

Market Transparency Report

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

October 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 October 2018

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	7	6.7%	-0.1
CD	10	23.1%	0.3
Corp	20	1.3%	0.0
Municipal	20	7.0%	-0.1
Treasury	10	20.6%	-0.7

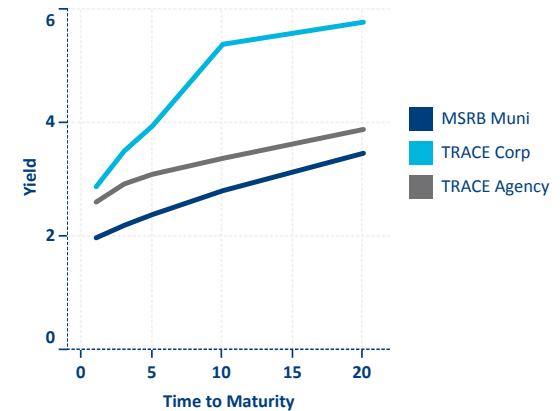
For monthly security trend data, see slides 5, 6 and 7

Yield Matrix

Average Yield, % for October 2018

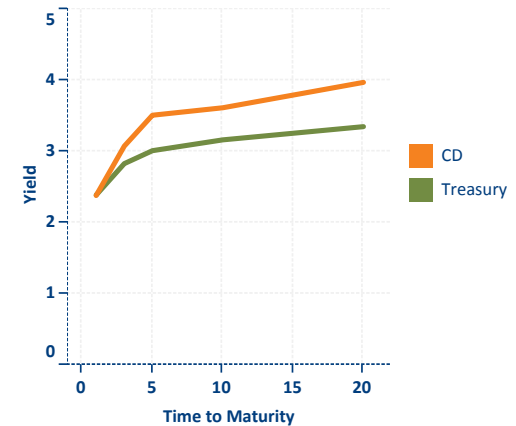
Market	TTM					Median Maturity (Years)
	1	3	5	10	20	
MSRB Muni	2.0	2.2	2.4	2.8	3.5	11
TRACE Corp	2.9	3.5	4.0	5.4	5.8	3
TRACE Agency	2.6	2.9	3.1	3.4	3.9	2
CD	2.4	3.1	3.5	3.6	4.0	1
Treasury	2.4	2.9	3.0	3.2	3.3	1

Average Yield, %



Asset Class

Market	Category (Filtered)	Rating Key	1	3	5	10	20	Median Maturity (Years)
TRACE Corp	Financial	AA	2.8	3.2	3.7			2
		A	2.8	3.4	3.7	4.1	4.5	2
		BBB	2.9	3.9	4.1	4.5	5.1	6
		HY	3.4	4.6	4.8	8.2	6.2	4
	Non-Financial	AAA	2.4	2.8	3.1	3.4	4.1	2
		AA	2.7	3.0	3.5	3.7	4.2	1
		A	2.8	3.2	3.6	4.1	4.6	4
		BBB	2.9	4.0	4.4	5.4	6.5	7
		HY	3.9	6.2	13.4	11.1	17.1	8
MSRB Muni	GO	AAA	1.9	2.1	2.3	2.7	3.4	8
		AA	1.9	2.2	2.3	2.8	3.5	10
		A	2.0	2.3	2.5	3.0	3.7	9
		BBB	2.9	3.2	3.7	3.8	4.2	7
	Revenue	HY	3.7	3.7	6.1	5.0	5.0	5
		AAA	1.9	2.1	2.3	2.7	3.4	9
		AA	2.0	2.2	2.3	2.8	3.3	12
		A	2.0	2.3	2.4	2.9	3.5	16
		BBB	2.4	2.8	3.0	3.5	3.8	17
		HY	5.9	5.0	6.5	5.5	6.1	10



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.

