

Market Transparency Report

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

January 2017

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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 2017

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	3	-2.3%	0.0
CD	0	14.4%	1.4
Corp	-4	10.2%	0.3
Municipal	-32	-11.2%	0.0
Treasury	-22	-3.7%	-0.3

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

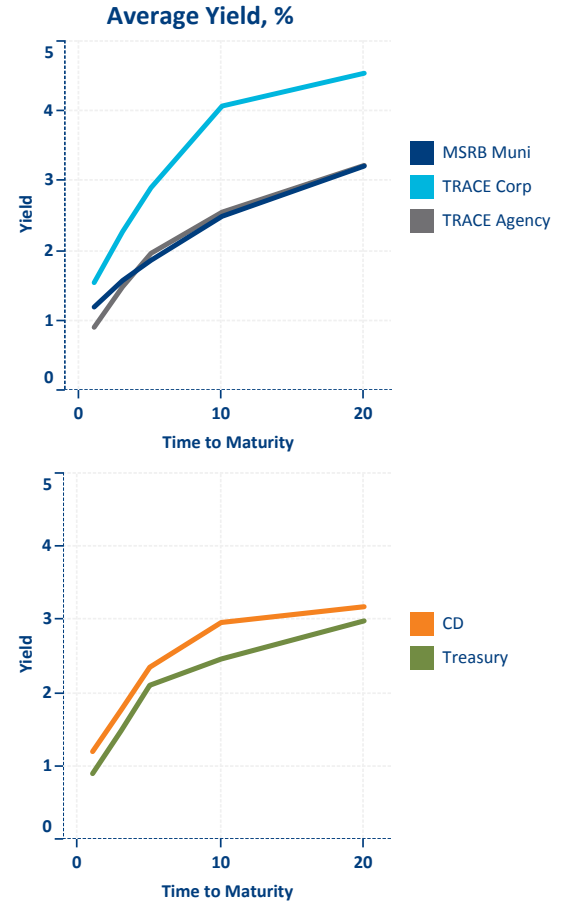
Yield Matrix

Average Yield, % for January 2017

Market	TTM					Median Maturity (Years)
	1	3	5	10	20	
MSRB Muni	1.2	1.6	1.9	2.5	3.2	13
TRACE Corp	1.6	2.3	2.9	4.1	4.6	4
TRACE Agency	0.9	1.5	2.0	2.6	3.2	3
CD	1.2	1.8	2.4	3.0	3.2	1
Treasury	0.9	1.5	2.1	2.5	3.0	0

Asset Class

Market	Category (Filtered)	Rating Key	1	3	5	10	20	Median Maturity (Years)
TRACE Corp	Financial	AA	1.4	2.0	2.4	3.4		3
		A	1.4	2.1	2.7	3.6	4.3	4
		BBB	1.6	2.5	3.3	4.0	4.5	5
		HY	2.2	3.1	4.3	4.4	7.5	3
	Non-Financial	AAA	1.7	2.0		3.9		4
		AA	1.3	1.8	2.2	3.8	4.0	3
		A	1.4	2.1	2.5	3.3	4.3	1
		BBB	1.7	2.6	3.2	4.5	5.9	6
		HY	5.8	5.2	5.6	8.0	9.5	9
MSRB Muni	GO	AAA	1.0	1.3	1.6	2.2	3.0	10
		AA	1.1	1.4	1.8	2.4	3.2	11
		A	1.2	1.6	2.0	2.6	3.6	12
		BBB	2.0	2.8	3.8	4.5	5.0	14
	Revenue	HY	32.9	3.4	3.5	4.5	4.6	7
		AAA	1.1	1.4	1.7	2.2	2.9	10
		AA	1.1	1.5	1.8	2.3	3.0	14
		A	1.2	1.7	2.0	2.6	3.3	18
		BBB	1.8	2.3	2.6	3.5	3.8	19
		HY	9.0	25.6	12.9	10.6	7.8	15



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.

