

Market Transparency Report

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

January 2019

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 2019

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	-16	5.6%	0.4
CD	-17	3.3%	2.8
Corp	-15	5.8%	0.4
Municipal	-16	-0.2%	0.2
Treasury	-2	10.8%	0.6

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

Yield Matrix

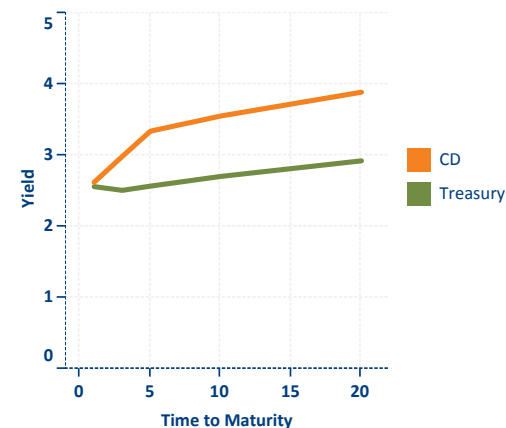
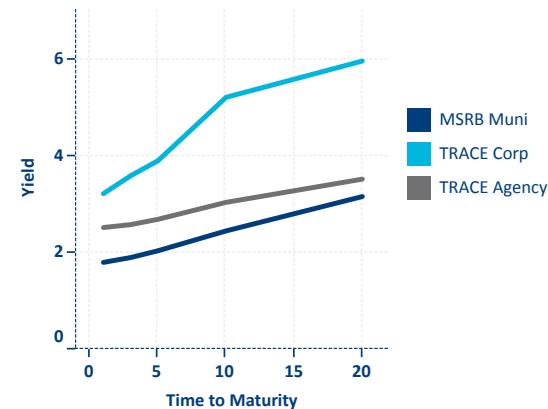
Average Yield, % for January 2019

Market	TTM					Median Maturity (Years)
	1	3	5	10	20	
MSRB Muni	1.8	1.9	2.0	2.5	3.2	11
TRACE Corp	3.2	3.6	3.9	5.2	6.0	3
TRACE Agency	2.5	2.6	2.7	3.0	3.5	2
CD	2.6	3.0	3.4	3.6	3.9	1
Treasury	2.6	2.5	2.6	2.7	2.9	0

Asset Class

Market	Category (Filtered)	Rating Key	TTM					Median Maturity (Years)
			1	3	5	10	20	
TRACE Corp	Financial	AA	2.7	2.9	3.3			2
		A	2.9	3.2	3.5	3.9	4.6	3
		BBB	4.0	4.2	4.3	5.0	6.0	4
		HY	3.4	4.3	4.5	8.8	7.3	4
	Non-Financial	AAA		2.3	2.8	3.3	3.9	2
		AA	2.7	2.9	3.7	3.6	4.1	1
		A	2.7	3.0	3.1	3.9	4.4	3
		BBB	3.4	4.6	4.8	5.9	6.4	5
		HY	12.0	4.8	9.1	10.3	17.5	8
MSRB Muni	GO		1	3	5	10	20	Median Maturity (Years)
		AAA	1.7	1.8	1.9	2.3	3.1	9
		AA	1.7	1.8	2.0	2.4	3.2	10
		A	1.8	2.0	2.3	2.7	3.3	8
	Revenue	BBB	2.9	2.9	3.1	3.6	4.1	10
		HY	4.4	3.1	7.1	4.2	5.0	5
		AAA	1.8	1.8	1.9	2.3	2.9	9
		AA	1.8	1.9	2.0	2.4	3.0	12
		A	1.9	2.0	2.2	2.6	3.2	14
		BBB	2.3	2.6	2.7	3.2	3.9	17
		HY	4.2	5.8	5.3	5.7	6.0	12

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.

