

Market Transparency Report

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

April 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 April 2017

	Median Yield (bps)	Daily Trade Volume	Buy/Sell Ratio
Agency	-7	-3.4%	-0.1
CD	12	1.8%	-0.6
Corp	-4	-8.3%	-0.2
Municipal	-24	-2.6%	0.0
Treasury	0	5.1%	-0.2

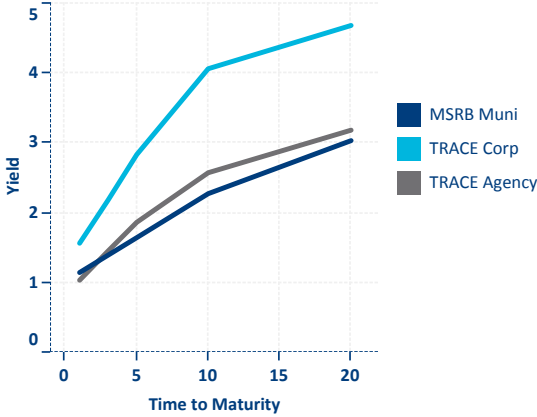
For monthly security trend data, see slides 5, 6 and 7

Yield Matrix

Average Yield, % for April 2017

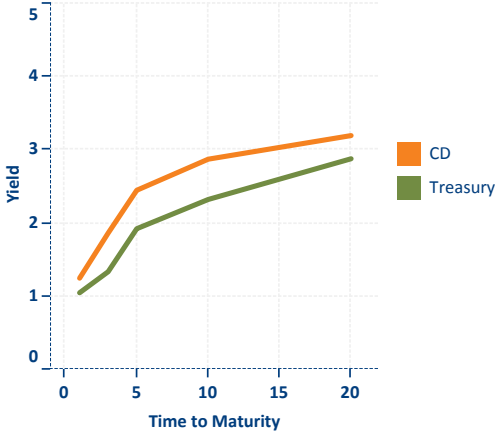
Market	TTM					Median Maturity (Years)
	1	3	5	10	20	
MSRB Muni	1.2	1.4	1.7	2.3	3.0	13
TRACE Corp	1.6	2.2	2.8	4.1	4.7	4
TRACE Agency	1.0	1.5	1.9	2.6	3.2	3
CD	1.3	1.9	2.5	2.9	3.2	1
Treasury	1.1	1.3	1.9	2.3	2.9	0

