

Market Transparency Report

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

January 2016

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 January 2016

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	-5	3.4%	-0.1
CD	-5	18.4%	1.0
Corp	0	14.2%	0.3
Municipal	-22	14.8%	-0.1
Treasury	-15	18.7%	-0.1

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

Yield Matrix

Average Yield, % for January 2016

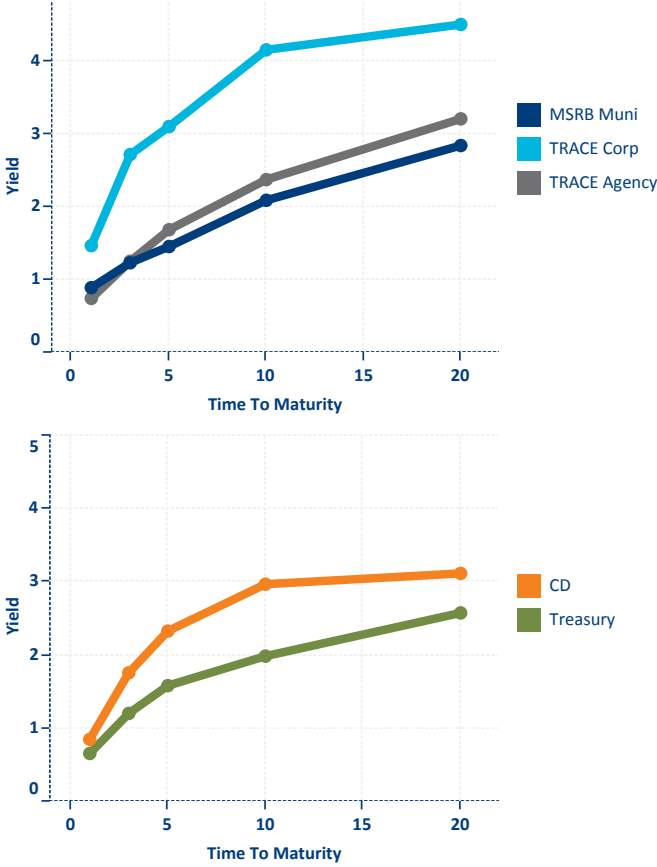
Market	1Y WA Yield (Buy)	3Y WA Yield (Buy)	5Y WA Yield (Buy)	10Y WA Yield (B..)	20Y WA Yield (Buy)	Median TTM (Yr)
MSRB Muni	0.8	1.1	1.3	1.9	2.8	11
TRACE Corp	1.3	2.1	2.7	4.0	4.3	3
TRACE Agency	0.8	1.2	1.7	2.3	3.4	2
CD	0.8	1.8	2.4	3.0	3.2	2
Treasury	0.7	1.2	1.7	2.2	2.8	4

Asset Class

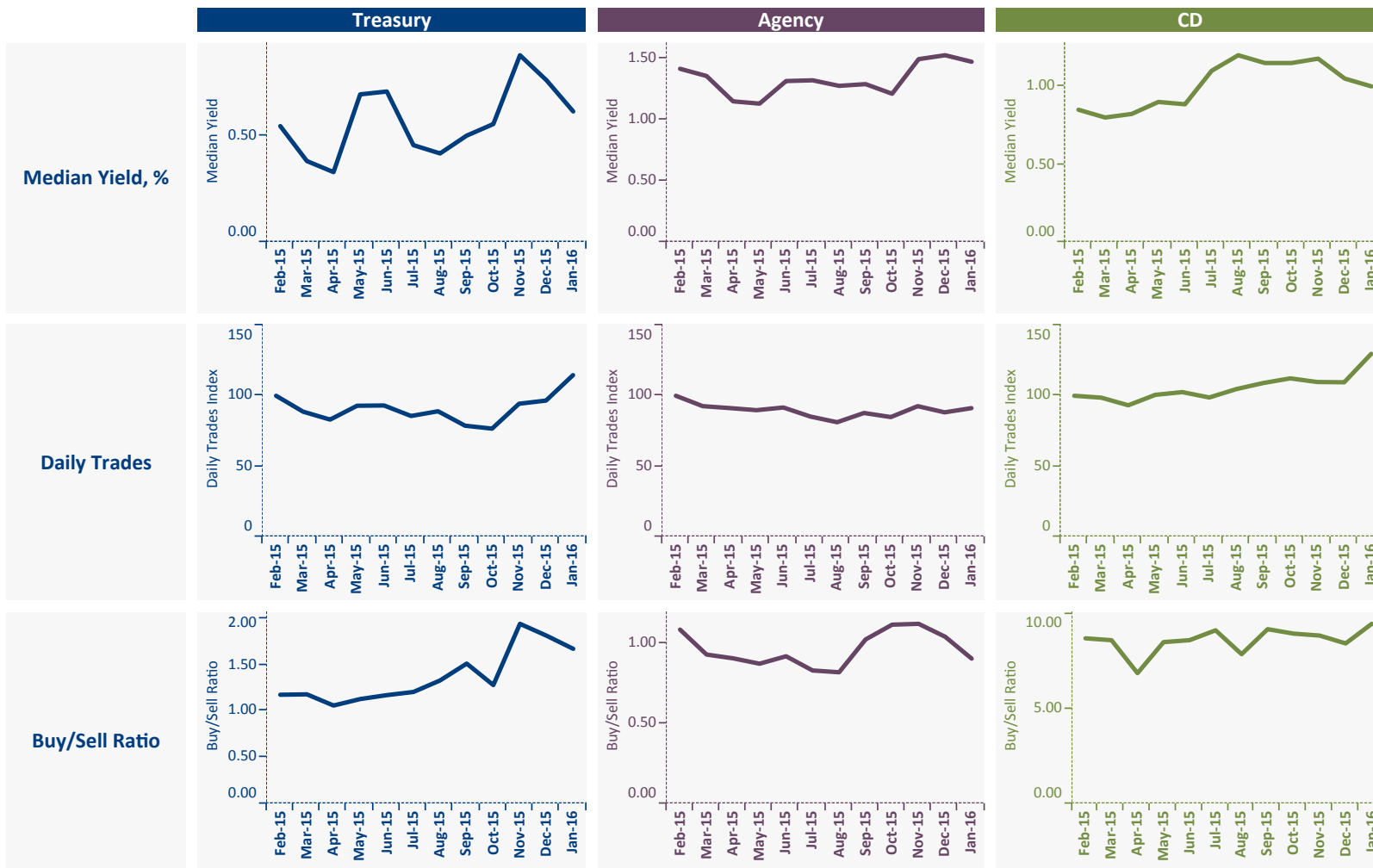
Market	Category (Filtered)	Rating Key (Filtered)	1Y WA Yield (Buy)	3Y WA Yield (Buy)	5Y WA Yield (Buy)	10Y WA Yield (Buy)	20Y WA Yield (Buy)	Median TTM (Yr)
TRACE Corp	Financial	AA	1.0	1.7	2.3	3.4	4.2	4
		A	1.1	1.9	2.5	3.4	4.6	4
		BBB	1.4	2.2	2.8	4.1	4.4	4
		High Yield	3.0	3.7	5.1	4.5	9.2	2
		N/R	1.9	3.8	3.2	4.1	Null	2
		AAA	Null	1.5	1.8	2.4	4.1	4
	Non-Financial	AA	0.9	1.8	2.0	3.6	4.0	4
		A	1.1	1.5	2.5	4.1	4.8	5
		BBB	1.7	2.1	3.8	4.5	6.6	8
		High Yield	2.2	5.0	4.8	7.1	6.6	5
		N/R	6.2	15.0	7.1	8.8	6.5	1
		AAA	0.7	1.0	1.1	1.6	2.6	7
GO	AA	0.7	1.0	1.2	1.8	2.9	10	
	A	0.9	1.2	1.5	2.0	2.7	10	
	BBB	1.5	2.3	2.8	3.2	4.6	12	
	High Yield	0.8	1.1	1.3	2.0	2.9	9	
	N/R	0.9	2.0	2.0	2.8	3.3	10	
MSRB Muni	AAA	0.7	1.0	1.1	1.6	2.7	7	
	AA	0.8	1.1	1.3	1.7	2.6	11	
	A	0.9	1.3	1.5	2.4	3.0	16	
	BBB	1.2	2.1	2.2	2.8	3.0	18	
	High Yield	0.8	1.2	1.4	2.2	2.9	12	
	N/R	1.3	1.8	2.8	2.9	4.4	16	

