

Market Transparency Report

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

July 2017

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 July 2017

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	16	-5.2%	0.1
CD	5	7.6%	2.0
Corp	10	-7.7%	0.1
Municipal	12	-7.1%	0.2
Treasury	4	-0.3%	0.3

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

Yield Matrix

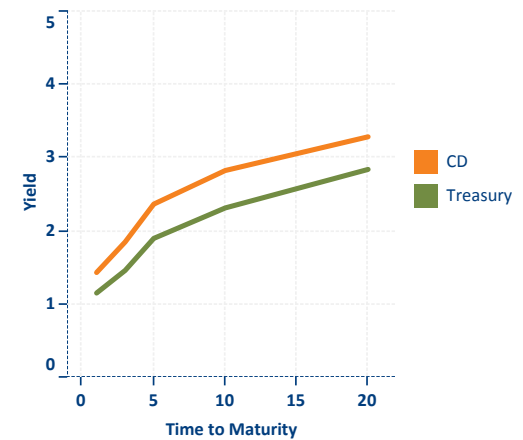
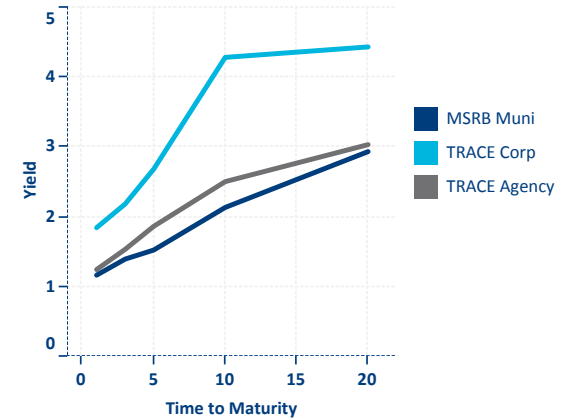
Average Yield, % for July 2017

Market	TTM					Median Maturity (Years)
	1	3	5	10	20	
MSRB Muni	1.2	1.4	1.5	2.1	2.9	14
TRACE Corp	1.9	2.2	2.7	4.3	4.4	5
TRACE Agency	1.3	1.5	1.9	2.5	3.0	3
CD	1.4	1.9	2.4	2.8	3.3	1
Treasury	1.2	1.5	1.9	2.3	2.8	1

Asset Class

Market	Category (Filtered)	Rating Key	1	3	5	10	20	Median Maturity (Years)
TRACE Corp	Financial	AA	1.5	1.8	2.1			4
		A	1.4	2.1	2.5	3.3	4.0	4
		BBB	1.6	2.3	2.9	3.6	4.1	6
		HY	1.8	2.9	3.9	9.0	7.1	3
	Non-Financial	AAA	1.7	1.7	3.0	3.6	3.6	3
		AA	1.3	1.9	2.9	3.2	3.7	3
		A	1.4	2.0	2.4	3.3	4.0	2
		BBB	1.6	2.2	2.9	4.8	5.7	9
		HY	41.6	4.7	4.9	10.3	11.4	8
MSRB Muni	GO	AAA	1.0	1.1	1.3	1.9	2.9	12
		AA	1.0	1.2	1.4	2.1	2.9	13
		A	1.4	1.6	1.7	2.4	3.2	11
		BBB	2.2	2.8	3.1	3.7	4.1	10
	Revenue	HY	8.7	5.2	4.6	5.8	6.2	8
		AAA	1.0	1.2	1.3	1.9	2.7	10
		AA	1.1	1.2	1.4	2.0	2.8	14
		A	1.2	1.4	1.6	2.2	2.9	17
		BBB	1.8	2.3	2.7	3.3	3.4	17
		HY	20.5	24.7	15.2	8.1	10.9	14

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.