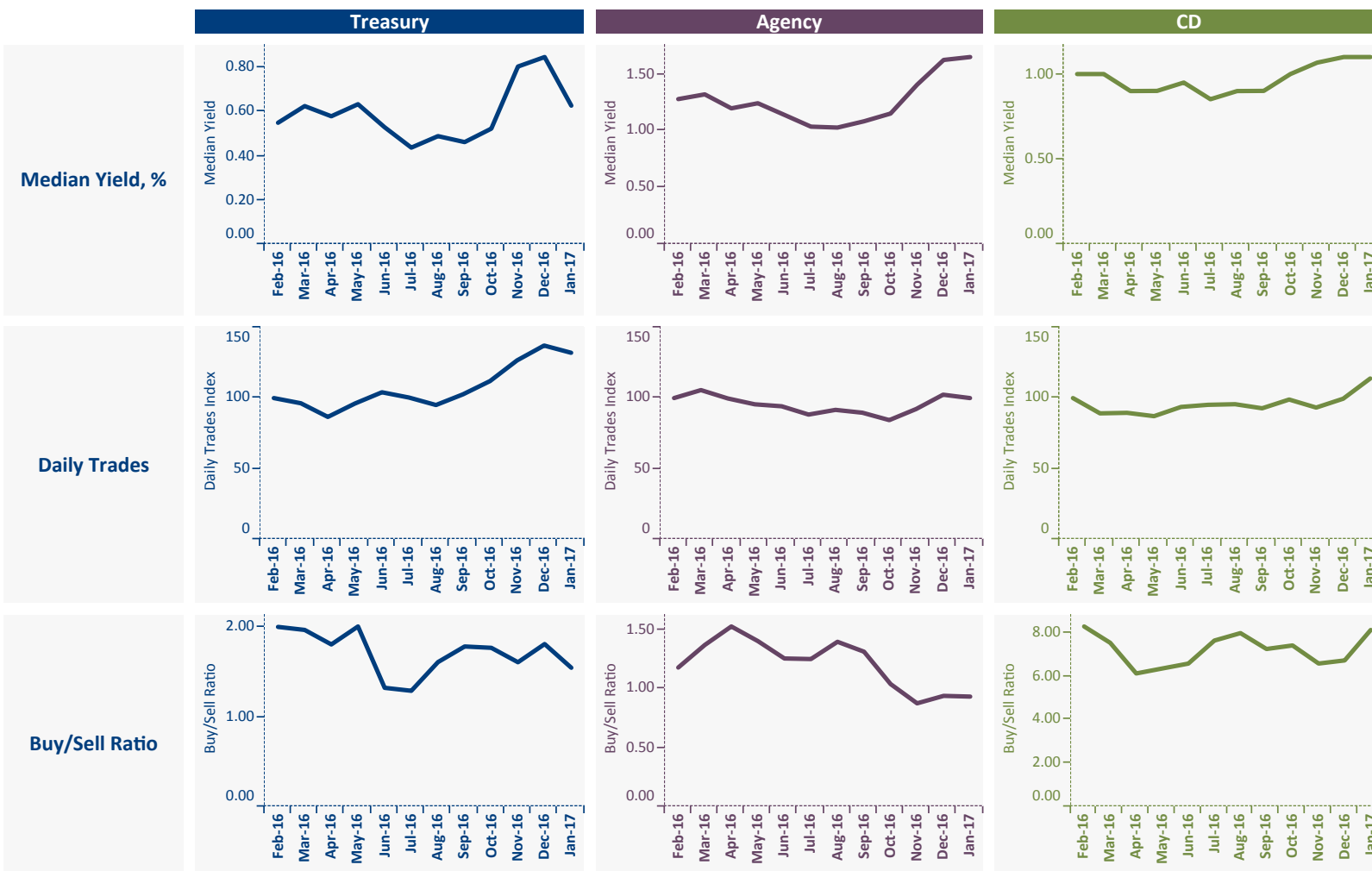
-The weights are based on transaction size.