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.

Average Yield, %



Treasury, Agency, CD Transaction Trend Summary



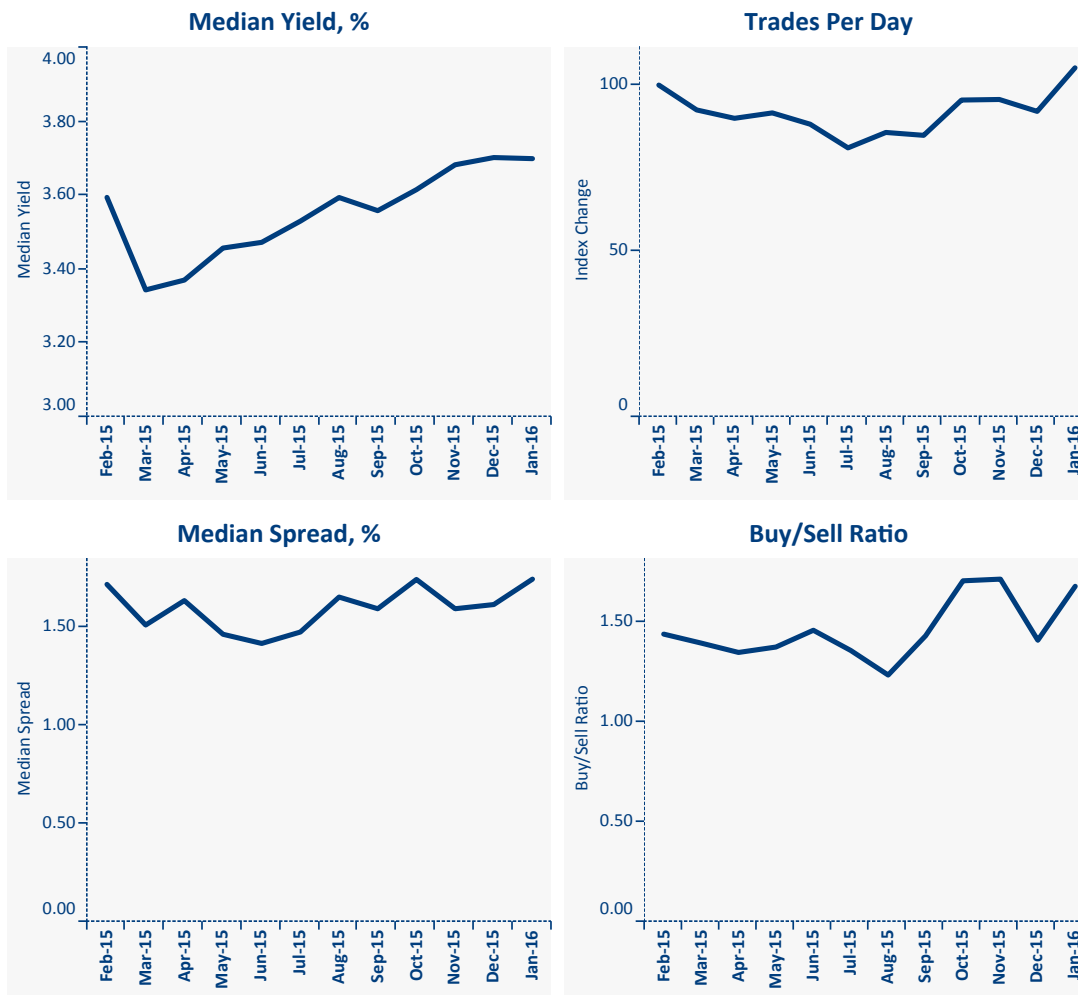
Daily Trades: First month = 100

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



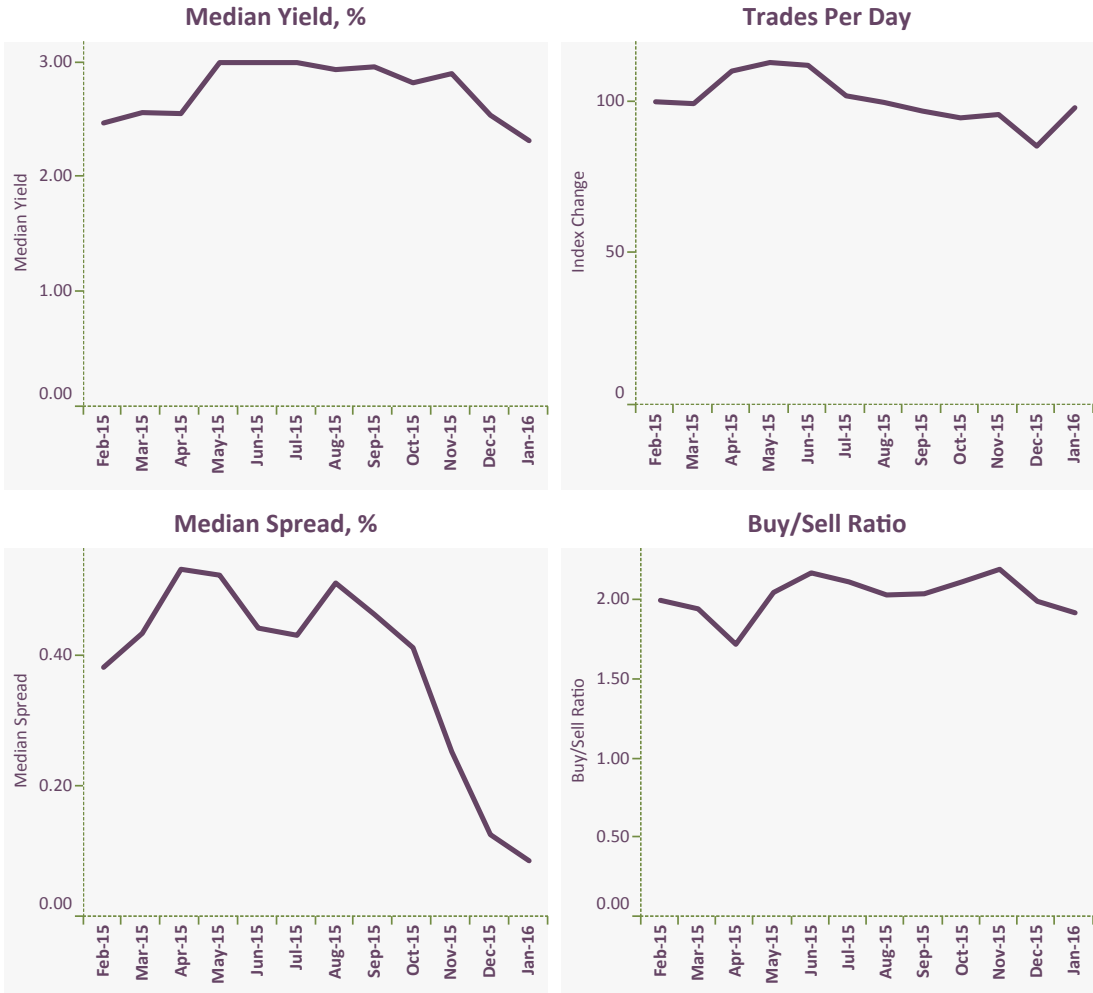
Daily Trades: First month = 100

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

January 2016

Index	Ticker	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	BBB	423	3.5%	12,464	2.0	271	1.2	2.0	2.7	3.9	4.1
2	BAC	BBB	489	3.2%	11,419	1.8	239	1.2	2.2	2.8	4.1	4.0
3	GS	BBB	705	3.0%	10,636	1.4	244	1.3	2.1	2.8	3.7	4.6
4	GE	AA	427	2.8%	9,960	1.4	208	1.0	1.8	2.4	3.6	4.1
5	WFC	A	159	2.4%	8,544	2.2	190	1.1	1.8	2.5	3.5	3.2
