

Market Transparency Report

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

September 2018

www.tradeweb.com

1177 Avenue of the Americas
New York, NY 10036
212.852.1234

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 September 2018

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	14	10.7%	0.1
CD	5	-3.5%	-0.8
Corp	11	8.2%	-0.1
Municipal	13	5.7%	0.0
Treasury	13	9.7%	0.1

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

Yield Matrix

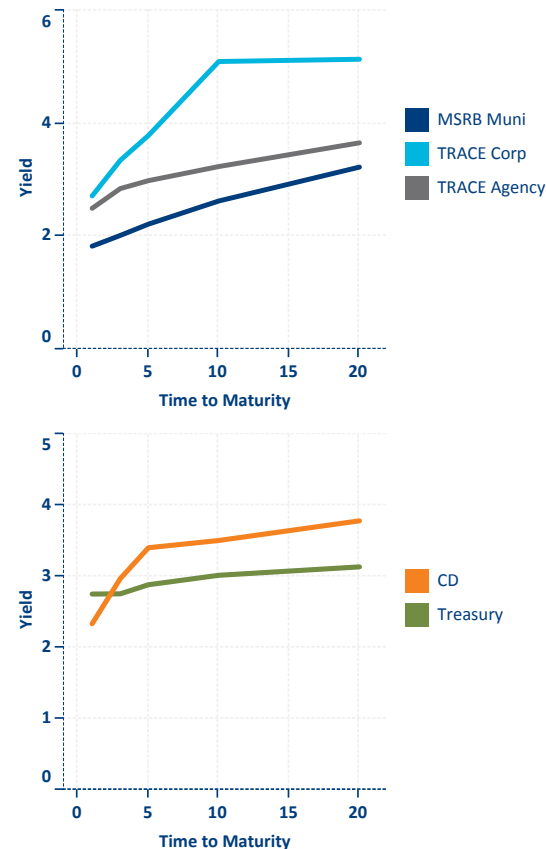
Average Yield, % for September 2018

Market	TTM					Median Maturity (Years)
	1	3	5	10	20	
MSRB Muni	1.8	2.0	2.2	2.6	3.2	11
TRACE Corp	2.7	3.4	3.8	5.1	5.1	3
TRACE Agency	2.5	2.9	3.0	3.2	3.7	2
CD	2.3	3.0	3.4	3.6	3.8	1
Treasury	2.3	2.8	2.9	3.0	3.1	1

Asset Class

Market	Category (Filtered)	Rating Key	TTM					Median Maturity (Years)
			1	3	5	10	20	
TRACE Corp	Financial	AA	2.7	3.1	3.8			2
		A	2.7	3.3	3.6	4.1	4.6	3
		BBB	2.9	3.7	4.0	4.3	4.8	6
		HY	3.2	4.3	4.5	7.8	6.3	4
	Non-Financial	AAA	2.2	2.7	3.1	3.5	3.9	2
		AA	2.6	3.0	3.2	3.8	4.0	2
		A	2.8	3.2	3.5	4.2	4.8	4
		BBB	2.9	3.8	4.1	5.2	6.0	7
		HY	3.3	8.3	11.9	10.3	13.1	8
MSRB Muni	GO	AAA	1.8	1.9	2.1	2.5	3.2	8
		AA	1.8	2.0	2.2	2.6	3.3	10
		A	1.9	2.2	2.4	2.9	3.5	9
		BBB	2.5	2.9	3.4	3.8	4.0	10
	Revenue	HY	4.9	4.0	10.9	5.2	4.7	7
		AAA	1.8	2.0	2.1	2.5	3.1	9
		AA	1.8	2.0	2.2	2.6	3.1	11
		A	1.9	2.1	2.3	2.7	3.2	16
		BBB	2.1	2.5	2.7	3.2	3.6	16
		HY	4.9	5.7	6.4	5.2	5.8	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.