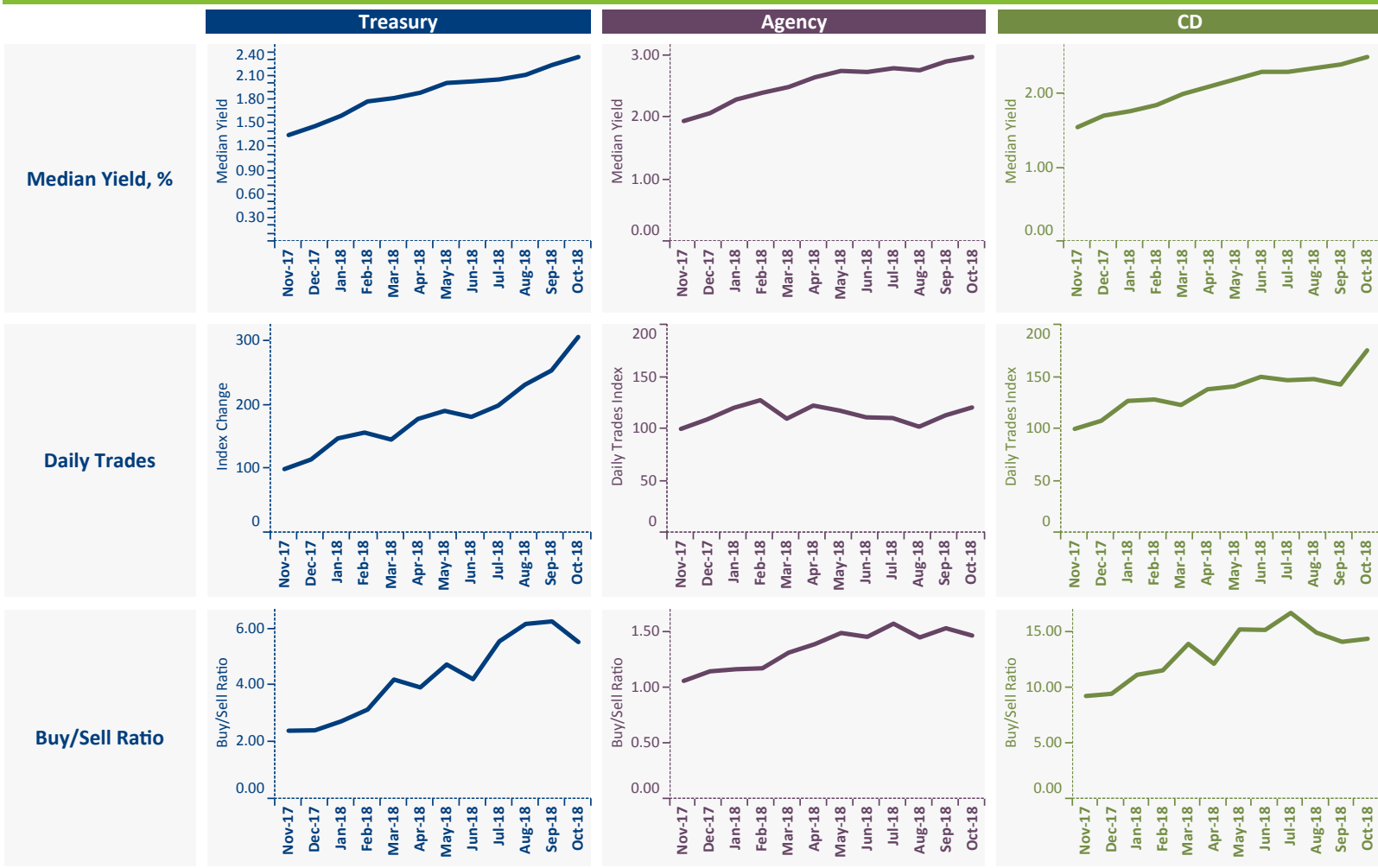
-The weights are based on transaction size.