6	C	BBB	249	2.2%	7,951	2.5	197	1.3	2.0	2.7	4.1	4.9
7	T	BBB	58	1.8%	6,462	3.0	132	1.3	1.9	2.7	3.7	5.2
8	VZ	BBB	66	1.6%	5,762	2.0	123	1.1	1.8	2.7	3.6	5.0
9	MS	BBB	592	1.5%	5,537	1.3	130	1.5	2.2	2.8	4.1	4.5
10	COP	A	30	1.5%	5,215	9.9	107	1.2	3.6	4.0	5.2	6.6
11	BUD	A	43	1.3%	4,655	4.0	105	1.2	2.0	2.5	3.5	4.6
12	FCX	BB	18	1.2%	4,172	0.7	47	18.0	25.1	19.2	15.9	13.8
13	BRK	A	136	0.8%	2,906	1.3	69	1.1	1.3	2.3	3.2	4.7
14	KMI	BBB	68	0.8%	2,867	3.0	59	3.6	5.0	5.5	6.1	7.8
15	AAPL	AA	24	0.7%	2,694	1.8	62	0.9	1.2	2.2	2.9	
16	CTL	BBB	34	0.7%	2,661	1.6	46	2.4	5.0	5.5	7.7	7.2
17	F	BBB	133	0.7%	2,561	1.9	62	1.6	2.5	3.3	4.0	5.2
18	HBC	N/R	339	0.7%	2,391	0.9	48	1.4	1.9	3.2	4.2	4.9
19	MRO	BBB	21	0.7%	2,391	6.1	45		3.0	5.7	7.4	8.0
20	MT	BB	10	0.7%	2,353	0.4	33	7.6	12.4	12.2	11.5	12.4