-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



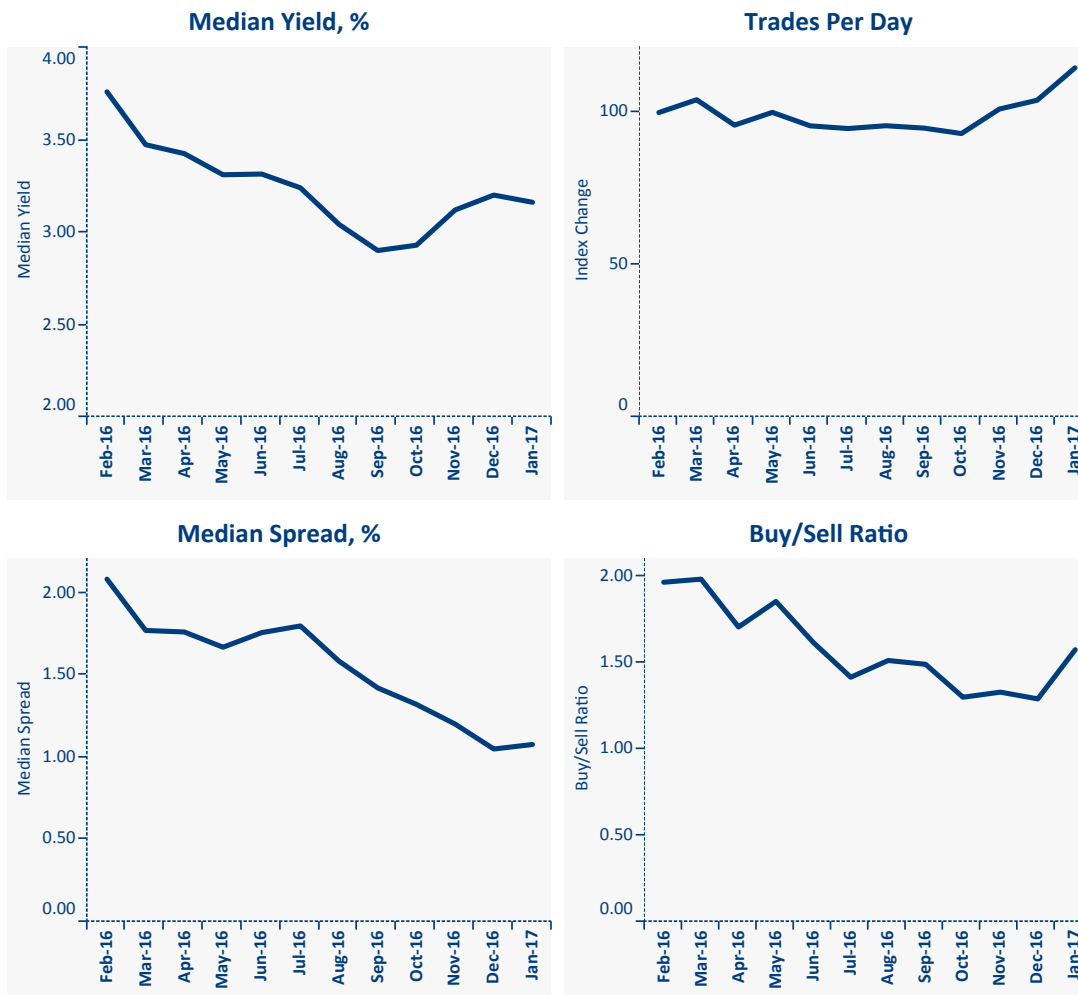
Daily Trades: First month = 100

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



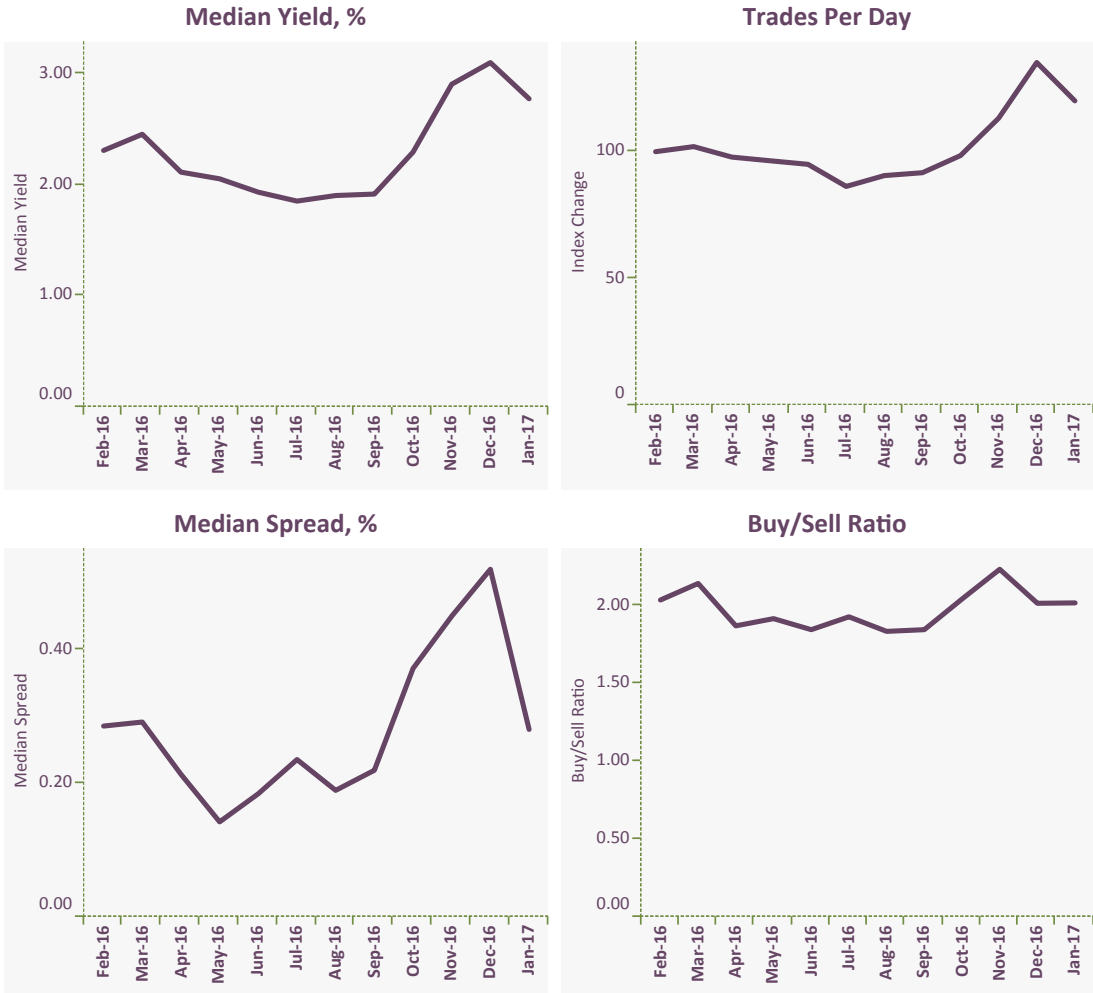
Daily Trades: First month = 100

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

January 2017

Index	Ticker	Comany	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	467	3.3%	15,352	2.0	331	1.5	2.2	2.8	3.6	4.0
2	GS	GOLDMAN SACHS	BBB	824	3.3%	15,193	1.7	317	1.7	2.2	2.9	3.7	4.7
3	BAC	BANK OF AMERICA	BBB	487	3.3%	14,987	1.6	281	1.6	2.3	3.1	3.9	4.1
4	C	CITIGROUP	BBB	331	3.0%	13,882	3.0	286	1.5	2.5	2.9	4.1	4.1
5	T	AT&T	BBB	79	2.5%	11,684	2.6	224	1.5	2.4	3.0	3.8	4.7
6	WFC	WELLS FARGO	A	217	2.3%	10,759	2.3	242	1.5	2.3	2.7	3.6	4.3
7	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	AA	385	2.3%	10,562	1.2	195	1.3	2.1	2.6	3.5	4.0