Average Yield, %



Asset Class

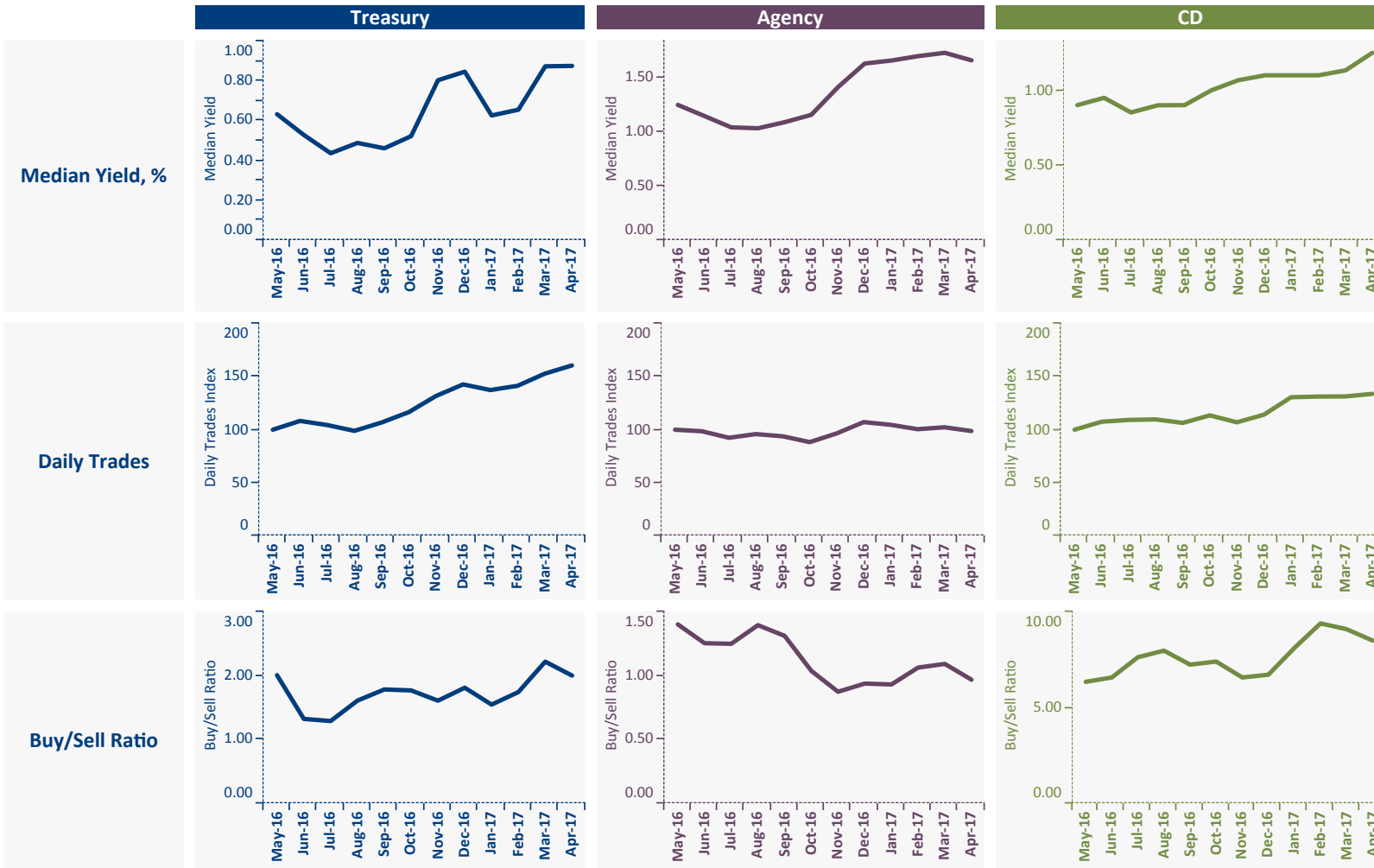
Market	Category (Filtered)	Rating Key	TTM					Median Maturity (Years)
			1	3	5	10	20	
TRACE Corp	Financial	AA	1.4	1.9	2.2			3
		A	1.4	2.0	2.6	3.4	4.3	4
		BBB	1.6	2.4	3.0	3.8	4.2	5
		HY	2.0	3.2	4.0	4.6	7.6	3
		AAA	1.6	1.6	1.9	3.2	3.9	4
	Non-Financial	AA	1.3	1.8	2.5	3.7	4.0	3
		A	1.4	2.1	2.6	3.4	4.1	3
		BBB	1.6	2.4	3.8	4.3	5.8	8
		HY	6.7	5.1	4.4	7.6	11.1	9
MSRB Muni	GO	AAA	1.0	1.2	1.4	2.0	3.0	11
		AA	1.0	1.3	1.5	2.2	3.1	12
		A	1.2	1.4	1.8	2.4	3.4	12
		BBB	2.0	2.6	3.4	4.0	4.4	11
		HY	18.7	2.8	2.2	6.3	4.6	7
	Revenue	AAA	1.0	1.2	1.5	2.0	2.7	9
		AA	1.1	1.3	1.5	2.1	2.9	13
		A	1.1	1.4	1.7	2.3	3.1	17
		BBB	1.6	2.3	2.7	3.3	3.7	15
		HY	21.8	18.2	11.2	9.3	8.6	14