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

January 2016

Index	Ticker	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	RCII	B	2	0.6%	2,305	2,152	153	14.1	20			10.7		
2	CHRC	N/R	161	0.3%	1,175	1,075	100	10.8	8	2.0	3.7		5.5	6.5
3	COP	A	30	1.5%	5,215	4,737	478	9.9	107	1.2	3.6	4.0	5.2	6.6
4	EMC	A	3	0.6%	2,263	2,054	209	9.8	45		3.9	5.4		
5	M	BBB	23	0.3%	1,161	1,042	119	8.8	25			3.8	4.4	6.5
6	MON	BBB	16	0.4%	1,475	1,311	164	8.0	25	1.4	1.9	2.8	4.1	5.2
7	DVN	BBB	18	0.3%	907	805	102	7.9	22		8.0	6.8	6.4	8.2
8	MRO	BBB	21	0.7%	2,391	2,053	338	6.1	45		3.0	5.7	7.4	8.0
9	XRX	BBB	14	0.4%	1,597	1,352	245	5.5	32	1.9	3.0	3.7	4.7	6.8
10	HAL	A	18	0.3%	1,031	867	164	5.3	22	0.9	2.4	3.1	4.0	5.1
11	DD	A	16	0.2%	862	722	140	5.2	20	1.1	2.4	2.7	4.5	5.0
12	HPQ	BBB	16	0.7%	2,344	1,933	411	4.7	53		2.3	4.2		
13	VIA	BBB	34	0.6%	1,991	1,637	354	4.6	45	1.7	2.4	3.8	4.4	6.9
14	GM	BBB	25	0.5%	1,808	1,481	327	4.5	46	2.3	3.0	3.7	4.7	5.6
15	BUD	A	43	1.3%	4,655	3,717	938	4.0	105	1.2	2.0	2.5	3.5	4.6
16	MCD	BBB	24	0.6%	2,209	1,770	439	4.0	43	1.4	1.8	2.5	3.3	4.7
17	QCOM	A	7	0.4%	1,358	1,088	270	4.0	28		1.5	2.3	3.7	5.0
18	WAG	BBB	10	0.3%	1,029	825	204	4.0	23		2.4	3.3	4.0	5.0
19	ALLY	BB	75	0.3%	1,255	994	261	3.8	29	2.5	3.6	4.2	4.9	6.4
20	CELG	BBB	15	0.2%	891	705	186	3.8	17		2.1	2.8	3.6	5.1

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

January 2016

Index	Ticker	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	BCS	N/R	434	0.5%	1,672	484	1,188	0.4	27	2.3	2.7	3.3	3.8	4.1
2	MT	BB	10	0.7%	2,353	679	1,674	0.4	33	8.9	15.9	13.2	11.6	12.7
3	CHK	C	17	0.6%	2,083	716	1,367	0.5	20		48.2	40.4		6.7
4	CS	N/R	260	0.4%	1,378	477	901	0.5	18	2.4	2.7	6.2		
5	SFTBF	B	15	0.4%	1,442	523	919	0.6	22	8.7	15.6	16.6	14.4	14.2
6	BNPQF	BBB	128	0.2%	818	329	489	0.7	20	2.2	2.5	2.8	5.0	
7	FCX	BB	18	1.2%	4,172	1,696	2,476	0.7	47	20.9	18.0	22.6	16.2	14.2
8	GNW	BB	10	0.4%	1,300	547	753	0.7	22	2.1	13.0	15.6	13.0	13.2
9	PTRB	BB	23	0.5%	1,703	724	979	0.7	41	9.3	13.9	13.0	11.8	11.7
10	FTR	BB	23	0.4%	1,483	677	806	0.8	24		7.6	9.7	11.3	11.9
11	PBR	BB	13	0.2%	836	369	467	0.8	19	10.0	14.2	14.0	12.7	
12	RIG	BB	13	0.5%	1,812	807	1,005	0.8	24	10.6	18.4	19.8	18.2	15.5
13	CSCO	AA	17	0.3%	992	461	531	0.9	23	1.1	1.8	2.1	2.9	4.3
14	HBC	N/R	339	0.7%	2,391	1,145	1,246	0.9	48	1.9	2.3	3.4	4.2	5.3
15	PNC	BBB	38	0.3%	1,179	551	628	0.9	20	1.4	2.1	2.4	3.4	
16	INTC	A	13	0.3%	987	501	486	1.0	22	1.0		2.4	3.1	1.4
17	RY	BBB	229	0.5%	1,702	837	865	1.0	32	1.2	1.8	2.2	3.4	4.0
18	CMCS	A	40	0.5%	1,729	905	824	1.1	40	1.4	1.7	2.1	3.1	4.6
19	DB	N/R	146	0.3%	1,255	646	609	1.1	28	1.9	2.3	3.0	3.9	
20	X	B	6	0.3%	1,175	614	561	1.1	14	22.5	32.8	29.8		17.3

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

January 2016

Index	Issue	Ticker	Maturity	Rating Key (Med)	Coupon	Trades (Buy)	Trades (Sell)	Trades	Dollar Vol. Traded (MM)	Yield (Buy)	Yield (Sell)	Price (Buy)	Price (Sell)
1	ANHEUSER-BUSCH INBEV FIN	BUD	Feb-26	A	3.650	839	42	881	14	3.6	3.6	99.9	99.9
2	AT&T INC	T	Jun-22	BBB	3.000	858	42	900	16	3.1	3.3	99.5	98.1
3	AT&T INC	T	May-25	BBB	3.400	774	84	858	14	3.7	3.9	97.7	96.0
4	CITIGROUP INC	C	Dec-49	C	6.125	930	28	958	27			102.5	100.3
5	CONOCOPHILLIPS	COP	Feb-39	A	6.500	648	41	689	14	6.7	6.8	97.9	96.3
6	CONOCOPHILLIPS CO	COP	Nov-24	A	3.350	763	39	802	11	5.3	5.4	86.7	86.1
7	E M C CORP MASS	EMC	Jun-18	A	1.875	728	71	799	17	3.9	4.1	95.6	95.1
8	E M C CORP MASS	EMC	Jun-20	A	2.650	790	89	879	17	5.4	5.7	89.3	88.3
9	E M C CORP MASS	EMC	Jun-23	A	3.375	536	49	585	10	6.4	6.7	82.2	80.8
10	GAP INC	GPS	Apr-21	BBB	5.950	665	97	762	19	5.0	5.3	104.1	103.0
11	GENERAL ELECTRIC CO	GE	Dec-49	B	5.000	1,695	59	1,754	37			102.5	102.0
12	ICONIX BRAND GROUP INC	ICON	Jun-16	N/R	2.500	661	16	677	5	51.4	63.1	84.9	81.4
13	JPMORGAN CHASE & CO	JPM	Apr-49	BBB	7.900	697	477	1,174	23			102.5	101.0
14	MARATHON OIL	MRO	Mar-18	BBB	5.900	963	65	1,028	18	6.2	6.9	94.3	97.8
15	MONSANTO CO NEW	MON	Jul-24	BBB	3.375	578	59	637	8	4.1	4.0	95.2	95.8
16	NATURAL RESOURCE PARTNERS LP	NRP	Oct-18	B	9.125	706	33	739	4	31.9	36.0	60.8	56.1
17	RENT A CTR INC NEW	RCII	Nov-20	B	6.625	2,107	139	2,246	19	10.7	11.0	84.9	83.8
18	VERIZON COMMUNICATIONS INC	VZ	Sep-23	BBB	5.150	533	217	750	15	3.6	3.6	110.6	110.3
19	WACHOVIA CAP TR III	WFC	Mar-49	BBB	5.570	816	138	954	24			98.8	96.0
20	WELLS FARGO & COMPANY	WFC	Jan-49	BBB	5.875	569	54	623	14			106.4	105.5