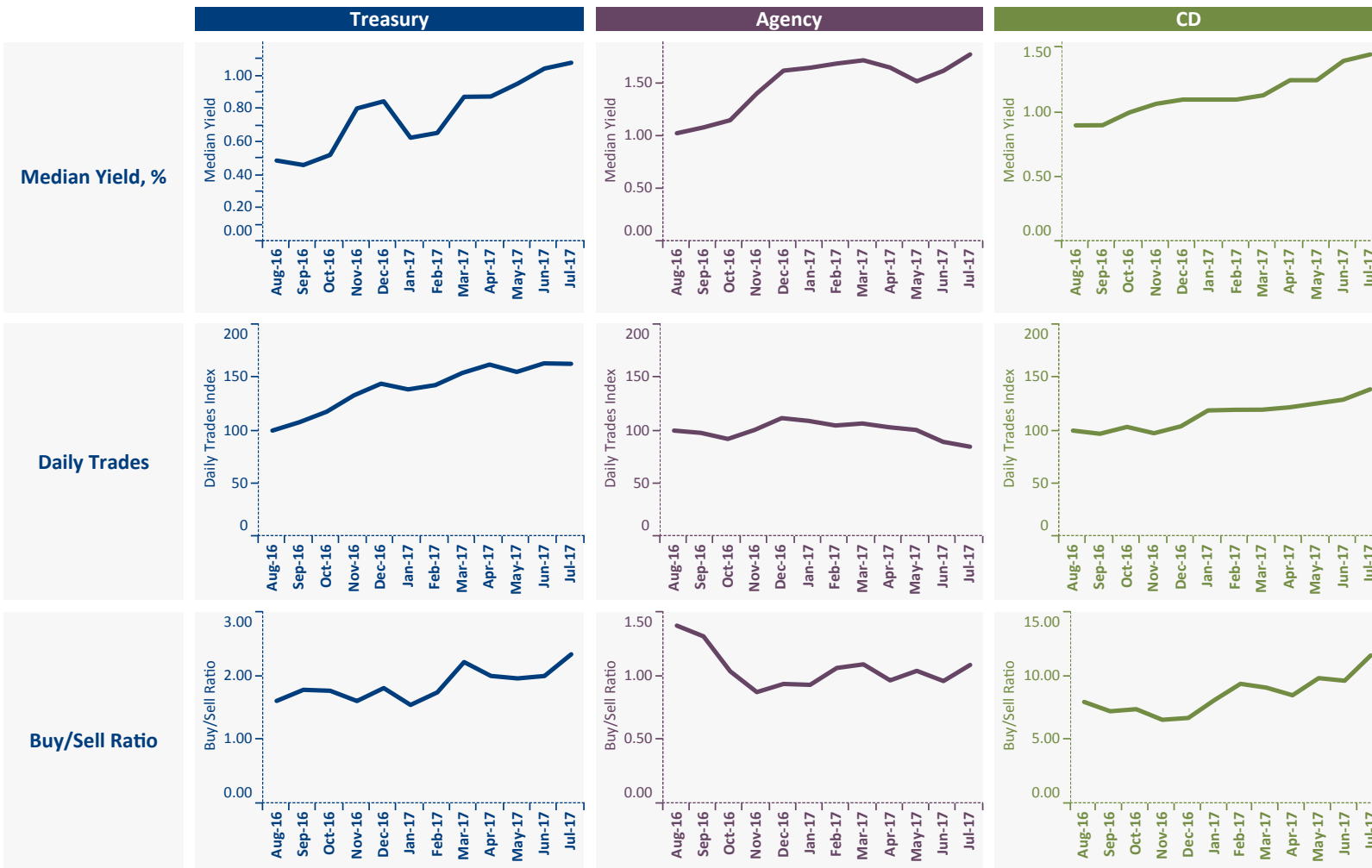
-The weights are based on transaction size.