8	MS	MORGAN STANLEY	BBB	673	1.8%	8,357	1.5	194	1.6	2.1	2.9	3.8	4.2
9	VZ	VERIZON	BBB	65	1.2%	5,674	1.3	108	1.2	2.3	2.8	3.5	4.5
10	AAPL	APPLE INC	AA	35	1.2%	5,381	1.5	103	1.2	1.6	2.3	3.1	3.8
11	BRK	BERKSHIRE HATHAWAY	A	160	1.1%	4,948	1.7	111	1.5	2.1	2.6	3.7	4.1
12	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	A	44	1.1%	4,896	1.6	83	1.3	1.8	2.5	3.5	4.3
13	AXP	AMERICAN EXPRESS	BBB	33	1.0%	4,531	2.5	77	1.5	1.9	2.6	3.3	4.9
14	RIG	TRANSOCEAN INC	B	14	1.0%	4,393	1.5	73	3.9		6.9	9.0	8.9
15	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	38	0.9%	4,269	4.7	106	1.9	2.6	3.3	4.1	5.0
16	CTL	CENTURYLINK	BB	32	0.8%	3,781	1.9	85		3.3	4.5	7.2	7.3
17	PBR	PETROBRAS	B	15	0.7%	3,415	1.5	128		3.5	5.4	6.9	
18	F	FORD	BBB	174	0.7%	3,368	2.2	77	1.6	2.3	3.0	4.1	
19	HBC	HSBC	N/R	498	0.7%	3,281	1.4	67	1.3	3.2	3.0	4.1	4.4
20	PEMX	PETROLEOS MEXICANOS	BBB	43	0.7%	3,267	3.0	107	2.6	3.7	4.8	5.6	6.9