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

January 2016

Index	Issue	Ticker	Maturity	Rating Key (Med)	Coupon	Trades (Buy)	Trades (Sell)	Trades	Dollar Vol. Traded (MM)	Yield (Buy)	Yield (Sell)	Price (Buy)	Price (Sell)
1	APPLE INC	AAPL	May-23	AA	2.400	356	246	602	13	2.7	2.7	98.1	97.8
2	ARCELORMITTAL SA	MT	Jun-19	BB	10.850	111	1,059	1,170	9	13.8	15.9	92.1	87.3
3	CHESAPEAKE ENERGY CORP	CHK	Aug-17	C	6.500	156	212	368	3	59.1	57.9	53.7	50.9
4	CHESAPEAKE ENERGY CORP	CHK	May-37	C	2.500	1	259	260	3		6.7	49.0	52.3
5	FREEMPORT MCMORAN COPPER & GOLD	FCX	Mar-22	BB	3.550	136	247	383	4	18.1	18.3	47.6	47.0
6	FREEMPORT-MCMORAN INC	FCX	Mar-18	BB	2.375	165	275	440	6	25.1	17.6	64.1	73.4
7	FREEMPORT-MCMORAN INC	FCX	Mar-20	BB	3.100	135	259	394	4	21.0	16.6	52.0	60.5
8	FREEMPORT-MCMORAN INC	FCX	Nov-24	BB	4.550	78	445	523	4	15.9	16.2	47.1	46.3
9	GENERAL ELEC CAP CORP MTN BE	GE	Jan-38	AA	5.875	83	248	331	7	4.2	4.3	123.7	122.9
10	GENERAL ELECTRIC CO	GE	Dec-17	AA	5.250	143	266	409	8	1.3	1.5	107.2	106.9
11	GENWORTH FINL INC	GNW	May-18	BB	6.515	269	261	530	9	16.0	13.0	82.1	87.2
12	ICAHN ENTERPRISES LP/CORP	IEP	Feb-22	BB	5.875	345	262	607	11	6.7	8.1	96.0	89.4
13	JPMORGAN CHASE & CO	JPM	Apr-49	BBB	7.900	697	477	1,174	23			102.5	101.0
14	PETROBRAS INTL	PTRB	Jan-21	BB	5.375	76	305	381	6	12.5	13.0	74.0	72.4
15	PLAINS EXPLORATION & PRODUCTION	FCX	May-21	BB	6.625	19	312	331	2	17.7	22.6	62.9	52.2
16	PNC FINANCIAL SERVICES	PNC	Aug-49	BBB	6.750	296	349	645	9			107.4	106.3
17	ROWAN COMPANIES, INC.	RDC	Jun-22	BBB	4.875	45	280	325	3	11.3	10.9	71.3	72.8
18	TRANSOCEAN INC	RIG	Nov-20	BB	6.500	115	318	433	6	18.8	19.8	62.0	59.8
19	VERIZON COMMUNICATIONS INC	VZ	Sep-23	BBB	5.150	533	217	750	15	3.6	3.6	110.6	110.3
20	WELLS FARGO & COMPANY	WFC	Feb-49	BBB	7.980	517	602	1,119	16			105.3	104.5

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).

Municipal Bonds: Top 20 Most Active Issues

January 2016

Index	Issue	State	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	NEW JERSEY ST TRANSN TR FD AUTH	NJ	A	199	1.0%	3,161	3.1	91	1.1	2.2	2.5	3.3	3.7
2	SOUTH CAROLINA ST PUB SVCS AUTH REV	SC	AA	97	0.9%	3,011	12.9	76	0.8	1.1	1.4	2.0	3.2
3	ILLINOIS ST	IL	AA	302	0.9%	2,862	2.6	80	1.6	2.6	3.0	3.2	3.9
4	CALIFORNIA ST	CA	AA	458	0.8%	2,675	1.3	86	0.7	0.9	1.0	1.0	1.2
5	NEW YORK N Y	NY	AA	657	0.8%	2,538	1.4	80	0.7	1.0	1.3	1.5	2.5
6	PORT AUTH N Y & N J	NY	AA	262	0.6%	1,963	2.8	55	0.8	1.1	1.1	1.7	2.3
7	NEW YORK ST DORM AUTH REVS NON ST SUPPORTED DEBT	NY	A	506	0.6%	1,960	1.9	59	0.8	1.1	1.4	1.9	2.8
8	MASSACHUSETTS ST	MA	AA	246	0.6%	1,930	4.3	63	0.7	1.0	1.2	1.6	3.3
9	PUERTO RICO COMWLTH	PR	C	228	0.6%	1,858	0.6	38	4.2	5.2	4.9	5.1	5.9
10	NEW YORK N Y CITY TRANSITIONAL FIN AUTH REV	NY	AA	444	0.5%	1,757	1.8	60	0.6	1.0	1.3	1.7	2.5
11	NEW YORK N Y CITY MUN WTR FINAUTH WTR & SWR SYS REV	NY	AA	185	0.5%	1,553	2.6	52	1.0	1.0	1.1	1.8	1.5
12	NEW YORK ST DORM AUTH ST PERSINCOME TAX REV	NY	AA	336	0.5%	1,490	1.7	52	0.7	1.0	1.2	1.6	2.3
13	DISTRICT COLUMBIA REV	DC	N/R	72	0.4%	1,382	11.8	38	0.9	2.8	1.6	5.6	7.3
14	CALIFORNIA ST FOR PREVIOUS ISSUES SEE 13063B	CA	AA	203	0.4%	1,369	2.6	51		1.0	1.3	1.7	2.6
15	METROPOLITAN TRANSN AUTH N Y REV FOR ISSUES DTD PRIOR TO	NY	AA	266	0.4%	1,317	1.6	44	0.7	1.0	1.4	1.8	2.5
16	CHICAGO ILL BRD ED	IL	A	135	0.4%	1,302	1.4	34	1.4	3.2	4.2	3.5	5.3
17	INDIANA FIN AUTH HEALTH SYS REV	IN	B	18	0.4%	1,263	49.5	30	0.8	1.2		2.4	3.3
18	CONNECTICUT ST	CT	AA	275	0.4%	1,253	2.6	47	0.8	1.1	1.3	1.9	2.7
19	TRIBOROUGH BRDG & TUNL AUTH NY REVS	NY	AA	164	0.4%	1,245	5.0	41	0.7	0.8	1.2	1.8	3.0
20	NEW JERSEY ECONOMIC DEV AUTH REV	NJ	A	166	0.4%	1,232	2.1	37	0.8	2.2	2.5	3.3	3.7