-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



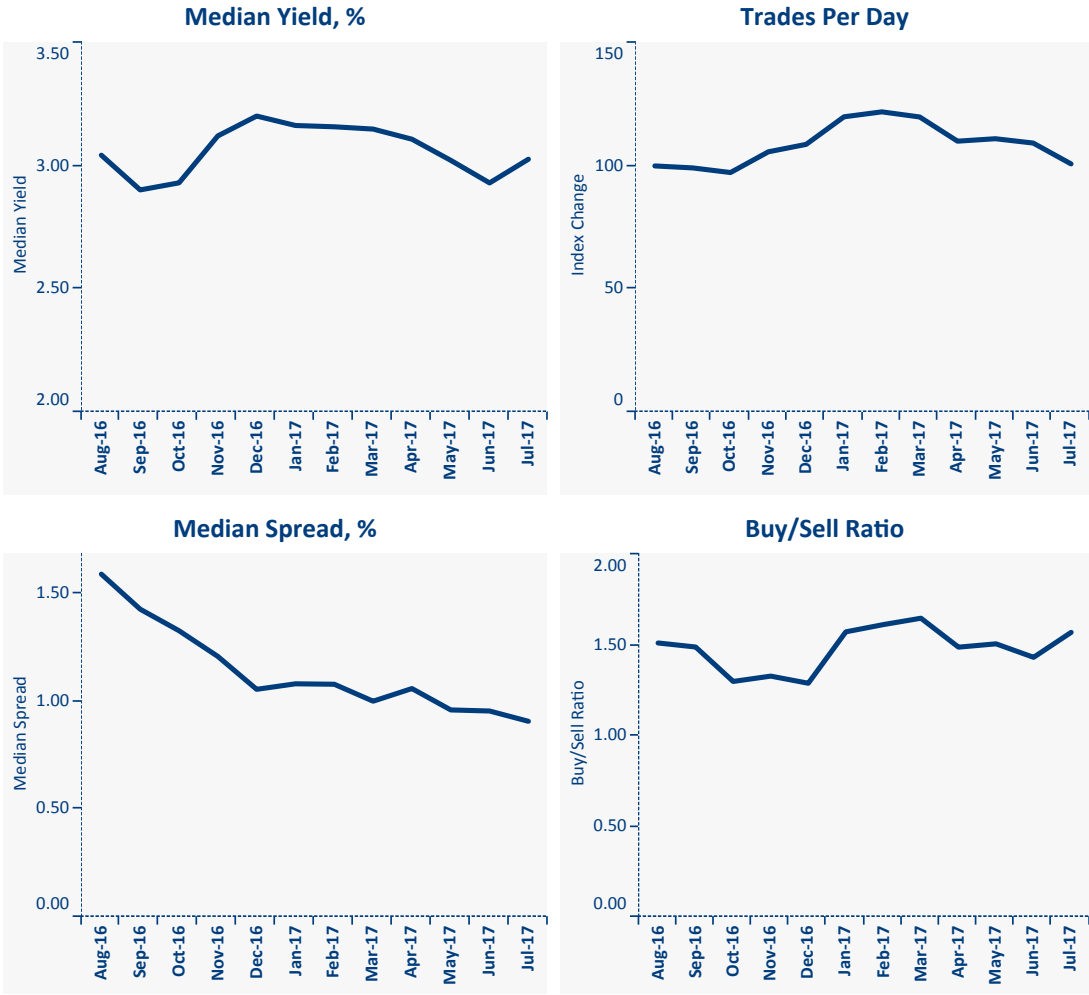
Daily Trades: First month = 100

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

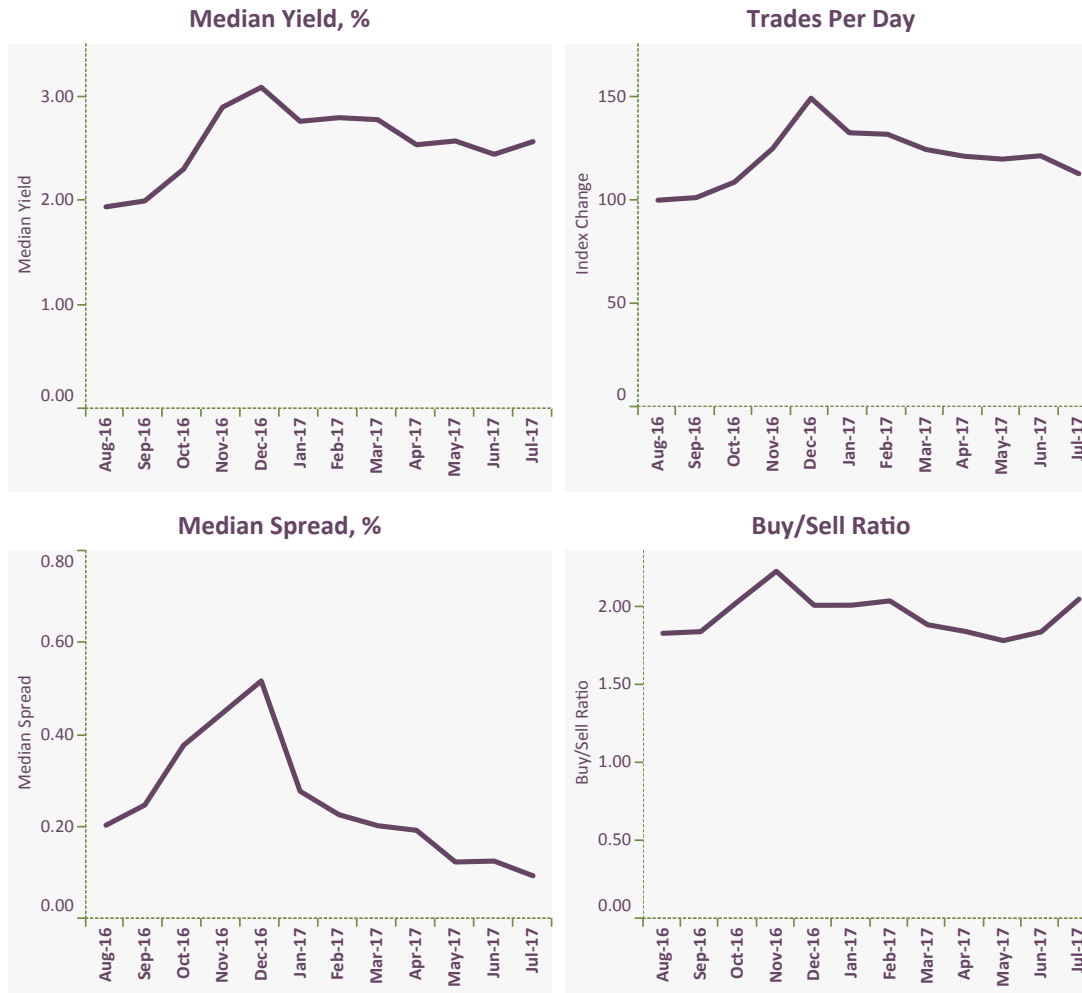


Daily Trades: First month = 100
 Source: TRACE and Tradeweb Direct
 -Based on odd-lot customer transactions (<100M) reported in TRACE.
 -Median yields and spreads are based on all odd-lot customer buy transactions...

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Municipal Bonds: Odd-Lot Customer Transaction Trend Summary