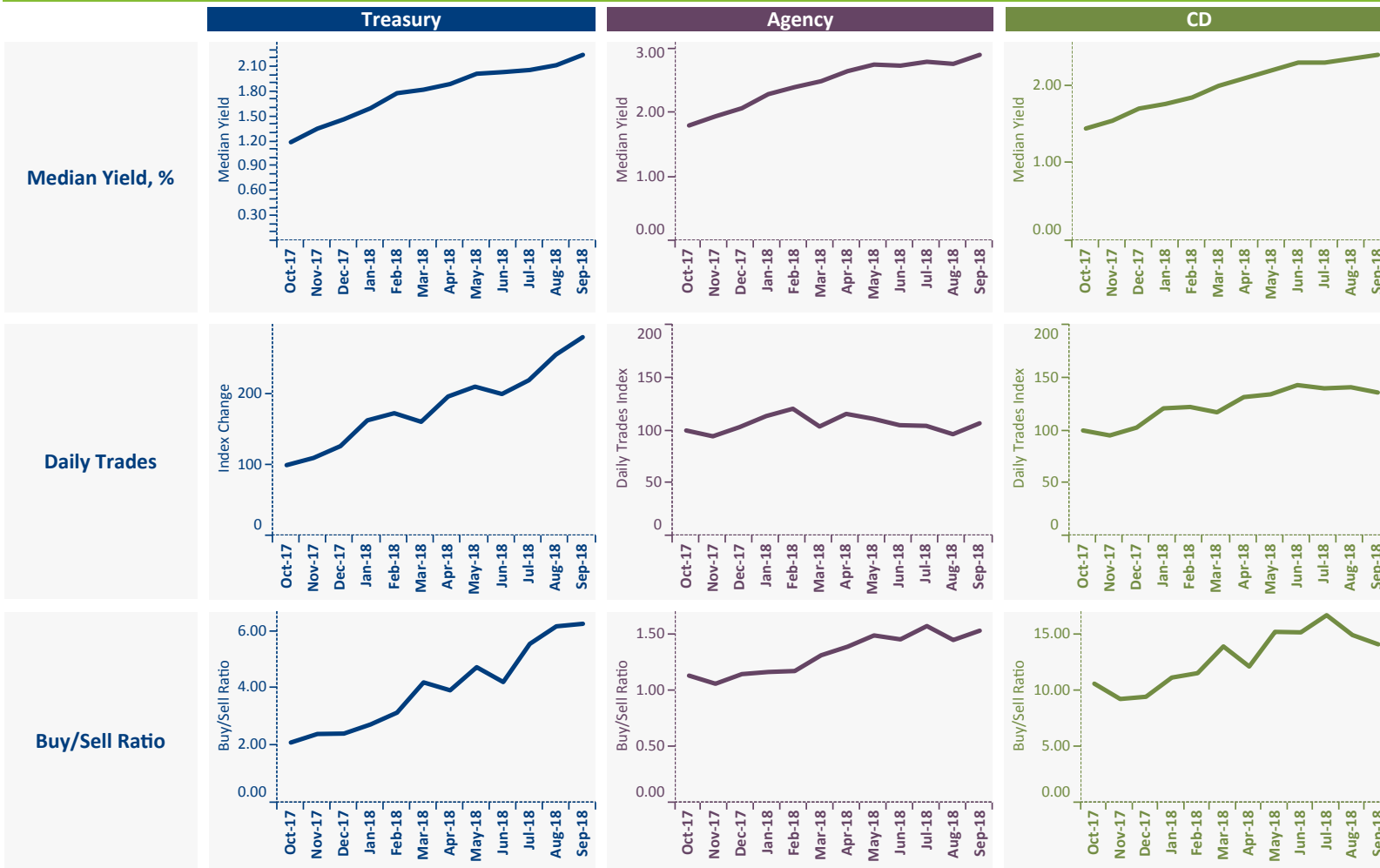
-The weights are based on transaction size.