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

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

-Issuer ratings are based on median rating of traded bonds from each issuer. Bond ratings are from Moody's and S&P.

Municipal Bonds: Top 20 Issues with Highest Buy/Sell Ratio

January 2016

Index	Issue	State	Rating Key (Med)	Issues Traded	% of Total Trades	Trades	Trades (Buy)	Trades (Sell)	Buy/Sell Ratio	Vol. Traded (MM)	1Y Yield (Buy)	3Y Yield (Buy)	5Y Yield (Buy)	10Y Yield (Buy)	20Y Yield (Buy)
1	EAST CAROLINA UNIV N C UNIV REV FORMERLY EAST CAROLINA COLLEGE	NC	AA	31	0.4%	1,157	1,146	11	104.2	26			1.3	1.9	3.2
2	NEVADA SYS HIGHER ED CTFS PARTN	NV	B	26	0.2%	571	563	8	70.4	15	0.8		1.3	2.1	3.3
3	BOWLING GREEN ST UNIV OHIO GEN RCPTS	OH	A	17	0.2%	489	482	7	68.9	10			1.4	2.1	3.0
4	COUNCIL ROCK PA SCH DIST	PA	B	25	0.2%	744	730	14	52.1	19		1.5	1.8	2.0	3.0
5	INDIANA FIN AUTH HEALTH SYS REV	IN	B	18	0.4%	1,263	1,238	25	49.5	30	0.8	1.2		2.4	3.3
6	JACKSONVILLE FLA TRANS REV	FL	AA	18	0.3%	1,035	1,000	35	28.6	28	0.6		1.4	1.3	3.2
7	MASSACHUSETTS ST DEV FIN AGY REV (FOR ISSUES DATED PRIOR TO 05/20/2015 SEE 57583U)	MA	AA	51	0.1%	482	457	25	18.3	18		0.9	1.4	2.4	3.1
8	SOUTH CAROLINA ST PUB SVCS AUTH REV	SC	AA	97	0.9%	3,011	2,795	216	12.9	76	0.8	1.1	1.4	2.0	3.2
9	DISTRICT COLUMBIA REV	DC	N/R	72	0.4%	1,382	1,274	108	11.8	38	0.9	2.8	1.6	5.6	7.3
10	IMPERIAL CALIF IRR DIST ELEC REV	CA	B	36	0.2%	583	534	49	10.9	18	0.6	1.2		1.7	3.1
11	OHIO ST HIGHER EDL FAC COMMREV	OH	C	38	0.1%	400	363	37	9.8	11	0.8	1.1	1.4	2.2	3.1
12	METROPOLITAN TRANSN AUTH N Y REV (FOR ISSUES DTD PRIOR TO 12/17/15 SEE 59259Y)	NY	AA	28	0.2%	549	492	57	8.6	17		0.5	1.4	0.4	2.9
13	DISTRICT COLUMBIA WTR & SWR AUTH PUB UTIL REV	DC	AA	45	0.1%	381	341	40	8.5	11	0.8	1.0	1.3	2.0	3.3
14	ELIDA OHIO LOC SCH DIST	OH	B	12	0.1%	443	394	49	8.0	10				2.4	3.1
15	CANONSBURG-HOUSTON PA JT AUTHSWR REV	PA	C	15	0.1%	425	375	50	7.5	10		1.2	1.5		3.1
16	MISSOURI ST HEALTH & EDL FACS AUTH EDL FACS REV	MO	AA	35	0.1%	361	310	51	6.1	7		0.8	1.6	2.2	2.7
17	MICHIGAN FIN AUTH REV	MI	AA	137	0.4%	1,162	997	165	6.0	30	0.8	1.1	1.2	3.1	3.3
18	KANSAS ST DEV FIN AUTH REV	KS	AA	171	0.3%	991	828	163	5.1	24	1.0	1.1	1.4	2.0	3.3
19	TRIBOROUGH BRDG & TUNL AUTH NY REVS	NY	AA	164	0.4%	1,245	1,037	208	5.0	41	0.7	0.8	1.2	1.8	3.0
20	SPRINGFIELD ILL ELEC REV	IL	AA	26	0.1%	365	303	62	4.9	12	1.3	1.3	0.8	0.8	3.5

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

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-The top 20 issues are selected among the top 100 most active issues in odd-lot MSRB.