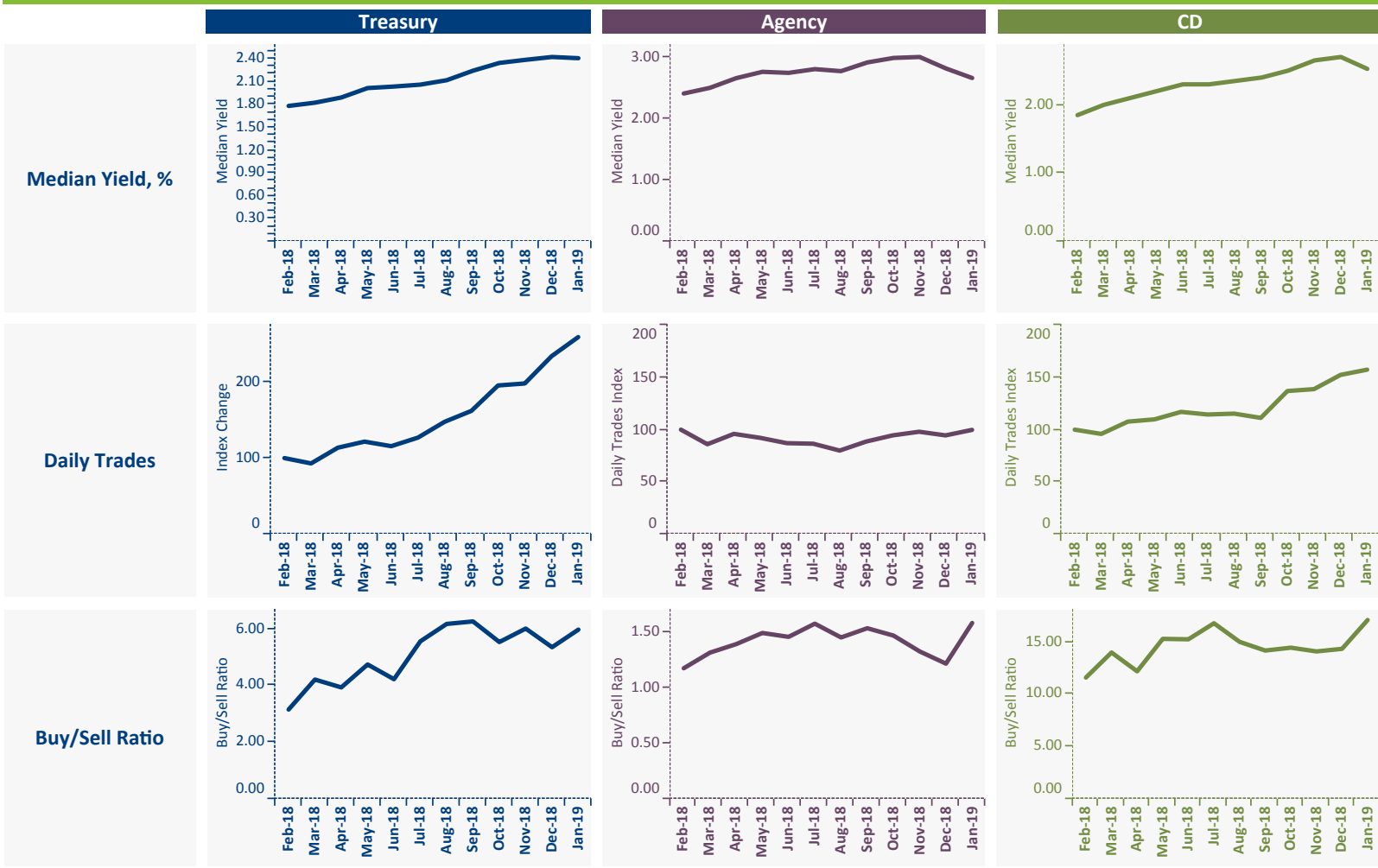
-The weights are based on transaction size.