-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



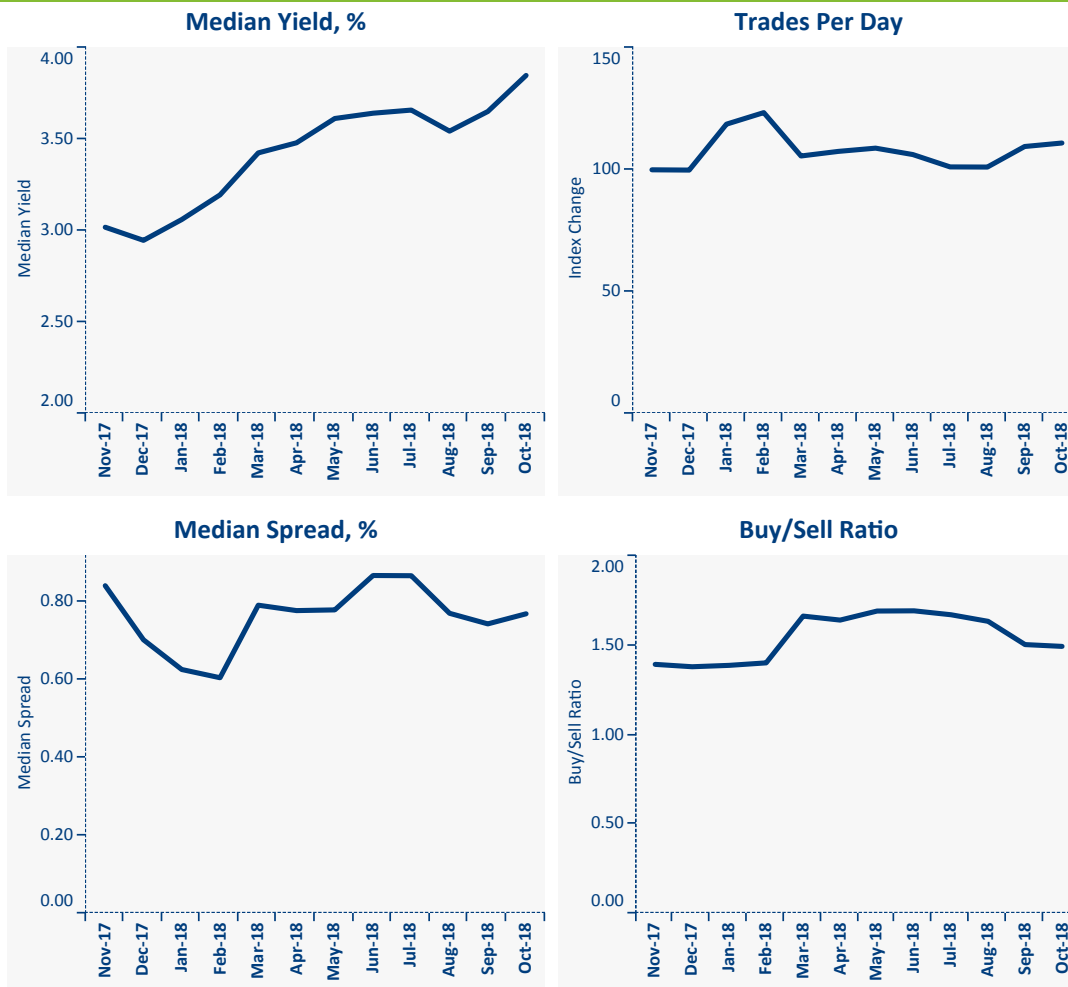
Daily Trades: First month = 100

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



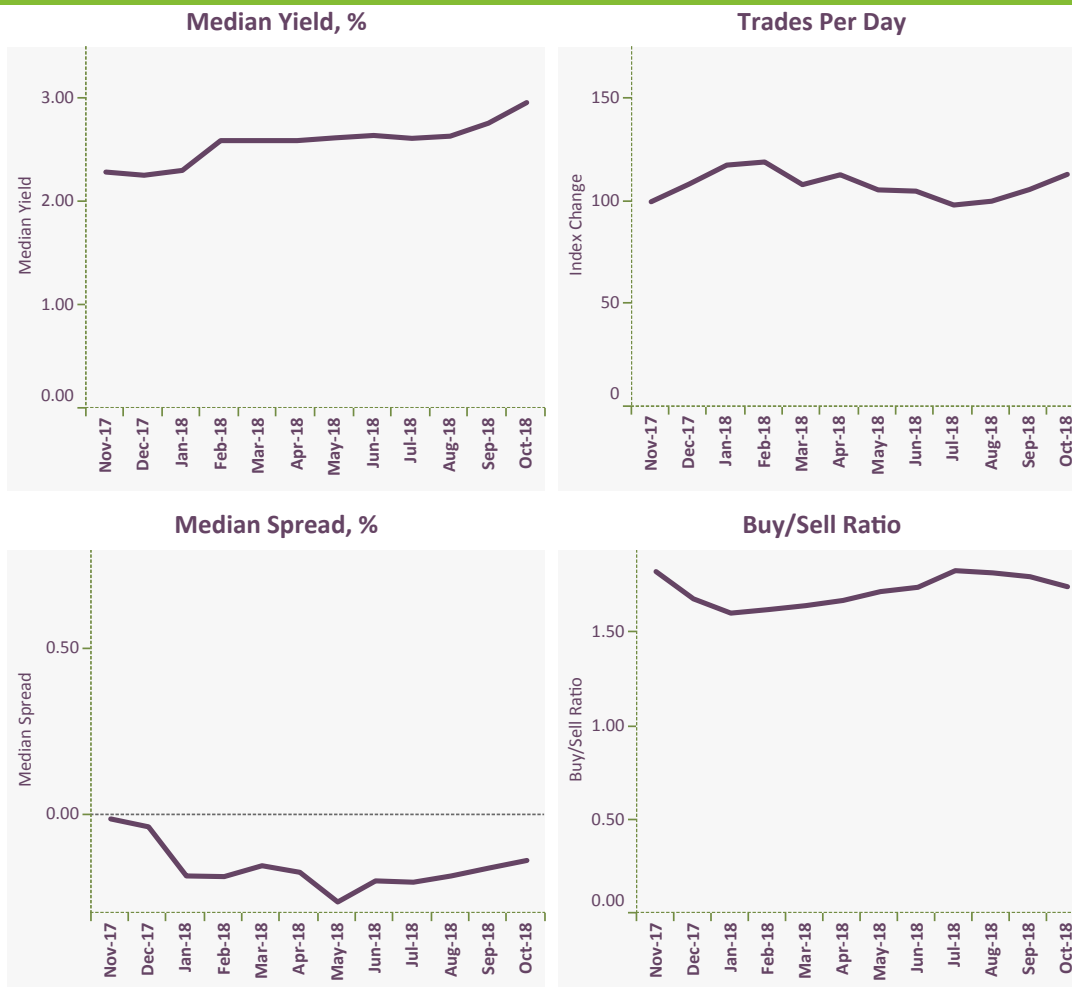
Daily Trades: First month = 100

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

October 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	917	3.3%	16,583	1.4	325	3.0	3.5	3.9	4.4	5.0
2	JPM	JP MORGAN CHASE	A	578	3.3%	16,542	1.7	343	2.9	3.4	3.8	4.2	4.6
3	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	A	338	2.7%	13,579	0.9	250	3.1	3.9	4.2	4.7	5.2
4	BAC	BANK OF AMERICA	A	418	2.6%	12,952	1.5	259	2.8	3.3	3.9	4.3	4.5
5	C	CITIGROUP	BBB	345	2.4%	12,358	1.6	273	2.8	3.5	3.9	4.6	4.6
6	T	AT&T	BBB	94	2.1%	10,828	1.5	211	3.0	3.6	3.9	4.5	5.4
7	WFC	WELLS FARGO	A	213	1.9%	9,823	1.5	207	3.0	3.5	3.9	4.3	4.7