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



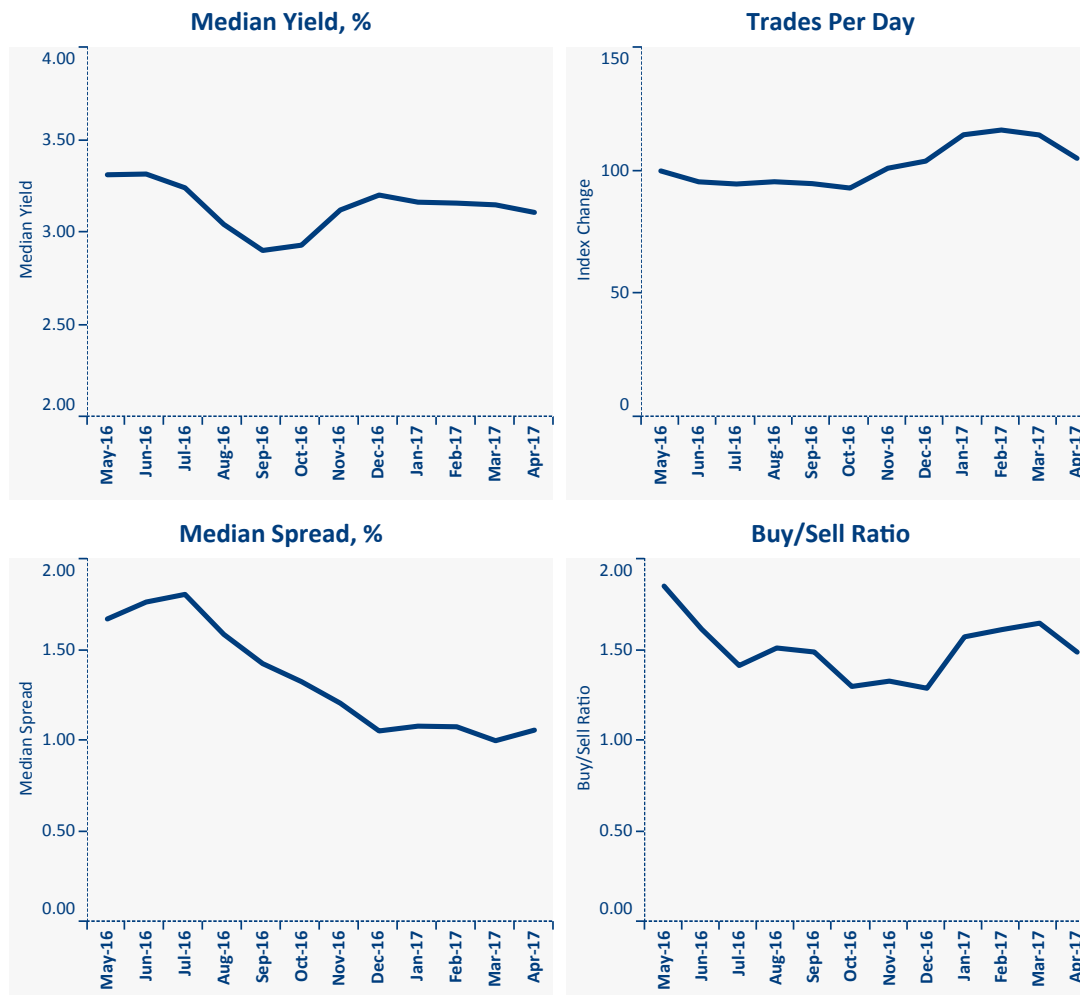
Daily Trades: First month = 100

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

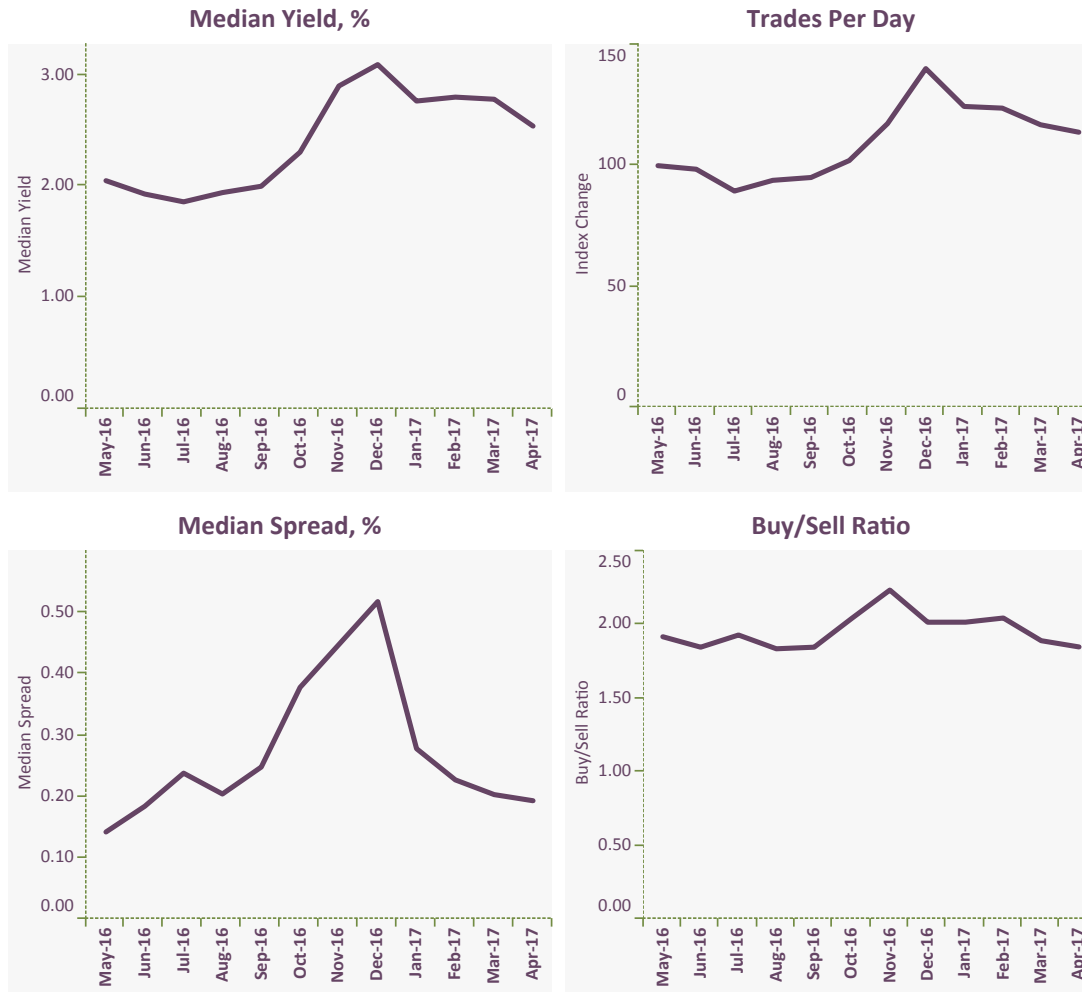
-Based on odd-lot customer transactions (<100M) reported in TRACE.

-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

April 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	GS	GOLDMAN SACHS	BBB	753	3.4%	13,527	1.4	276	1.6	2.2	2.7	3.5	4.6
2	JPM	JP MORGAN CHASE	A	443	3.2%	12,871	1.7	281	1.4	2.1	2.6	3.5	3.9
3	BAC	BANK OF AMERICA	BBB	451	2.9%	11,465	1.3	226	1.6	2.2	2.8	3.8	4.0
4	C	CITIGROUP	BBB	296	2.5%	10,099	1.9	229	1.6	2.1	2.7	4.0	3.5
5	T	AT&T	BBB	82	2.2%	9,016	2.2	183	1.5	2.3	2.9	3.7	4.9
6	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	AA	364	2.2%	8,912	1.1	166	1.3	2.0	2.4	3.3	3.9
7	WFC	WELLS FARGO	A	195	1.9%	7,777	1.7	174	1.4	2.2	2.6	3.4	4.0