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 2017

Index	Ticker	Comany	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	HTZ	HERTZ CORP	B	7	0.4%	1,694	1,585	109	14.5	36	3.1	6.8	7.4	6.9	
2	FITB	FIFTH THIRD BANCORP	BBB	17	0.5%	2,110	1,927	183	10.5	19	1.9	2.3	2.7	3.7	5.0
3	KEY	KEYCORP MEDIUM TERM SR NTS BOOK ENTRY	BBB	17	0.2%	1,139	940	199	4.7	22	1.6	2.4	2.6	3.5	
4	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	38	0.9%	4,269	3,520	749	4.7	106	1.9	2.6	3.3	4.1	5.0
5	PBI	PITNEY BOWES	BBB	7	0.3%	1,226	992	234	4.2	24	1.9	2.4	3.7		5.2
6	RCII	RENT A CTR INC NEW	B	2	0.3%	1,207	975	232	4.2	16		11.4	9.2		
7	VIA	VIACOM INC NEW	BBB	35	0.6%	2,613	2,104	509	4.1	56	1.4	2.4	3.4	3.8	5.8
8	SO	GEORGIA POWER CO	BBB	63	0.4%	1,912	1,502	410	3.7	42	1.6	2.1	2.7	3.5	5.0
9	KSS	KOHL'S CORP	BBB	8	0.4%	1,861	1,433	428	3.4	39			3.3	4.7	6.8
10	ABT	ABBOTT LABS	BBB	15	0.3%	1,235	949	286	3.3	31		2.2	2.9	3.7	4.6
11	ABBV	ABBVIE INC	BBB	14	0.4%	1,782	1,349	433	3.1	36	1.6	2.3	3.1	3.7	4.5
12	C	CITIGROUP	BBB	331	3.0%	13,882	10,411	3,471	3.0	286	1.5	2.5	2.9	4.1	4.1
13	PEMX	PETROLEOS MEXICANOS	BBB	43	0.7%	3,267	2,440	827	3.0	107	2.6	3.7	4.8	5.6	6.9
14	FTR	FRONTIER COMMUNICATIONS CORP	B	25	0.6%	2,728	2,031	697	2.9	58		6.0	8.3	10.3	10.3
15	XRX	XEROX CORP	BBB	13	0.3%	1,463	1,082	381	2.8	30	2.1	2.7	3.3		6.4
16	TEVA	TEVA PHARMACEUTICAL FIN CO B V	BBB	12	0.3%	1,427	1,043	384	2.7	32	1.8	2.3	3.2	4.1	5.0
17	T	AT&T	BBB	79	2.5%	11,684	8,453	3,231	2.6	224	1.5	2.4	3.0	3.8	4.7
18	AMGN	AMGEN INC	A	31	0.4%	1,996	1,436	560	2.6	43	1.5	1.9	2.7	3.4	4.6
19	TWX	TIME WARNER	BBB	30	0.3%	1,491	1,063	428	2.5	27	1.4	2.4	3.0	3.7	4.8
20	TD	TORONTO DOMINION BK SR MEDIUM TERM BK NT	AA	44	0.2%	1,097	781	316	2.5	27	1.5	1.9	2.5	3.1	