8	MS	MORGAN STANLEY	BBB	690	1.8%	9,240	1.4	202	2.9	3.6	3.9	4.5	4.8
9	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	86	1.7%	8,776	3.8	195	3.1	3.9	4.5	5.3	6.3
10	AAPL	APPLE INC	AA	56	1.5%	7,383	1.6	149	2.6	3.1	3.5	3.8	4.2
11	BRK	BERKSHIRE HATHAWAY	A	147	1.2%	5,992	2.0	134	2.7	3.3	3.5	4.6	5.1
12	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	A	38	1.1%	5,777	2.4	121	3.1	3.5	3.8	4.3	4.9
13	CMCS	COMCAST	A	62	1.0%	5,258	2.3	107	3.1	3.3	3.7	4.2	4.7
14	VZ	VERIZON	BBB	119	1.0%	5,203	1.4	100	3.0	3.6	3.7	4.2	4.8
15	MSFT	MICROSOFT CORP	AAA	41	1.0%	5,172	1.6	106	2.6	3.1	3.4	3.7	4.0
16	F	FORD	BBB	252	0.9%	4,607	1.9	97	3.1	4.1	4.6	5.7	6.5
17	ORCL	ORACLE CORP	AA	31	0.9%	4,406	1.2	82	2.7	3.3	3.6	3.9	4.2
18	AXP	AMERICAN EXPRESS	BBB	37	0.9%	4,369	1.8	99	2.8	3.4	3.8	3.9	4.4
19	CVS	CVS CAREMARK CORP	BBB	30	0.8%	4,172	1.6	89	3.2	3.5	3.9	4.3	4.9
20	PTRB	PETROBRAS	BB	24	0.7%	3,416	1.3	113	4.5	5.4	6.7	7.2	