8	MS	MORGAN STANLEY	BBB	633	1.7%	6,954	1.3	159	1.5	2.2	2.7	3.6	4.0
9	VZ	VERIZON	BBB	72	1.6%	6,385	2.0	128	1.7	2.3	2.7	3.5	4.7
10	AAPL	APPLE INC	AA	42	1.1%	4,477	1.4	94	1.2	1.6	2.1	2.9	3.7
11	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	42	1.1%	4,278	4.0	101	1.8	2.4	3.1	4.0	5.0
12	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	A	41	1.1%	4,269	1.6	72	1.3	2.1	2.7	3.3	4.1
13	CTL	CENTURYLINK	BBB	31	1.0%	3,969	2.0	70		3.3	4.5	5.9	7.8
14	BRK	BERKSHIRE HATHAWAY	A	155	0.9%	3,812	1.3	91	1.3	1.9	2.5	3.3	4.2
15	HTZ	HERTZ CORP	B	7	0.9%	3,492	19.4	52	3.4	8.3	7.8	7.0	
16	AXP	AMERICAN EXPRESS	BBB	38	0.9%	3,460	1.0	73	1.5	1.9	2.5	3.3	
17	F	FORD	BBB	173	0.8%	3,333	2.3	74	1.8	2.4	3.0	4.0	
18	MSFT	MICROSOFT CORP	AAA	42	0.8%	3,119	1.6	71	1.1	1.6	2.1	2.9	3.6
19	HBC	HSBC	N/R	437	0.8%	3,036	1.2	65	1.5	2.6	2.8	3.7	4.3
20	STX	SEAGATE HDD CAYMAN	BBB	8	0.7%	2,870	1.8	71				5.1	6.2

