3.6	108.1	107.7
13	LXK	LEXMARK INTL INC	Mar-20	B	7.125	250	303	553	10	26.1	24.9	75.5	72.0
14	WFC	WELLS FARGO	Null	BBB	5.570	251	294	545	13			100.0	99.3
15	GS	GOLDMAN SACHS	Jan-22	BBB	5.750	311	283	594	9	3.5	3.5	108.2	108.0
16	T	AT&T	Feb-22	BBB	3.000	476	280	756	7	3.3	3.4	98.9	98.6
17	VZ	VERIZON	Nov-24	BBB	3.500	370	278	648	8	3.7	3.7	98.9	98.6
18	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	Feb-26	A	3.650	439	266	705	16	3.8	3.8	99.1	98.7
19	CELG	CELGENE CORP	May-24	BBB	3.625	102	262	364	4	3.8	3.8	99.1	98.9
20	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Jan-38	A	5.875	116	254	370	5	4.6	4.7	116.1	115.5

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).

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.)

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