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

July 2017

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	458	3.6%	13,904	2.1	262	1.5	2.1	2.6	3.3	3.4
2	GS	GOLDMAN SACHS	BBB	765	3.4%	13,111	1.5	263	1.6	2.2	2.7	3.5	4.3
3	C	CITIGROUP	BBB	317	3.1%	12,005	2.9	220	1.6	2.0	2.7	3.6	4.0
4	BAC	BANK OF AMERICA	BBB	432	3.0%	11,405	1.3	223	1.6	2.2	2.7	3.5	3.9
5	T	AT&T	BBB	89	2.2%	8,374	2.0	175	1.6	2.1	2.8	3.6	4.6
6	WFC	WELLS FARGO	A	197	2.1%	8,004	1.8	182	1.4	2.3	2.6	3.3	4.0
7	VZ	VERIZON	BBB	80	2.1%	7,931	1.9	156	1.7	2.2	2.6	3.7	4.4
8	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	AA	363	2.0%	7,737	1.1	147	1.4	1.9	2.3	3.2	3.8
9	MS	MORGAN STANLEY	BBB	654	1.7%	6,598	1.4	163	1.6	2.2	2.7	3.4	4.2
10	AAPL	APPLE INC	AA	48	1.2%	4,589	1.7	98	1.3	2.0	2.3	2.9	3.5
11	FTR	FRONTIER COMMUNICATIONS CORP	B	20	1.0%	3,756	0.4	66	3.9		12.0	13.1	12.9
12	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	A	41	1.0%	3,716	1.6	64	1.5	2.0	2.5	3.2	3.9
13	F	FORD	BBB	205	0.9%	3,600	2.6	70	1.7	2.2	2.9	4.0	
14	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	44	0.9%	3,512	3.6	87	1.8	2.3	3.0	3.9	4.8
15	BRK	BERKSHIRE HATHAWAY	A	145	0.9%	3,314	1.3	77	1.4	1.9	2.4	3.2	3.9
16	HBC	HSBC	N/R	452	0.7%	2,761	1.2	62	1.5	2.5	2.6	3.5	4.1
17	MSFT	MICROSOFT CORP	AAA	42	0.7%	2,720	1.6	60	1.3	1.6	2.1	2.8	3.4
18	AXP	AMERICAN EXPRESS	BBB	37	0.7%	2,624	1.3	59	1.4	1.8	2.4	3.2	
19	CTL	CENTURYLINK	BB	28	0.7%	2,580	1.7	56		3.4	4.6	6.3	8.1

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

July 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 (Buy)	3Y Yield (Buy)	5Y Yield (Buy)	10Y Yield (Buy)	20Y Yield (Buy)
1	RAD	RITE AID CORP	N/R	4	0.3%	978	910	68	13.4	24		4.7		7.6	
2	JWN	NORDSTROM INC	BBB	6	0.3%	1,025	952	73	13.0	23		2.2	2.8	4.2	6.0
3	CBL	CBL & ASSOCS LTD PARTNERSHIP	BBB	3	0.3%	1,027	942	85	11.1	23				5.7	
4	NBR	NABORS INDS INC	BB	6	0.3%	1,127	966	161	6.0	18	2.1	4.3	5.3		
5	CHRC	BAYSIDE CMNTY CHURCH SARASOTA INC BRADEN	N/R	118	0.3%	1,066	903	163	5.5	7	3.0			6.2	6.2
6	XRX	XEROX CORP	BBB	10	0.4%	1,562	1,296	266	4.9	27	1.6	2.9			6.1
7	ENB	ENBRIDGE INC	BB	23	0.2%	869	714	155	4.6	24	1.8	2.5	2.8	3.5	5.0
8	NE	NOBLE HLDG INTL LTD	B	11	0.2%	862	700	162	4.3	13	3.5	10.5		11.8	10.2
9	M	MACYS RETAIL HLDGS INC	BBB	21	0.4%	1,693	1,372	321	4.3	37		3.4	4.0	5.7	5.9
10	LTD	LIMITED BRANDS INC	BB	9	0.3%	974	787	187	4.2	23		3.5	4.1		7.1
11	HTZ	HERTZ CORP	B	8	0.6%	2,408	1,917	491	3.9	57		6.8	8.0	9.1	
12	COF	CAPITAL ONE FINL CORP	BBB	27	0.5%	1,840	1,446	394	3.7	40	1.4	2.4	2.7	3.9	
13	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	44	0.9%	3,512	2,740	772	3.6	87	1.8	2.3	3.0	3.9	4.8
14	TK	TEEKAY CORP	B	2	0.3%	1,018	782	236	3.3	17		12.8			
15	C	CITIGROUP	BBB	317	3.1%	12,005	8,893	3,112	2.9	220	1.6	2.0	2.7	3.6	4.0
16	UNH	UNITEDHEALTH	A	37	0.4%	1,654	1,196	458	2.6	34	1.4	1.9	2.5	2.9	3.7
17	F	FORD	BBB	205	0.9%	3,600	2,595	1,005	2.6	70	1.7	2.2	2.9	4.0	
18	PEMX	PETROLEOS MEXICANOS	BBB	40	0.6%	2,220	1,599	621	2.6	78	2.0	3.4	4.0	4.6	6.3
19	KSS	KOHL'S CORP	BBB	8	0.2%	904	650	254	2.6	19			3.2	4.3	5.5
20	TRP	TRANSCANADA PIPELINES LTD	BBB	28	0.2%	851	610	241	2.5	18	1.8	2.2	2.5	3.3	4.1