-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



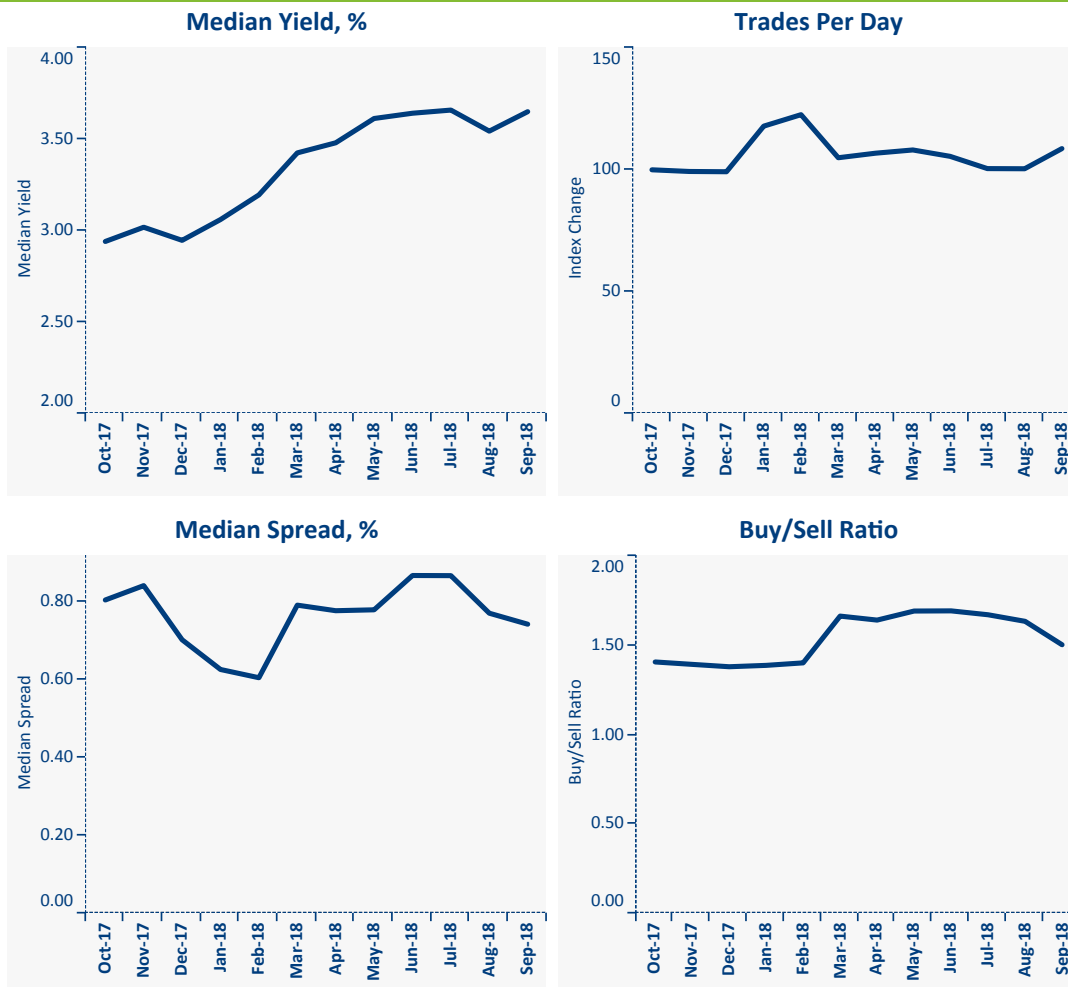
Daily Trades: First month = 100

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.

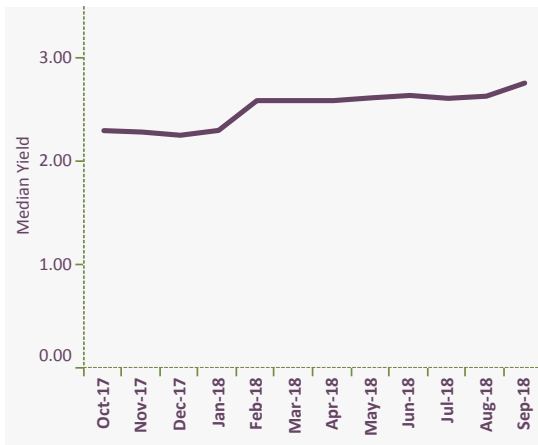
-Median yields and spreads are based on all odd-lot customer buy transactions...