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 2017

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	SFTBF	SPRINT	B	15	0.3%	1,316	262	1,054	0.25	35	2.5	4.6	5.7	6.7	7.2
2	NWL	NEWELL RUBBERMAID INC	BBB	16	0.2%	1,102	270	832	0.32	15	1.9	2.3	2.8	3.7	4.4
3	ESV	ENSCO PLC	BB	9	0.3%	1,176	334	842	0.40	21		4.8	5.6	7.2	8.8
4	BCS	BARCLAYS	N/R	446	0.3%	1,602	555	1,047	0.53	24	3.0	3.5	5.5	4.5	4.1
5	ETP	ENERGY TRANSFER PARTNERS L P	BBB	28	0.3%	1,435	510	925	0.55	32	2.4	3.0	3.4	4.2	5.6
6	FCX	FREEMPORT-MCMORAN COPPER & GOLD INC	B	19	0.3%	1,430	529	901	0.59	33	2.6	3.8	4.6	5.3	6.6
7	PTRB	PETROBRAS	B	9	0.3%	1,604	631	973	0.65	55	2.9	4.9			7.9
8	DELL	DELL	BB	9	0.3%	1,261	504	757	0.67	32	2.6	3.5	4.0	6.5	7.0
9	MRO	MARATHON OIL CORP	BBB	20	0.3%	1,474	605	869	0.70	28		3.0	3.5	4.1	5.7
10	CS	CREDIT SUISSE	N/R	375	0.4%	1,814	816	998	0.82	37	2.3	2.8	3.6	3.5	
11	KMI	KINDER MORGAN ENERGY PARTNERS L P	BBB	72	0.5%	2,108	951	1,157	0.82	40	2.0	2.7	3.4	3.9	5.6
12	INTC	INTEL CORP	A	18	0.3%	1,222	560	662	0.85	28	1.3	2.0	2.5	3.0	3.7
13	VALE	VALE OVERSEAS LTD	BB	10	0.3%	1,265	607	658	0.92	44		3.6	4.4	5.4	6.8
14	ACT	ALLERGAN	BBB	16	0.3%	1,242	603	639	0.94	19	1.8	2.5	3.3	3.8	4.7
15	RY	ROYAL BANK OF CANADA	AA	264	0.5%	2,146	1,094	1,052	1.04	38	1.7	2.2	2.2	3.8	4.1
16	USB	U S BANCORP MEDIUM TERM NTS- BOOK ENTRY	A	23	0.3%	1,520	776	744	1.04	31	1.6	2.0	2.8	3.3	
17	WMT	WAL-MART	AA	24	0.3%	1,419	742	677	1.10	33	1.4	2.0	2.2	3.2	4.0
18	LTD	LIMITED BRANDS INC	BB	9	0.4%	1,640	862	778	1.11	28		2.6	4.1		7.1
19	CSCO	CISCO	AA	27	0.4%	1,971	1,042	929	1.12	36	1.4	1.7	2.4	3.1	4.0
20	BP	BP	A	35	0.3%	1,586	847	739	1.15	38	1.7	2.2	2.9	3.4	