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

July 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	FTR	FRONTIER COMMUNICATIONS CORP	B	20	1.0%	3,756	1,138	2,618	0.43	66			12.3	13.2	13.2
2	BMO	BANK MONTREAL MEDIUM TERM SR NTS BOOK EN	N/R	44	0.3%	978	306	672	0.46	25	1.7	1.9	2.3	4.3	
3	GT	GOODYEAR TIRE & RUBBER	BB	5	0.3%	957	357	600	0.60	15		2.8		4.5	
4	EDP	ENTERPRISE PRODS OPER LLC	BBB	30	0.2%	888	409	479	0.85	16	2.0	2.3	2.8	3.3	4.6
5	VALEF	Null	BB	10	0.2%	930	431	499	0.86	33		3.2	3.9	4.9	6.2
6	RIG	TRANSOCEAN INC	B	15	0.4%	1,392	655	737	0.89	25				9.0	10.0
7	CS	CREDIT SUISSE	N/R	383	0.5%	2,086	1,006	1,080	0.93	38	10.0	2.4	2.9	3.2	3.9
8	DELL	DELL	BB	9	0.3%	1,277	617	660	0.93	32	2.6	3.5	4.2	5.9	6.5
9	WMT	WAL-MART	AA	23	0.2%	863	417	446	0.93	20	1.5	1.8	2.3	2.8	3.6
10	MET	METLIFE	A	24	0.3%	1,318	643	675	0.95	28	1.7	2.2	2.6	3.0	3.9
11	BCS	BARCLAYS	N/R	412	0.6%	2,288	1,118	1,170	0.96	46	2.9	2.2	3.6	3.9	4.1
12	PDVA	PETROLEOS DE VENEZUELA SA	N/R	9	0.3%	1,207	594	613	0.97	22					
13	RY	ROYAL BANK OF CANADA	A	241	0.4%	1,575	774	801	0.97	32	1.6	2.0	2.2	3.6	3.9
14	AA	ALCOA	BB	9	0.4%	1,395	692	703	0.98	31		3.7	4.0	5.0	5.9
15	CMCS	COMCAST	A	44	0.6%	2,408	1,222	1,186	1.03	44	1.6	1.9	2.5	2.9	3.9
16	MSI	MOTOROLA SOLUTIONS INC	BBB	10	0.2%	850	436	414	1.05	20			3.2	4.4	
17	STT	STATE STR CORP	A	16	0.2%	854	440	414	1.06	18	1.7	2.0	2.7	3.0	
18	USB	U S BANCORP MEDIUM TERM NTS- BOOK ENTRY	A	25	0.4%	1,423	738	685	1.08	27	1.5	2.1	2.5	3.2	
19	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	AA	363	2.0%	7,737	4,047	3,690	1.10	147	1.7	2.1	2.4	3.4	3.9
20	DOW	DOW CHEM CO	BBB	118	0.2%	843	449	394	1.14	17	2.2	2.2	2.6	4.0	4.0