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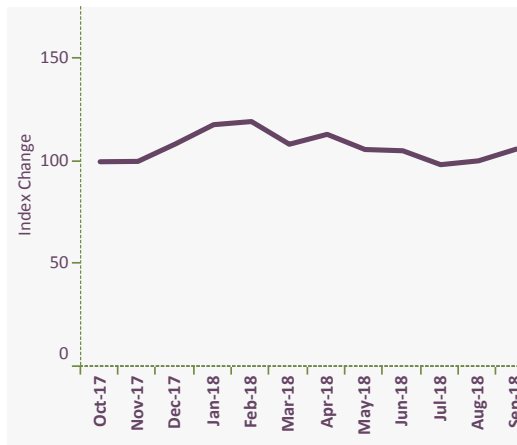


Municipal Bonds: Odd-Lot Customer Transaction Trend Summary

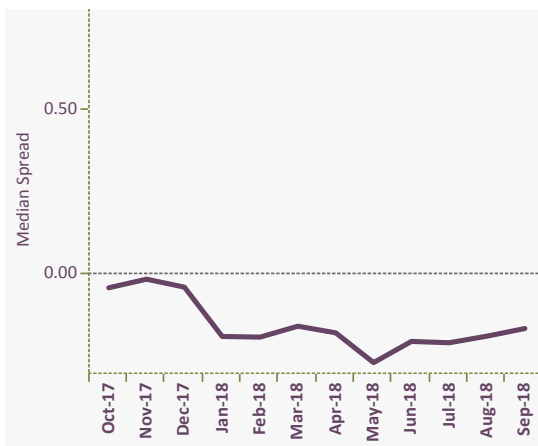
Median Yield, %



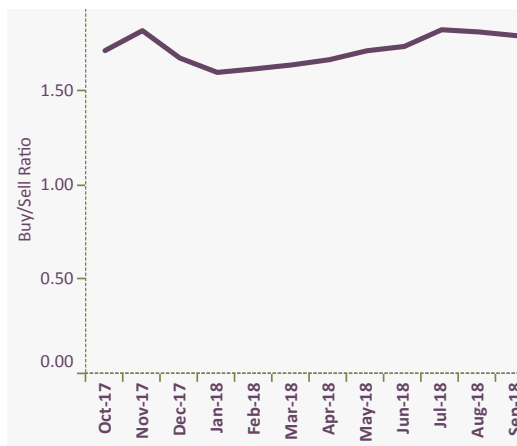
Trades Per Day



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

September 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	JPM	JP MORGAN CHASE	A	558	3.3%	14,036	1.9	295	2.8	3.3	3.7	4.0	4.5
2	GS	GOLDMAN SACHS	BBB	899	3.1%	13,532	1.5	281	2.9	3.4	3.8	4.2	4.8
3	C	CITIGROUP	BBB	357	2.6%	11,367	1.9	244	3.1	3.4	3.8	4.5	4.5
4	BAC	BANK OF AMERICA	A	395	2.4%	10,507	1.7	213	2.6	3.2	3.7	4.2	4.4
5	T	AT&T	BBB	96	2.0%	8,810	1.9	169	2.6	3.5	3.8	4.5	5.3
6	MS	MORGAN STANLEY	BBB	813	1.9%	8,098	1.4	179	2.8	3.5	3.8	4.4	4.6
7	WFC	WELLS FARGO	A	201	1.8%	7,959	1.5	175	2.6	3.3	3.7	4.1	4.5
8	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	A	322	1.7%	7,530	1.3	143	3.0	3.4	3.8	4.5	4.8
9	ESRX	EXPRESS SCRIPTS HLDG CO	BBB	14	1.7%	7,496	0.1	44	2.7	3.5	3.8	4.4	5.0
10	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	91	1.4%	5,869	2.5	144	2.8	3.6	4.2	4.9	5.6
11	AAPL	APPLE INC	AA	56	1.3%	5,494	1.5	121	2.5	3.0	3.3	3.6	4.0
12	BRK	BERKSHIRE HATHAWAY	A	147	1.2%	4,990	2.0	123	2.6	3.1	3.4	4.2	5.0
13	CMCS	COMCAST	A	51	1.1%	4,866	0.3	52	3.0	3.3	3.6	4.0	4.6
14	F	FORD	BBB	253	1.1%	4,656	1.9	102	3.2	4.0	4.3	5.2	6.0
15	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	A	38	1.0%	4,221	2.0	86	2.6	3.3	3.6	4.1	4.7
16	AXP	AMERICAN EXPRESS	BBB	37	0.9%	3,929	2.2	88	2.7	3.2	3.7	3.7	4.2
17	VZ	VERIZON	BBB	125	0.9%	3,905	1.4	78	2.9	3.4	3.6	4.1	4.7
18	MSFT	MICROSOFT CORP	AAA	40	0.9%	3,704	1.5	82	2.5	2.9	3.2	3.5	3.8
19	CVS	CVS CAREMARK CORP	BBB	29	0.8%	3,651	2.1	77	3.1	3.4	3.8	4.3	4.8
20	ORCL	ORACLE CORP	AA	31	0.8%	3,643	1.4	69	2.6	3.1	3.4	3.7	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