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

October 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	STZ	CONSTELLATION BRANDS INC	BBB	19	0.3%	1,333	1,146	187	6.1	28	3.0	3.5	4.0	4.5	
2	CBL	CBL & ASSOCS LTD PARTNERSHIP	BB	3	0.4%	2,150	1,818	332	5.5	26			8.9	9.0	
3	MAR	MARRIOTT INTL INC NEW	BBB	16	0.2%	1,262	1,029	233	4.4	15	3.2	1.2	3.7	4.2	4.7
4	SAN	ABBEY NATL TREAS SVCS PLC	BBB	29	0.3%	1,410	1,124	286	3.9	39	2.9	3.8	4.1	5.1	
5	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	86	1.7%	8,776	6,933	1,843	3.8	195	3.1	3.9	4.5	5.3	6.3
6	GD	GENERAL DYNAMICS CORP	A	13	0.3%	1,271	988	283	3.5	26		3.3	3.4	3.8	
7	HTZ	HERTZ CORP	B	7	0.4%	1,792	1,379	413	3.3	30		6.1		8.7	
8	XRX	XEROX CORP	BBB	11	0.4%	1,780	1,349	431	3.1	39	3.2	4.4	5.0		7.3
9	UTX	UNITED TECHNOLOGIES CORP	BBB	30	0.4%	2,174	1,622	552	2.9	48	3.1	3.5	3.8	4.2	4.7
10	ABBV	ABBVIE INC	BBB	17	0.5%	2,443	1,754	689	2.6	49		3.5	3.7	4.4	5.0
11	PFE	PFIZER	AA	41	0.3%	1,672	1,189	483	2.5	44	2.6	3.1	3.4	3.7	4.2
12	LTD	LIMITED BRANDS INC	BB	10	0.4%	1,814	1,288	526	2.5	28		4.9	5.6	7.3	8.6
13	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	A	38	1.1%	5,777	4,073	1,704	2.4	121	3.1	3.5	3.8	4.3	4.9
14	SO	GEORGIA POWER CO	BBB	62	0.4%	2,167	1,516	651	2.3	44	3.0	3.5	3.9	4.3	5.1
15	CMCS	COMCAST	A	62	1.0%	5,258	3,657	1,601	2.3	107	3.1	3.3	3.7	4.2	4.7
16	TM	TOYOTA	AA	66	0.5%	2,694	1,863	831	2.2	62	2.7	3.3	3.5	3.8	
17	ANTM	Null	A	20	0.2%	1,258	869	389	2.2	27	2.8	3.7	3.8	4.4	4.9
18	GIS	GENERAL MLS INC	BBB	15	0.2%	1,220	836	384	2.2	29	3.0	3.5	3.9	4.5	5.1
19	TWX	TIME WARNER	BBB	27	0.3%	1,454	985	469	2.1	28	2.8	3.5	4.0	4.5	5.4
20	MRK	MERCK & CO INC NEW	AA	18	0.2%	1,193	807	386	2.1	24	2.8	3.3	3.4	3.8	4.2

Source: TRACE and Tradeweb Direct

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-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