-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



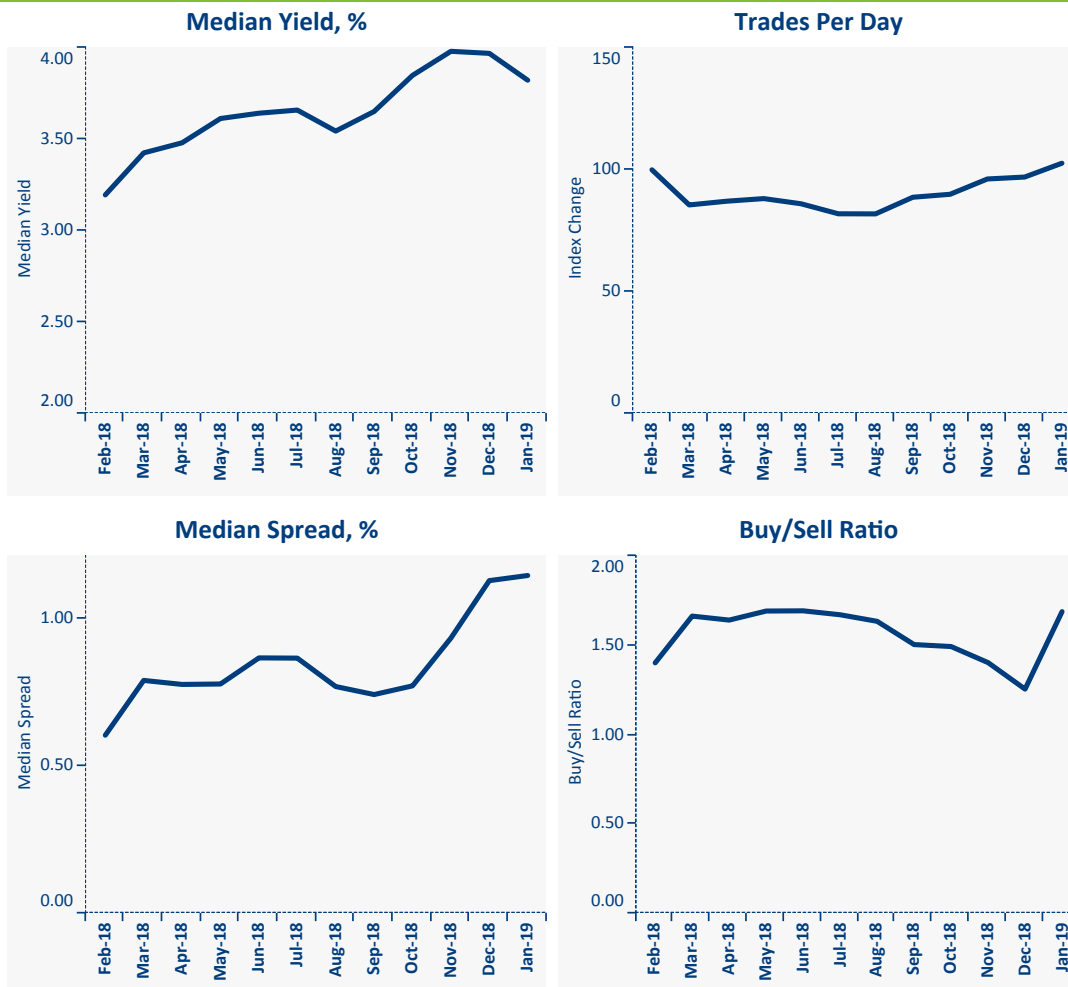
Daily Trades: First month = 100

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.

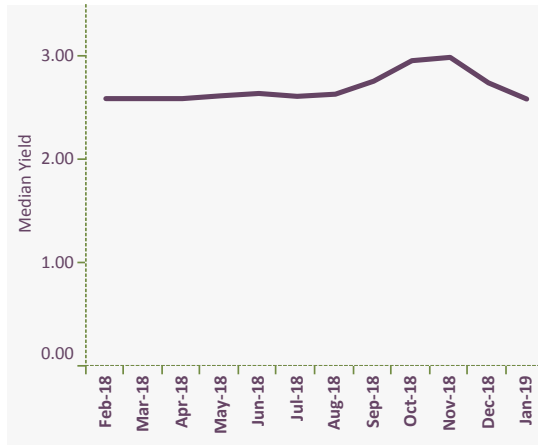
-Median yields and spreads are based on all odd-lot customer buy transactions...