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 2017

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	RIG	TRANSOCEAN INC	Apr-31	B	7.500	1,979	280	2,259	26	9.1	9.1	87.7	87.5
2	AXP	AMERICAN EXPRESS	Dec-49	BBB	5.200	1,787	94	1,881	13			101.0	100.1
3	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Dec-49	A	5.000	1,529	584	2,113	19			104.3	104.0
4	FITB	FIFTH THIRD BANCORP	Sep-49	BBB	4.900	1,510	28	1,538	8			96.9	96.1
5	BAC	BANK OF AMERICA	May-49	BB	8.125	1,433	197	1,630	13			104.4	103.8
6	C	CITIGROUP	Dec-49	BB	6.125	1,076	123	1,199	14			104.6	104.7
7	C	CITIGROUP	Oct-20	BBB	2.650	959	54	1,013	13	2.6	2.6	100.4	100.1
8	RCII	RENT A CTR INC NEW	Nov-20	B	6.625	834	174	1,008	13	11.4	11.6	85.6	85.0
9	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	Feb-19	A	2.150	823	558	1,381	6	1.7	1.8	100.8	100.7
10	JPM	JP MORGAN CHASE	May-49	BBB	5.150	809	141	950	20			98.3	96.8
11	T	AT&T	Jun-22	BBB	3.000	797	105	902	20	3.1	3.3	99.6	98.6
12	T	AT&T	Feb-22	BBB	3.000	768	450	1,218	14	3.1	3.2	99.5	99.1
13	F	FORD	Dec-26	BBB	4.346	757	98	855	19	4.1	4.2	101.6	101.1
14	HTZ	HERTZ CORP	Oct-22	B	6.250	719	26	745	15	7.4	8.1	94.5	91.7
15	KEY	KEYCORP MEDIUM TERM SR NTS BOOK ENTRY	Dec-49	BBB	5.000	718	41	759	14			95.9	93.7
16	SCHW	SCHWAB CHARLES CORP NEW	Dec-49	BBB	4.625	675	22	697	12			96.4	95.6
17	MCD	MCDONALDS	Dec-20	BBB	2.750	595	129	724	11	2.3	2.4	101.6	101.3
18	T	AT&T	Jun-20	BBB	2.450	584	99	683	14	2.5	2.6	99.8	99.4
19	STX	SEAGATE HDD CAYMAN	Dec-34	BBB	5.750	583	396	979	23	6.8	7.0	89.0	87.5
20	SO	GEORGIA POWER CO	Mar-57	BBB	5.500	579	7	586	12			103.0	101.7

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 2017

Index	Ticker	Comany	Maturity	Rating Key (Med)	Coupon	Trades (Buy)	Trades (Sell)	Trades	Dollar Vol. Traded (MM)	Yield (Buy)	Yield (Sell)	Price (Buy)	Price (Sell)
1	NWL	NEWELL RUBBERMAID INC	Apr-26	BBB	4.200	35	688	723	6	3.7	3.7	104.1	103.8
2	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Dec-49	A	5.000	1,529	584	2,113	19			104.3	104.0
3	LTD	LIMITED BRANDS INC	Jun-19	BB	8.500	9	566	575	9	2.6	2.6	113.5	113.6
4	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	Feb-19	A	2.150	823	558	1,381	6	1.7	1.8	100.8	100.7
5	ETP	ENERGY TRANSFER PARTNERS L P	Nov-66	BB	3.903	144	515	659	15			84.3	83.6
6	VZ	VERIZON	Sep-23	BBB	5.150	399	511	910	20	3.3	3.4	110.8	110.5
7	T	AT&T	Feb-22	BBB	3.000	768	450	1,218	14	3.1	3.2	99.5	99.1
8	ESV	ENSCO PLC	Aug-20	BB	6.875	6	400	406	4	4.5	4.8	107.6	106.6
9	STX	SEAGATE HDD CAYMAN	Dec-34	BBB	5.750	583	396	979	23	6.8	7.0	89.0	87.5
10	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Jan-38	AA	5.875	72	381	453	7	4.0	4.0	127.1	126.2
11	HPQ	HEWLETT PACKARD	Sep-41	BBB	6.000	301	376	677	17	5.8	5.9	102.8	101.3
12	MRO	MARATHON OIL CORP	Jun-45	BBB	5.200	29	354	383	5	5.3	5.3	99.0	98.0
13	PTRB	PETROBRAS	Jan-21	B	5.375	291	350	641	22	5.1	5.3	100.9	100.4
14	ESRX	EXPRESS SCRIPTS HLDG CO	Mar-27	BBB	3.400	374	347	721	5	4.1	4.1	94.3	93.9
15	RIG	TRANSOCEAN INC	Dec-21	B	8.125	89	345	434	10	6.7		103.8	102.4
16	AAPL	APPLE INC	May-23	AA	2.400	542	339	881	17	2.7	2.8	98.1	97.8
17	GILD	GILEAD SCIENCES INC	Feb-25	A	3.500	284	335	619	4	3.3	3.4	101.1	101.0
18	VZ	VERIZON	Nov-24	BBB	3.500	450	321	771	8	3.5	3.5	100.2	99.9
19	TGB	TASEKO MINES LTD	Apr-19	C	7.750	92	319	411	4	15.6	14.8	85.5	87.1
20	JPM	JP MORGAN CHASE	Apr-49	BBB	7.900	421	316	737	16			104.3	103.6

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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