September 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	CNP	CENTERPOINT ENERGY INC	BBB	24	0.2%	1,074	980	94	10.4	28	2.9	3.6	3.8	5.0	4.8
2	NWL	NEWELL RUBBERMAID INC	BBB	14	0.3%	1,379	1,192	187	6.4	23	3.0	4.1	4.5	4.8	5.5
3	SHW	SHERWIN WILLIAMS CO	BBB	16	0.2%	935	804	131	6.1	14	2.9	3.6	3.8	4.1	4.7
4	SAN	ABBEY NATL TREAS SVCS PLC	BBB	34	0.4%	1,589	1,317	272	4.8	33	3.2	3.6	3.9	4.8	
5	XRX	XEROX CORP	BBB	11	0.4%	1,519	1,202	317	3.8	34	3.1	4.1	4.8		6.6
6	SBUX	STARBUCKS CORP	BBB	13	0.3%	1,142	888	254	3.5	23		3.4	3.4	3.9	
7	PFE	PFIZER	AA	40	0.4%	1,600	1,216	384	3.2	45	2.5	3.0	3.3	3.6	4.1
8	TWX	TIME WARNER	BBB	28	0.3%	1,400	1,058	342	3.1	26	2.7	3.4	3.9	4.3	5.3
9	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	91	1.4%	5,869	4,209	1,660	2.5	144	2.8	3.6	4.2	4.9	5.6
10	UTX	UNITED TECHNOLOGIES CORP	BBB	31	0.3%	1,409	1,000	409	2.4	36	2.9	3.4	3.7	4.1	4.5
11	ANTM	Null	A	21	0.3%	1,132	795	337	2.4	26	2.7	3.3	3.6	4.3	4.9
12	MET	METLIFE	BBB	22	0.5%	2,363	1,658	705	2.4	38		3.3	3.5	5.1	4.4
13	ABBV	ABBVIE INC	BBB	17	0.4%	1,728	1,211	517	2.3	38		3.3	3.6	4.2	4.8
14	TD	TORONTO DOMINION BK SR MEDIUM TERM BK NT	AA	76	0.4%	1,716	1,201	515	2.3	42	2.7	3.2	3.5	3.8	
15	CAT	CATERPILLAR	A	100	0.5%	1,969	1,358	611	2.2	45	2.7	3.1	3.3	3.6	4.2
16	STT	STATE STR CORP	A	14	0.2%	955	658	297	2.2	21		3.2	3.5	3.7	
17	AXP	AMERICAN EXPRESS	BBB	37	0.9%	3,929	2,698	1,231	2.2	88	2.7	3.2	3.7	3.7	4.2
18	STI	SUNTRUST BKS INC	BBB	25	0.4%	1,552	1,064	488	2.2	30	3.0	3.4	3.5	4.7	
19	COF	CAPITAL ONE FINL CORP	BBB	31	0.5%	2,318	1,585	733	2.2	48	2.6	3.5	3.8	4.5	
20	CVS	CVS CAREMARK CORP	BBB	29	0.8%	3,651	2,488	1,163	2.1	77	3.1	3.4	3.8	4.3	4.8