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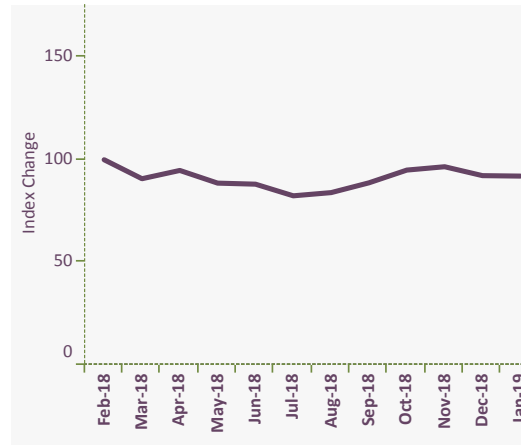


Municipal Bonds: Odd-Lot Customer Transaction Trend Summary

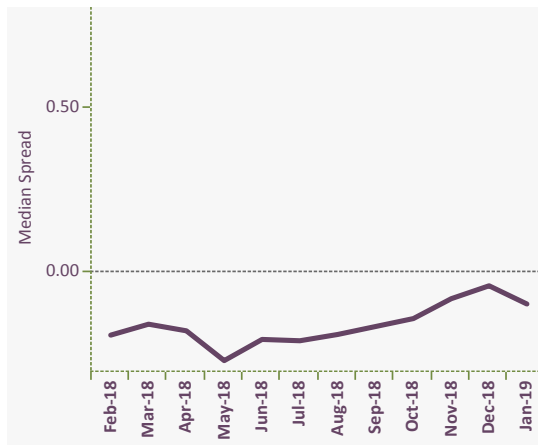
Median Yield, %



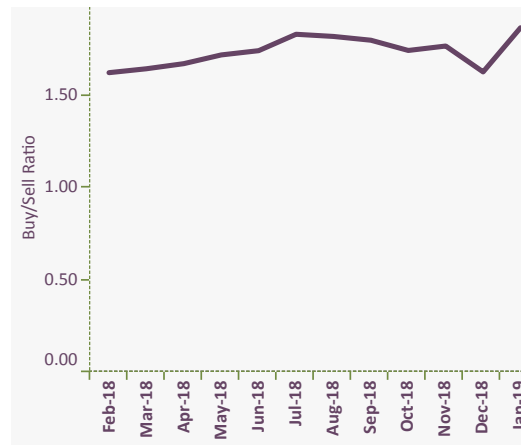
Trades Per Day



Median Spread, %



Buy/Sell Ratio



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 2019

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	903	3.7%	20,403	2.1	413	3.1	3.6	4.0	4.6	5.1
2	JPM	JP MORGAN CHASE	A	516	3.3%	18,257	1.9	373	2.9	3.3	3.6	4.1	4.6
3	C	CITIGROUP	BBB	375	3.0%	16,607	1.6	337	2.9	3.4	3.7	4.4	4.9
4	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	BBB	331	2.7%	15,089	1.9	270	3.4	4.3	5.0	6.2	6.1
5	BAC	BANK OF AMERICA	A	392	2.4%	13,401	1.8	267	3.0	3.4	3.8	4.3	4.7
6	WFC	WELLS FARGO	A	214	2.0%	11,107	2.0	234	2.9	3.3	3.8	4.1	4.7
7	T	AT&T	BBB	99	1.8%	9,995	1.5	189	3.1	3.4	3.8	4.4	5.3
8	MS	MORGAN STANLEY	BBB	719	1.7%	9,607	1.7	208	3.0	3.4	3.8	4.4	4.7
9	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	98	1.6%	8,921	4.1	189	3.3	4.1	4.8	5.5	6.5
10	AAPL	APPLE INC	AA	56	1.3%	7,441	1.3	141	2.5	2.8	3.1	3.6	4.0
11	BRK	BERKSHIRE HATHAWAY	A	163	1.2%	6,755	1.5	153	2.9	3.0	3.2	4.4	5.3
12	F	FORD	BBB	242	1.2%	6,518	3.9	133	3.5	4.8	5.5	6.4	6.8
13	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	BBB	48	1.1%	6,018	2.5	123	3.1	3.3	3.7	4.3	5.1
14	CVS	CVS CAREMARK CORP	BBB	43	0.9%	5,209	1.6	111	3.1	3.4	3.7	4.3	5.0
15	AXP	AMERICAN EXPRESS	BBB	39	0.9%	4,907	1.9	106	2.9	3.2	3.6	3.5	4.3
16	VZ	VERIZON	BBB	121	0.9%	4,802	1.1	94	2.8	3.1	3.5	4.0	4.6
17	PCG	PACIFIC GAS & ELEC CO	C	29	0.8%	4,468	0.3	74		9.4	7.9	6.7	7.2
18	CMCS	COMCAST	A	63	0.8%	4,440	1.4	90	2.9	3.1	3.4	3.8	4.4
19	MSFT	MICROSOFT CORP	AAA	39	0.8%	4,420	1.3	92	2.6	2.7	2.8	3.3	3.8
20	ORCL	ORACLE CORP	AA	31	0.8%	4,252	1.2	76	2.5	2.9	3.2	3.6	4.1