October 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	CS	CREDIT SUISSE	N/R	328	0.3%	1,314	443	871	0.51	25	3.5	4.1	4.1	4.9	
2	FTR	FRONTIER COMMUNICATIONS CORP	C	25	0.3%	1,434	563	871	0.65	20	8.6	15.0	18.3	8.8	15.7
3	CTL	CENTURYLINK	B	35	0.6%	2,978	1,300	1,678	0.77	60	4.5	5.6	6.0	7.8	9.0
4	HBC	HSBC	N/R	451	0.7%	3,375	1,481	1,894	0.78	56	3.2	3.7	4.5	4.9	4.9
5	EDP	ENTERPRISE PRODS OPER LLC	BBB	33	0.3%	1,364	617	747	0.83	27	3.3	3.5	3.8	4.4	5.0
6	AMZN	AMAZON COM INC	A	15	0.6%	2,966	1,366	1,600	0.85	57	2.9	3.2	3.4	3.9	4.2
7	DELL	DELL	BB	10	0.2%	1,163	534	629	0.85	25	4.1	4.2	4.8	6.1	6.8
8	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	A	338	2.7%	13,579	6,455	7,124	0.91	250	3.5	4.1	4.5	5.0	5.3
9	DIS	DISNEY WALT CO NEW MEDIUM TERM NTS BOOK	A	31	0.3%	1,568	751	817	0.92	32	2.9	3.2	3.5	3.8	4.3
10	VIA	VIACOM INC NEW	BBB	35	0.3%	1,381	669	712	0.94	30	3.2	3.9	4.2	4.6	5.7
11	AA	ALCOA	BB	8	0.3%	1,514	739	775	0.95	34	0.4	4.7	5.2	6.1	6.2
12	KMI	KINDER MORGAN ENERGY PARTNERS L P	BBB	65	0.3%	1,695	848	847	1.00	36	3.4	3.8	4.2	5.6	5.5
13	USB	U S BANCORP MEDIUM TERM NTS- BOOK ENTRY	A	28	0.4%	2,150	1,078	1,072	1.01	39	2.9	3.6	3.9	4.0	
14	CSCO	CISCO	AA	20	0.5%	2,663	1,354	1,309	1.03	46	3.0	3.3	3.4	3.8	4.3
15	HD	HOME DEPOT	A	22	0.4%	1,798	916	882	1.04	34	2.9	3.2	3.4	3.8	4.4
16	RY	ROYAL BANK OF CANADA	AA	221	0.5%	2,492	1,311	1,181	1.11	52	3.1	3.3	4.0	4.5	4.9
17	NRX	NATIONAL RURAL UTILS COOP FIN CORP	A	192	0.2%	1,111	589	522	1.13	20	3.2	3.6	3.9	4.4	
18	DUK	DUKE ENERGY	BBB	92	0.3%	1,583	842	741	1.14	34	3.3	3.5	3.8	4.0	4.4
19	BBT	BB&T CORP SR MEDIUM TERM NTS BOOK ENTRY	A	26	0.2%	1,201	642	559	1.15	24	3.1	3.5	3.8	4.0	
20	BCS	BARCLAYS	A	452	0.4%	2,032	1,085	947	1.15	44	3.5	4.0	4.1	4.4	4.8