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

September 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	ESRX	EXPRESS SCRIPTS HLDG CO	BBB	14	1.7%	7,496	550	6,946	0.08	44	3.0	3.6	3.9	4.5	5.2
2	GNW	GENWORTH	B	7	0.3%	1,394	261	1,133	0.23	26		6.7	8.2		8.2
3	CMCS	COMCAST	A	51	1.1%	4,866	1,216	3,650	0.33	52	3.1	3.4	3.7	4.0	4.7
4	CS	CREDIT SUISSE	N/R	315	0.2%	1,019	370	649	0.57	20	3.3	3.9	3.7	5.1	
5	EDP	ENTERPRISE PRODS OPER LLC	BBB	32	0.3%	1,184	539	645	0.84	24	3.1	3.3	3.6	4.0	4.8
6	ACT	ALLERGAN	BBB	11	0.2%	1,009	479	530	0.90	17	3.2	3.7	3.8		4.8
7	FTR	FRONTIER COMMUNICATIONS CORP	C	24	0.3%	1,420	675	745	0.91	25	6.1	14.3	17.7	9.0	15.4
8	PNC	PNC FDG CORP	BBB	39	0.3%	1,212	584	628	0.93	25	2.9	3.4	3.8	3.8	
9	CTL	CENTURYLINK	B	35	0.6%	2,619	1,283	1,336	0.96	61	3.8	5.0	5.8	7.7	8.2
10	BMRN	BIOMARIN PHARMACEUTICAL INC	N/R	3	0.3%	1,100	546	554	0.99	6					
11	RDS	SHELL	AA	28	0.4%	1,542	777	765	1.02	33	2.9	3.1	3.4	3.6	4.2
12	HBC	HSBC	N/R	436	0.6%	2,629	1,331	1,298	1.03	64	3.1	3.6	4.4	4.3	4.8
13	KMI	KINDER MORGAN ENERGY PARTNERS L P	BBB	62	0.3%	1,354	687	667	1.03	31	3.2	3.7	4.1	5.6	5.4
14	BCS	BARCLAYS	BBB	420	0.4%	1,680	865	815	1.06	39	3.3	4.0	4.2	4.4	
15	NRX	NATIONAL RURAL UTILS COOP FIN CORP	A	164	0.2%	924	477	447	1.07	19	3.0	3.4	3.6	4.3	
16	DELL	DELL	BB	10	0.2%	1,045	543	502	1.08	23	3.6	4.0	4.7	6.2	6.6
17	USB	U S BANCORP MEDIUM TERM NTS- BOOK ENTRY	A	29	0.4%	1,864	969	895	1.08	35	2.8	3.4	3.8	3.8	
18	RY	ROYAL BANK OF CANADA	AA	246	0.4%	1,857	967	890	1.09	44	3.0	3.2	4.1	4.3	4.8
19	CSCO	CISCO	AA	20	0.4%	1,903	1,004	899	1.12	33	2.9	3.1	3.3	3.6	4.1
20	AA	ALCOA	BB	8	0.2%	965	525	440	1.19	23	0.3	4.2		5.9	6.1