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

July 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	JPM	JP MORGAN CHASE	Mar-25	A	3.220	2,395	19	2,414	7			101.0	100.5
2	C	CITIGROUP	Jul-28	N/R	3.668	2,273	1	2,274	13			100.6	100.4
3	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Null	A	5.000	999	432	1,431	16			106.1	105.8
4	RAD	RITE AID CORP	Apr-23	N/R	6.125	797	19	816	21			100.3	99.5
5	F	FORD	Dec-26	BBB	4.346	789	90	879	10	4.0	3.9	102.9	103.4
6	TK	TEEKAY CORP	Jan-20	B	8.500	735	106	841	13	12.8	9.2	91.1	98.5
7	HTZ	HERTZ CORP	Jan-21	B	7.375	666	116	782	18	7.5	8.0	99.7	98.1
8	JPM	JP MORGAN CHASE	Null	BBB	5.150	662	173	835	14			103.5	103.1
9	T	AT&T	May-25	BBB	3.400	661	158	819	18	3.5	3.7	99.1	98.3
10	MNK	Null	Apr-23	B	4.750	649	79	728	8	7.0	7.1	89.6	89.1
11	NBR	NABORS INDS INC	Sep-23	BB	5.100	637	18	655	8	5.8	6.1	96.4	94.8
12	HTZ	HERTZ CORP	Oct-20	B	5.875	634	140	774	18	6.5	7.1	98.2	96.5
13	MX	MAGNACHIP SEMICONDUCTOR CORP NEW	Jul-21	B	6.625	568	20	588	10	7.4	8.7	97.5	93.2
14	WFT	WEATHERFORD INTL LTD BERMUDA	Jul-21	B	5.875	565	47	612	4	5.0	5.0	103.0	103.0
15	XRX	XEROX CORP	May-21	BBB	4.500	549	36	585	6	2.9	3.1	105.7	105.1
16	MDCO	MEDICINES CO	Jul-23	N/R	2.750	512	8	520	2	1.7	1.7	105.8	105.8
17	RHAT	Null	Oct-19	BBB	0.250	510	50	560	2			141.4	140.0
18	ENB	ENBRIDGE INC	Jul-77	BB	5.500	502	6	508	15			102.3	101.2
19	UNH	UNITEDHEALTH	Mar-23	A	2.875	498	16	514	7	2.5	2.6	102.0	101.5
20	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	Feb-19	A	2.150	488	334	822	4	1.6	1.7	100.8	100.7

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

July 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	FTR	FRONTIER COMMUNICATIONS CORP	Sep-21	B	6.250	140	582	722	10		11.2	87.5	85.9
2	WFM	WHOLE FOODS MARKET INC	Dec-25	BBB	5.200	29	562	591	13	3.1	3.1	115.0	114.7
3	WBMD	WEBMD HEALTH CORP	Dec-20	N/R	1.500	10	518	528	3			124.3	137.8
4	GT	GOODYEAR TIRE & RUBBER	May-26	BB	5.000	116	490	606	7	4.3	4.5	104.3	103.0
5	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Null	A	5.000	999	432	1,431	16			106.1	105.8
6	STX	SEAGATE HDD CAYMAN	Dec-34	BBB	5.750	478	398	876	22	5.8	6.2	99.2	95.0
7	ALGT	Null	Jul-19	B	5.500	57	353	410	5	3.4	3.6	104.1	103.5
8	VZ	VERIZON	Feb-28	BB	6.860	40	342	382	4	10.5	10.8	77.3	75.6
9	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	Feb-19	A	2.150	488	334	822	4	1.6	1.7	100.8	100.7
10	JPM	JP MORGAN CHASE	Null	BBB	7.900	269	326	595	15			104.0	103.2
11	BAC	BANK OF AMERICA	Null	BB	8.125	181	317	498	7			104.3	103.9
12	HOTT	Null	Jan-23	BBB	4.375	101	268	369	7	4.0	4.2	101.7	100.9
13	SPLS	STAPLES INC	Jan-23	BBB	4.375	15	48	63	1	3.9	4.4	102.2	100.0
14	T	AT&T	Feb-22	BBB	3.000	445	301	746	8	2.8	2.8	101.0	100.7
15	FTR	FRONTIER COMMUNICATIONS CORP	Jan-23	B	7.125	48	300	348	6	11.8	12.1	81.5	80.6
16	VZ	VERIZON	Feb-28	BB	6.730	30	299	329	3	10.4	11.0	76.9	73.9
17	DISH	DISH DBS CORP	Sep-19	B	7.875	21	263	284	3	2.7	3.1	110.5	109.9
18	PBR	PETROBRAS	May-23	B	4.375	269	261	530	18	5.1	5.3	96.5	95.6
19	AAPL	APPLE INC	May-23	AA	2.400	317	255	572	14	2.4	2.4	100.0	99.8
20	GPS	GAP	Apr-21	BBB	5.950	151	254	405	9	3.2	3.4	109.0	108.4

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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