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 2019

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	ARCC	ARES CAP CORP	BBB	5	0.2%	1,378	1,301	77	16.9	9	3.4	3.6	4.7		
2	MYL	MYLAN INC	BBB	10	0.2%	1,374	1,293	81	16.0	25		4.1	4.7	5.3	6.3
3	X	UNITED STS STL CORP NEW	B	3	0.2%	1,307	1,175	132	8.9	17					8.9
4	MO	ALTRIA GROUP INC	BBB	15	0.4%	2,394	1,988	406	4.9	52	3.0	3.6	4.1	4.5	5.7
5	BTI	BAT INTERNATIONAL FINANCE PLC	BBB	31	0.3%	1,406	1,136	270	4.2	34	3.4	4.2	4.3	5.2	6.1
6	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	98	1.6%	8,921	7,158	1,763	4.1	189	3.3	4.1	4.8	5.5	6.5
7	F	FORD	BBB	242	1.2%	6,518	5,189	1,329	3.9	133	3.5	4.8	5.5	6.4	6.8
8	MAR	MARRIOTT INTL INC NEW	BBB	22	0.2%	1,300	1,008	292	3.5	24	5.7	3.4	3.8	4.4	5.1
9	D	DOMINION RES INC VA NEW	BBB	59	0.4%	2,061	1,562	499	3.1	36	3.1	3.5	3.7	3.7	4.5
10	HMC	AMERICAN HONDA FIN CORP MED TERM NTS BOO	A	30	0.2%	1,293	973	320	3.0	26	2.8	3.0	3.4	3.6	
11	ABBV	ABBVIE INC	BBB	16	0.5%	2,654	1,996	658	3.0	56	3.1	3.3	3.6	4.4	5.1
12	SO	GEORGIA POWER CO	BBB	66	0.4%	2,305	1,729	576	3.0	48	3.0	3.4	3.5	4.1	5.2
13	EIX	EDISON MISSION	BBB	29	0.4%	2,063	1,537	526	2.9	41	4.3	3.7	3.7	5.5	4.9
14	TWX	TIME WARNER	BBB	26	0.3%	1,619	1,203	416	2.9	32		3.4	3.9	4.3	5.3
15	PSEC	PROSPECT CAP CORP INTERNOTES BOOK ENTRY	BBB	188	0.2%	1,340	987	353	2.8	21	4.1	5.2	5.5	6.5	7.1
16	PRU	PRUDENTIAL	A	41	0.3%	1,824	1,334	490	2.7	35	3.0	3.2	3.3	3.7	4.8
17	MUR	MURPHY OIL CORP	BB	8	0.2%	1,331	969	362	2.7	20		5.5	5.5	6.7	7.0
18	COF	CAPITAL ONE FINL CORP	BBB	32	0.6%	3,418	2,472	946	2.6	68	3.1	3.6	3.8	4.6	
19	M	MACYS RETAIL HLDGS INC	BBB	20	0.3%	1,582	1,136	446	2.6	32		4.2	5.3	6.1	6.7
20	LUK	JEFFERIES GROUP INC NEW	BBB	35	0.3%	1,539	1,098	441	2.5	29	3.0	4.1	4.9	5.5	6.5