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Municipal Bonds: Top 20 Issues with Lowest Buy/Sell Ratio

January 2016

Index	Issue	State	Rating Key (Med)	Issues Traded	% of Total Trades	Trades	Trades (Buy)	Trades (Sell)	Buy/Sell Ratio	Vol. Traded (MM)	1Y Yield (Buy)	3Y Yield (Buy)	5Y Yield (Buy)	10Y Yield (Buy)	20Y Yield (Buy)
1	PUERTO RICO COMWLTH AQUEDUCT & SWR AUTH REV	PR	C	24	0.1%	341	85	256	0.3	8		24.5		5.0	9.8
2	PUERTO RICO COMWLTH INFRASTRUCTURE FING AUTH SPL TAX REV	PR	C	48	0.2%	537	190	347	0.5	9	5.7	6.1	1.9	5.9	8.3
3	PUERTO RICO COMWLTH	PR	C	228	0.6%	1,858	668	1,190	0.6	38	4.2	5.2	4.9	5.1	5.9
4	PUERTO RICO PUB BLDGS AUTH REV GTD	PR	C	81	0.2%	524	204	320	0.6	10	5.7	5.4	5.9	5.4	7.3
5	PUERTO RICO COMWLTH HWY & TRANSN AUTH TRANSN REV	PR	A	95	0.3%	1,022	434	588	0.7	21	5.0	5.4	4.6	5.3	5.5
6	PUERTO RICO ELEC PWR AUTH PWRREV	PR	BB	131	0.3%	820	331	489	0.7	17	4.6	4.4	5.1	5.2	5.5
7	PUERTO RICO COMWLTH HWY & TRANSN AUTH HWY REV	PR	AA	46	0.1%	365	167	198	0.8	10	1.3	1.1	4.1	5.1	5.2
8	PUERTO RICO SALES TAX FING CORP SALES TAX REV	PR	C	82	0.2%	593	285	308	0.9	10	16.3	42.9	27.3	16.3	14.2
9	ENERGY NORTHWEST WASH ELEC REV	WA	AA	102	0.1%	428	215	213	1.0	13	0.8	1.0	1.3	1.6	2.9
10	MICHIGAN ST BLDG AUTH REV	MI	AA	92	0.1%	357	180	177	1.0	7	0.9	1.0	1.0	1.4	1.2
11	MIAMI-DADE CNTY FLA SCH BRD CTFES PARTN	FL	AA	93	0.1%	369	194	175	1.1	11	0.9	1.0	1.0	1.0	1.7
12	HAWAII ST	HI	AA	138	0.1%	441	238	203	1.2	14	0.7	1.1	1.2	1.3	2.2
13	LOS ANGELES CALIF UNI SCH DIST	CA	AA	153	0.2%	582	318	264	1.2	19	0.7	0.7	1.1	1.0	1.1
14	OHIO STATE	OH	AA	166	0.1%	458	254	204	1.2	15	0.7	1.0	1.2	1.6	2.3
15	VIRGINIA COLLEGE BLDG AUTH VAEDL FACS REV	VA	AA	131	0.1%	393	215	178	1.2	12	0.8	1.0	1.2	1.6	2.6
16	WASHINGTON ST HEALTH CARE FACS AUTH REV	WA	AA	117	0.1%	471	259	212	1.2	11	0.7	1.2	1.6	1.8	2.7
17	WISCONSIN ST	WI	AA	140	0.1%	479	262	217	1.2	16	0.7	1.0	1.1	1.5	2.1
18	CALIFORNIA ST	CA	AA	458	0.8%	2,675	1,526	1,149	1.3	86	0.7	0.9	1.0	1.0	1.2
19	DALLAS FORT WORTH TEX INTL ARPT REV	TX	A	104	0.1%	426	243	183	1.3	13	0.8	1.2	1.4	1.8	2.6
20	INDIANA ST FIN AUTH REV	IN	AA	140	0.1%	409	228	181	1.3	12	0.8	1.3	1.2	1.7	2.2

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

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Municipal Bonds: Top 20 Most Bought Issues

January 2016

Index	Issue	State	Rating Key (Med)	Issues Traded	% of Total Trades	Trades	Trades (Buy)	Trades (Sell)	Buy/Sell Ratio	Vol. Traded (MM)	1Y Yield (Buy)	3Y Yield (Buy)	5Y Yield (Buy)	10Y Yield (Buy)	20Y Yield (Buy)
1	SOUTH CAROLINA ST PUB SVCS AUTH REV	SC	AA	97	0.9%	3,011	2,795	216	12.9	76	0.8	1.1	1.4	2.0	3.2
2	NEW JERSEY ST TRANSN TR FD AUTH	NJ	A	199	1.0%	3,161	2,394	767	3.1	91	1.1	2.2	2.5	3.3	3.7
3	ILLINOIS ST	IL	AA	302	0.9%	2,862	2,064	798	2.6	80	1.6	2.6	3.0	3.2	3.9
4	MASSACHUSETTS ST	MA	AA	246	0.6%	1,930	1,564	366	4.3	63	0.7	1.0	1.2	1.6	3.3
5	CALIFORNIA ST	CA	AA	458	0.8%	2,675	1,526	1,149	1.3	86	0.7	0.9	1.0	1.0	1.2
6	NEW YORK N Y	NY	AA	657	0.8%	2,538	1,463	1,075	1.4	80	0.7	1.0	1.3	1.5	2.5
7	PORT AUTH N Y & N J	NY	AA	262	0.6%	1,963	1,453	510	2.8	55	0.8	1.1	1.1	1.7	2.3
8	NEW YORK ST DORM AUTH REVS NON ST SUPPORTED DEBT	NY	A	506	0.6%	1,960	1,287	673	1.9	59	0.8	1.1	1.4	1.9	2.8
9	DISTRICT COLUMBIA REV	DC	N/R	72	0.4%	1,382	1,274	108	11.8	38	0.9	2.8	1.6	5.6	7.3
10	INDIANA FIN AUTH HEALTH SYS REV	IN	B	18	0.4%	1,263	1,238	25	49.5	30	0.8	1.2		2.4	3.3
11	EAST CAROLINA UNIV N C UNIV REV FORMERLY EAST CAROLINA COLLEGE	NC	AA	31	0.4%	1,157	1,146	11	104.2	26			1.3	1.9	3.2
12	NEW YORK N Y CITY MUN WTR FINAUTH WTR & SWR SYS REV	NY	AA	185	0.5%	1,553	1,126	427	2.6	52	1.0	1.0	1.1	1.8	1.5
13	NEW YORK N Y CITY TRANSITIONAL FIN AUTH REV	NY	AA	444	0.5%	1,757	1,123	634	1.8	60	0.6	1.0	1.3	1.7	2.5
14	TRIBOROUGH BRDG & TUNL AUTH NY REVS	NY	AA	164	0.4%	1,245	1,037	208	5.0	41	0.7	0.8	1.2	1.8	3.0
15	JACKSONVILLE FLA TRANS REV	FL	AA	18	0.3%	1,035	1,000	35	28.6	28	0.6		1.4	1.3	3.2
16	MICHIGAN FIN AUTH REV	MI	AA	137	0.4%	1,162	997	165	6.0	30	0.8	1.1	1.2	3.1	3.3
17	CALIFORNIA ST FOR PREVIOUS ISSUES SEE 13063B	CA	AA	203	0.4%	1,369	993	376	2.6	51		1.0	1.3	1.7	2.6
18	PENNSYLVANIA ST	PA	AA	165	0.4%	1,217	939	278	3.4	46	0.9	1.1	1.4	2.3	2.6
19	NEW YORK ST DORM AUTH ST PERSINCOME TAX REV	NY	AA	336	0.5%	1,490	934	556	1.7	52	0.7	1.0	1.2	1.6	2.3
20	CONNECTICUT ST	CT	AA	275	0.4%	1,253	904	349	2.6	47	0.8	1.1	1.3	1.9	2.7