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

September 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	LTD	LIMITED BRANDS INC	Nov-35	BB	6.875	1,639	154	1,793	21	8.5	8.6	85.1	84.5
2	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Null	BBB	5.000	866	575	1,441	25			98.9	98.3
3	DUK	DUKE ENERGY	Sep-78	BBB	5.625	858	150	1,008	6			25.0	24.9
4	CNP	CENTERPOINT ENERGY INC	Dec-49	BBB	6.125	855	21	876	23			102.9	101.6
5	JPM	JP MORGAN CHASE	Null	BBB	5.300	800	169	969	19			102.7	102.2
6	OMI	OWENS & MINOR INC NEW	Dec-24	BB	4.375	784	13	797	6	7.2	7.3	85.9	85.7
7	C	CITIGROUP	Feb-20	BBB	2.400	774	103	877	17	3.1	3.2	99.0	98.9
8	WFC	WELLS FARGO	Null	BBB	5.900	769	91	860	22			102.8	101.3
9	CCCX	COMMUNITY CHOICE FINL INC	May-19	C	10.750	759	52	811	7	54.5	50.2	79.8	80.6
10	ING	LUKOIL INTERNATIONAL FINANCE B.V., AMSTE	Sep-49	BB	6.125	746	9	755	25			101.6	101.3
11	GM	GENERAL MOTORS FINANCIAL COMPANY INC	Sep-49	BB	6.500	696	4	700	20			99.5	98.5
12	CDE	COEUR MNG INC	Jun-24	B	5.875	615	10	625	5	6.7	6.8	96.2	95.8
13	MET	METLIFE	Sep-58	BBB	6.250	571	46	617	3			25.0	24.8
14	SHW	SHERWIN WILLIAMS CO	Jun-27	BBB	3.450	531	22	553	5	4.1	4.2	95.0	94.7
15	ORCL	ORACLE CORP	Sep-21	AA	1.900	506	85	591	8	3.1	3.1	96.6	96.6
16	BMRN	BIOMARIN PHARMACEUTICAL INC	Aug-24	N/R	0.599	503	15	518	3			105.6	106.0
17	T	AT&T	Mar-27	BBB	4.250	493	161	654	11	4.4	4.5	98.8	98.5
18	ASCMA	Null	Apr-20	C	9.125	486	184	670	6	29.4	30.0	76.1	75.7
19	SAN	ABBNEY NATL TREAS SVCS PLC	Mar-20	AA	2.375	486	59	545	2	3.2	3.3	98.8	98.7
20	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	Feb-21	A	2.650	470	140	610	14	3.2	3.3	98.7	98.6

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).

Corporate Bonds: Top 20 Most Sold Issues

September 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	ESRX	EXPRESS SCRIPTS HLDG CO	Mar-27	BBB	3.400	176	6,737	6,913	32	4.4	4.5	93.0	92.5
2	CMCS	COMCAST	Feb-25	A	3.375	138	2,701	2,839	9	3.8	3.9	97.6	96.8
3	LTD	LIMITED BRANDS INC	Feb-22	BB	5.625	90	626	716	7	5.1	5.5	101.5	100.5
4	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Null	BBB	5.000	866	575	1,441	25			98.9	98.3
5	BMRN	BIOMARIN PHARMACEUTICAL INC	Oct-18	N/R	0.750	13	516	529	2		2.2	104.3	103.1
6	GNW	GENWORTH	Sep-21	B	7.625	96	470	566	11	6.6	6.9	102.8	102.0
7	WFC	WELLS FARGO	Null	BBB	0.000	155	466	621	14			99.6	99.3
8	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	Feb-26	A	3.650	405	415	820	14	4.0	4.1	97.5	97.1
9	GM	GENERAL MOTORS FINANCIAL COMPANY INC	Null	BB	5.750	311	407	718	17			96.5	94.9
10	DUK	DUKE ENERGY	Apr-24	BBB	3.750	27	324	351	5	3.7	3.8	100.1	99.7
11	ACT	ALLERGAN	Mar-25	BBB	3.800	122	296	418	4	4.1	4.2	98.5	97.7
12	JPM	JP MORGAN CHASE	Oct-26	A	2.950	237	295	532	4	3.9	4.0	93.2	92.9
13	RCII	RENT A CTR INC NEW	Nov-20	C	6.625	37	290	327	6	7.0	6.8	99.5	99.6
14	T	AT&T	Feb-22	BBB	3.000	331	284	615	6	3.6	3.6	98.2	97.9
15	AAPL	APPLE INC	May-23	AA	2.400	333	270	603	13	3.2	3.3	96.4	96.2
16	GNW	GENWORTH	Jun-20	B	7.700	74	268	342	6	5.9	6.3	102.9	102.2
17	VZ	VERIZON	Sep-23	BBB	5.150	212	266	478	10	3.6	3.6	107.0	106.8
18	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Jan-38	A	5.875	83	263	346	5	4.8	4.8	113.3	113.1
19	VZ	VERIZON	Nov-24	BBB	3.500	248	263	511	6	3.7	3.8	98.6	98.4
20	ORCL	ORACLE CORP	Nov-27	AA	3.250	189	256	445	4	3.7	3.7	96.7	96.2

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: $0.5 \leq TTM \leq 1.5$
 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 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.)

Disclosures

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