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 2019

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	ASCMA	Null	C	1	0.3%	1,411	182	1,229	0.15	5	168.3				
2	PCG	PACIFIC GAS & ELEC CO	C	29	0.8%	4,468	928	3,540	0.26	74		12.1	8.4	7.1	7.6
3	PTRB	PETROBRAS	BB	23	0.6%	3,236	1,429	1,807	0.79	115		4.2	5.1	6.2	6.9
4	EDP	ENTERPRISE PRODS OPER LLC	BBB	34	0.3%	1,512	725	787	0.92	27	3.2	3.3	3.6	4.1	5.1
5	VALEF	Null	BBB	8	0.2%	1,272	608	664	0.92	42		4.8		5.4	6.1
6	FTR	FRONTIER COMMUNICATIONS CORP	C	24	0.2%	1,379	678	701	0.97	20	18.3	23.6	23.5	9.0	17.3
7	HD	HOME DEPOT	A	26	0.4%	2,224	1,106	1,118	0.99	39	2.8	2.9	3.0	3.4	4.2
8	USB	U S BANCORP MEDIUM TERM NTS- BOOK ENTRY	A	31	0.4%	2,157	1,079	1,078	1.00	40	3.0	3.2	3.6	3.6	
9	HBC	HSBC	N/R	397	0.5%	2,588	1,312	1,276	1.03	64	3.2	3.5	4.3	5.0	4.8
10	CSCO	CISCO	AA	20	0.5%	2,560	1,320	1,240	1.06	44	2.8	2.9	3.1	3.4	4.2
11	VZ	VERIZON	BBB	121	0.9%	4,802	2,479	2,323	1.07	94	3.0	3.2	3.5	4.0	4.7
12	GILD	GILEAD SCIENCES INC	A	22	0.3%	1,930	1,007	923	1.09	33	3.1	3.1	3.6	3.8	4.6
13	PEP	PEPSICO	A	37	0.3%	1,738	910	828	1.10	40	2.8	2.9	3.0	3.5	4.1
14	KMI	KINDER MORGAN ENERGY PARTNERS L P	BBB	65	0.4%	1,982	1,062	920	1.15	41	3.4	3.8	4.1	5.0	5.5
15	ORCL	ORACLE CORP	AA	31	0.8%	4,252	2,273	1,979	1.15	76	2.8	3.0	3.3	3.6	4.2
16	BBT	BB&T CORP SR MEDIUM TERM NTS BOOK ENTRY	A	26	0.3%	1,414	760	654	1.16	30	3.1	3.2	3.5	3.9	
17	BCS	BARCLAYS	A	425	0.4%	1,981	1,066	915	1.17	46	3.1	3.8	4.1	4.5	4.5
18	RDS	SHELL	AA	28	0.4%	1,963	1,057	906	1.17	40	2.9	3.1	3.2	3.5	4.2
19	CTL	CENTURYLINK	B	34	0.5%	2,656	1,437	1,219	1.18	54	5.3	5.8	6.8	8.6	9.7
20	DELL	DELL	BB	10	0.2%	1,266	686	580	1.18	26	4.3	4.3	5.3	6.3	7.2

Source: TRACE and Tradeweb Direct

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-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 2019