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

October 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	CBL	CBL & ASSOCS LTD PARTNERSHIP	Dec-26	BB	5.950	1,659	169	1,828	20	9.0	9.0	82.5	82.4
2	GM	GENERAL MOTORS FINANCIAL COMPANY INC	Sep-49	BB	6.500	1,097	11	1,108	21	7.0	7.1	92.9	93.0
3	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Null	BBB	5.000	942	1,807	2,749	38	5.2	5.3	96.6	94.1
4	VZ	VERIZON	Mar-27	BBB	4.125	845	73	918	15	4.2	4.3	99.4	99.0
5	CMCS	COMCAST	Oct-25	A	3.950	800	53	853	13	4.0	4.0	100.0	99.8
6	GS	GOLDMAN SACHS	Oct-19	BBB	2.550	708	142	850	19	3.0	3.1	99.6	99.4
7	GM	GENERAL MOTORS FINANCIAL COMPANY INC	Null	BB	5.750	700	275	975	19	6.5	6.5	88.7	89.1
8	LTD	LIMITED BRANDS INC	Nov-35	BB	6.875	699	159	858	9	8.6	8.7	84.6	84.3
9	HTZ	HERTZ CORP	Oct-20	B	5.875	681	115	796	9	6.0	6.3	99.8	99.2
10	KMPR	Kemper Corporation	Feb-25	BBB	4.350	671	10	681	9	4.8	4.8	97.4	97.5
11	BAC	BANK OF AMERICA	Aug-24	BBB	4.200	656	183	839	15	4.2	4.3	99.9	99.6
12	CNP	CENTERPOINT ENERGY INC	Dec-49	BBB	6.125	651	28	679	16	6.0	6.1	102.0	100.7
13	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	Feb-23	A	3.300	647	173	820	14	3.8	3.9	97.9	97.7
14	GD	GENERAL DYNAMICS CORP	May-21	A	3.000	607	57	664	10	3.3	3.3	99.3	99.3
15	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	Feb-21	A	2.650	604	197	801	20	3.4	3.5	98.3	98.2
16	CCCX	COMMUNITY CHOICE FINL INC	May-19	C	10.750	593	88	681	5	86.5	92.3	72.9	71.5
17	AAPL	APPLE INC	May-21	AA	2.850	582	252	834	9	3.1	3.2	99.3	99.2
18	JPM	JP MORGAN CHASE	Oct-20	A	4.250	553	172	725	17	3.3	3.4	101.8	101.7
19	STZ	CONSTELLATION BRANDS INC	Nov-19	BBB	2.000	541	8	549	10	3.0	3.3	98.9	98.7
20	PNC	PNC FDG CORP	Null	BBB	6.750	526	116	642	8	6.4	6.4	106.3	106.1

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

October 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	942	1,807	2,749	38	5.2	5.3	96.6	94.1
2	T	AT&T	Feb-26	BBB	4.125	343	840	1,183	18	4.4	4.5	98.2	97.4
3	AMZN	AMAZON COM INC	Dec-24	A	3.800	88	795	883	13	3.6	3.5	101.3	101.7
4	T	AT&T	Feb-22	BBB	3.000	429	451	880	8	3.7	3.8	97.8	97.6
5	VZ	VERIZON	Nov-24	BBB	3.500	273	413	686	7	3.8	3.9	98.1	98.0
6	ORCL	ORACLE CORP	Nov-27	AA	3.250	235	376	611	4	3.9	3.9	95.3	95.1
7	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	Feb-26	A	3.650	404	366	770	16	4.3	4.3	96.1	95.8
8	AAPL	APPLE INC	May-23	AA	2.400	398	362	760	16	3.4	3.5	95.6	95.5
9	GILD	GILEAD SCIENCES INC	Feb-25	A	3.500	267	356	623	5	3.9	4.0	97.6	97.4
10	GS	GOLDMAN SACHS	Jan-22	BBB	5.750	264	350	614	11	3.8	3.8	106.0	105.9
11	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Jan-38	A	5.875	130	348	478	8	5.2	5.3	107.7	106.6
12	JPM	JP MORGAN CHASE	Oct-26	A	2.950	322	342	664	5	4.1	4.2	92.0	91.8
13	VZ	VERIZON	Sep-23	BBB	5.150	222	329	551	12	3.7	3.7	106.4	106.2
14	HBC	HSBC	Apr-21	A	5.100	239	311	550	8	3.5	3.6	103.6	103.5
15	CSCO	CISCO	Jan-20	AA	4.450	191	305	496	8	2.9	3.0	101.9	101.7
16	CCI	CROWN CASTLE INTL CORP	Jan-23	BBB	5.250	67	304	371	3	4.0	4.1	104.7	104.6
17	GS	GOLDMAN SACHS	Null	BB	5.300	110	303	413	6	5.3	5.4	99.4	98.0
18	GS	GOLDMAN SACHS	Mar-24	BBB	4.000	356	301	657	15	4.1	4.1	99.7	99.5
19	JPM	JP MORGAN CHASE	Null	BBB	5.809	214	297	511	10	5.8	5.8	100.8	100.4
20	AAPL	APPLE INC	Feb-26	AA	3.250	458	296	754	10	3.7	3.8	96.9	96.6

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.)

Disclosures

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