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

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Municipal Bonds: Top 20 Most Sold Issues

January 2016

Index	Issue	State	Rating Key (Med)	Issues Traded	% of Total Trades	Trades	Trades (Buy)	Trades (Sell)	Buy/Sell Ratio	Vol. Traded (MM)	1Y Yield (Buy)	3Y Yield (Buy)	5Y Yield (Buy)	10Y Yield (Buy)	20Y Yield (Buy)
1	PUERTO RICO COMWLTH	PR	C	228	0.6%	1,858	668	1,190	0.6	38	4.2	5.2	4.9	5.1	5.9
2	CALIFORNIA ST	CA	AA	458	0.8%	2,675	1,526	1,149	1.3	86	0.7	0.9	1.0	1.0	1.2
3	NEW YORK N Y	NY	AA	657	0.8%	2,538	1,463	1,075	1.4	80	0.7	1.0	1.3	1.5	2.5
4	ILLINOIS ST	IL	AA	302	0.9%	2,862	2,064	798	2.6	80	1.6	2.6	3.0	3.2	3.9
5	NEW JERSEY ST TRANSN TR FD AUTH	NJ	A	199	1.0%	3,161	2,394	767	3.1	91	1.1	2.2	2.5	3.3	3.7
6	NEW YORK ST DORM AUTH REVS NON ST SUPPORTED DEBT	NY	A	506	0.6%	1,960	1,287	673	1.9	59	0.8	1.1	1.4	1.9	2.8
7	NEW YORK N Y CITY TRANSITIONAL FIN AUTH REV	NY	AA	444	0.5%	1,757	1,123	634	1.8	60	0.6	1.0	1.3	1.7	2.5
8	PUERTO RICO COMWLTH HWY & TRANSN AUTH TRANSN REV	PR	A	95	0.3%	1,022	434	588	0.7	21	5.0	5.4	4.6	5.3	5.5
9	NEW YORK ST DORM AUTH ST PERSINCOME TAX REV	NY	AA	336	0.5%	1,490	934	556	1.7	52	0.7	1.0	1.2	1.6	2.3
10	CHICAGO ILL BRD ED	IL	A	135	0.4%	1,302	764	538	1.4	34	1.4	3.2	4.2	3.5	5.3
11	PORT AUTH N Y & N J	NY	AA	262	0.6%	1,963	1,453	510	2.8	55	0.8	1.1	1.1	1.7	2.3
12	METROPOLITAN TRANSN AUTH N Y REV FOR ISSUES DTD PRIOR TO	NY	AA	266	0.4%	1,317	820	497	1.6	44	0.7	1.0	1.4	1.8	2.5
13	PUERTO RICO ELEC PWR AUTH PWRREV	PR	BB	131	0.3%	820	331	489	0.7	17	4.6	4.4	5.1	5.2	5.5
14	CHICAGO ILL	IL	BBB	234	0.4%	1,195	708	487	1.5	31	2.4	2.0	4.0	3.0	4.8
15	ST JOHN BAPTIST PARISH LA REV	LA	BBB	1	0.4%	1,177	699	478	1.5	34					4.5
16	WASHINGTON ST	WA	AA	328	0.4%	1,166	695	471	1.5	36	0.8	1.0	1.1	1.2	2.5
17	ILLINOIS FIN AUTH REV	IL	AA	273	0.3%	1,061	632	429	1.5	24	0.9	1.4	3.4	2.0	1.8
18	NEW YORK N Y CITY MUN WTR FINAUTH WTR & SWR SYS REV	NY	AA	185	0.5%	1,553	1,126	427	2.6	52	1.0	1.0	1.1	1.8	1.5
19	NEW JERSEY ECONOMIC DEV AUTH REV	NJ	A	166	0.4%	1,232	835	397	2.1	37	0.8	2.2	2.5	3.3	3.7
20	CALIFORNIA ST FOR PREVIOUS ISSUES SEE 13063B	CA	AA	203	0.4%	1,369	993	376	2.6	51		1.0	1.3	1.7	2.6

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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

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.

Fixed income securities are subject to increased loss of principal during periods of rising interest rates. Fixed-income investments are subject to various risks including changes in credit quality, market valuations, liquidity, prepayments, early redemption, corporate events, tax ramifications and other factors. Defaults on interest payments and/or principal may also occur. Projections, results and assumptions contained herein reflect past performance of the referenced securities and asset classes. Past performance is no guarantee of future results. The investment return and principal value of an investment will fluctuate such that an investment, if and when redeemed, may be worth more or less than its original cost.

This information is intended for general informational purposes only, and should not be used as the sole basis for any investment decisions. None of the information in the report constitutes an offer or solicitation to buy or sell any security or financial product, a recommendation concerning any security, financial product or asset class, or an offer to provide investment advice or any other service. Where appropriate, please consult with a qualified financial and tax professional.