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	1,376	753	2,129	26	6.0	6.0	83.5	83.1
2	ARCC	ARES CAP CORP	Feb-22	BBB	3.750	1,097	15	1,112	4	3.6	3.7	100.3	100.0
3	JPM	JP MORGAN CHASE	Jan-20	A	2.250	956	211	1,167	27	2.9	3.1	99.4	99.2
4	C	CITIGROUP	Oct-23	BBB	3.875	823	81	904	14	3.7	3.7	100.9	100.6
5	X	UNITED STS STL CORP NEW	Jun-37	B	6.650	769	57	826	6	8.9	8.6	79.8	82.0
6	F	FORD	Dec-26	BBB	4.346	734	146	880	18	6.2	6.2	88.7	88.4
7	JPM	JP MORGAN CHASE	Null	BBB	0.000	733	227	960	11	6.0	6.0	100.4	99.9
8	F	FORD	Jul-31	BBB	7.450	729	117	846	20	7.2	7.3	102.4	101.3
9	GS	GOLDMAN SACHS	Dec-19	BBB	2.300	724	61	785	19	3.0	3.2	99.4	99.2
10	MS	MORGAN STANLEY	Jan-20	BBB	2.650	716	61	777	19	3.0	3.3	99.7	99.4
11	GS	GOLDMAN SACHS	Oct-19	BBB	2.550	657	144	801	19	2.9	3.1	99.7	99.6
12	GM	GENERAL MOTORS FINANCIAL COMPANY INC	Null	BB	5.750	653	139	792	11	6.7	7.0	85.6	83.0
13	MO	ALTRIA GROUP INC	Jan-24	BBB	4.000	645	76	721	16	4.1	4.3	99.7	98.8
14	AKS	AK STL CORP	Jul-23	B	7.500	626	22	648	6	7.1	7.0	100.9	101.2
15	GS	GOLDMAN SACHS	Null	BB	4.000	586	96	682	10	5.4	5.5	74.3	73.1
16	BAC	BANK OF AMERICA	Aug-24	BBB	4.200	572	167	739	14	4.1	4.1	100.7	100.6
17	GS	GOLDMAN SACHS	Jan-23	BBB	3.625	572	154	726	15	3.7	3.9	99.7	98.8
18	FLR	FLUOR CORP NEW	Dec-24	BBB	3.500	571	17	588	11	3.9	4.0	97.8	97.4
19	BAC	BANK OF AMERICA	Jan-23	A	3.300	567	198	765	15	3.5	3.6	99.3	98.9
20	JPM	JP MORGAN CHASE	Dec-26	BBB	4.125	564	85	649	11	4.2	4.3	99.5	99.1

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 2019

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	ASCMA	Null	Apr-20	C	9.125	182	1,229	1,411	5	164.7	168.3	27.8	27.0
2	PCG	PACIFIC GAS & ELEC CO	Oct-20	C	3.500	263	835	1,098	18	9.8	15.6	90.1	82.6
3	BRK	BERKSHIRE HATHAWAY	Jun-22	BBB	3.500	149	770	919	16	3.5	3.7	99.9	99.4
4	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Null	BBB	5.000	1,376	753	2,129	26	6.0	6.0	83.5	83.1
5	C	CITIGROUP	Feb-20	BBB	2.400	240	741	981	20	3.0	3.0	99.4	99.3
6	T	AT&T	Feb-22	BBB	3.000	399	657	1,056	9	3.4	3.4	98.7	98.8
7	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	Feb-23	BBB	3.300	330	608	938	20	3.6	3.6	98.9	98.7
8	PCG	PACIFIC GAS & ELEC CO	Jun-25	C	3.500	54	556	610	6	6.3	6.9	85.4	82.4
9	JPM	JP MORGAN CHASE	Oct-26	A	2.950	318	551	869	6	3.9	3.9	93.4	93.5
10	AAPL	APPLE INC	Feb-26	AA	3.250	291	499	790	7	3.4	3.4	98.8	99.1
11	VZ	VERIZON	Nov-24	BBB	3.500	323	479	802	8	3.5	3.5	100.0	99.9
12	GILD	GILEAD SCIENCES INC	Feb-25	A	3.500	315	464	779	6	3.7	3.7	99.2	99.1
13	PCG	PACIFIC GAS & ELEC CO	Nov-23	C	3.850	74	461	535	10	8.0	8.4	83.5	82.2
14	VZ	VERIZON	Sep-23	BBB	5.150	285	456	741	17	3.4	3.4	107.3	107.4
15	CVS	CVS CAREMARK CORP	Mar-20	BBB	3.125	380	435	815	16	3.1	3.4	100.0	99.7
16	AAPL	APPLE INC	May-23	AA	2.400	345	428	773	17	3.1	3.1	97.4	97.2
17	ORCL	ORACLE CORP	Nov-27	AA	3.250	290	426	716	6	3.6	3.6	97.3	97.3
18	HD	HOME DEPOT	Sep-26	A	2.125	253	418	671	3	3.4	3.4	91.3	91.3
19	BAC	BANK OF AMERICA	Jul-23	A	2.816	166	398	564	3			97.3	97.4
20	CSCO	CISCO	Sep-26	AA	2.500	182	368	550	2	3.4	3.4	94.0	94.0

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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