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

April 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	ATW	ATWOOD OCEANICS INC	C	1	0.5%	1,846	1,773	73	24.3	19		10.8			
2	HTZ	HERTZ CORP	B	7	0.9%	3,492	3,321	171	19.4	52	3.4	8.3	7.8	7.0	
3	CHRC	BAYSIDE CMNTY CHURCH SARASOTA INC BRADEN	N/R	120	0.4%	1,562	1,445	117	12.4	11		5.2		6.0	6.6
4	CBL	CBL & ASSOCS LTD PARTNERSHIP	BBB	3	0.3%	1,352	1,209	143	8.5	30				6.0	
5	LTD	LIMITED BRANDS INC	BB	9	0.3%	1,030	885	145	6.1	24		3.7	4.6		7.2
6	PBI	PITNEY BOWES	BBB	7	0.3%	1,099	896	203	4.4	24	1.8		3.4		5.2
7	GM	GENERAL MOTORS FINANCIAL COMPANY INC	BBB	42	1.1%	4,278	3,426	852	4.0	101	1.8	2.4	3.1	4.0	5.0
8	SO	GEORGIA POWER CO	BBB	66	0.5%	2,050	1,594	456	3.5	47	1.7	2.1	2.5	3.3	4.6
9	COF	CAPITAL ONE FINL CORP	BBB	30	0.4%	1,570	1,179	391	3.0	36	1.6	2.0	2.8	3.9	
10	TD	TORONTO DOMINION BK SR MEDIUM TERM BK NT	AA	49	0.2%	981	692	289	2.4	25	1.5	1.9	2.3	2.8	
11	KSS	KOHL'S CORP	BBB	8	0.3%	1,348	948	400	2.4	29			3.5	4.4	6.1
12	PSEC	PROSPECT CAP CORP INTERNOTES BOOK ENTRY	BBB	185	0.3%	1,403	973	430	2.3	27	2.2	4.4	4.9	5.1	6.1
13	ECOH	ECOPETROL S A	BBB	8	0.2%	921	638	283	2.3	31	1.9	2.1		4.5	
14	F	FORD	BBB	173	0.8%	3,333	2,308	1,025	2.3	74	1.8	2.4	3.0	4.0	
15	SAN	ABBEEY NATL TREAS SVCS PLC	BBB	30	0.2%	947	656	291	2.3	27	1.9	2.4	3.3	4.1	
16	PFE	PFIZER	AA	37	0.2%	944	651	293	2.2	26	1.4	1.6	2.1	3.0	3.9
17	T	AT&T	BBB	82	2.2%	9,016	6,195	2,821	2.2	183	1.5	2.3	2.9	3.7	4.9
18	M	MACYS RETAIL HLDGS INC	BBB	20	0.3%	1,170	799	371	2.2	25		3.0	3.9	5.6	5.9
19	ESRX	EXPRESS SCRIPTS HLDG CO	BBB	14	0.4%	1,553	1,053	500	2.1	24		2.0	2.8	4.0	
20	PDVA	PETROLEOS DE VENEZUELA SA	N/R	10	0.4%	1,734	1,165	569	2.1	34					

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

April 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	COP	CONOCOPHILLIPS	BBB	32	0.3%	1,280	366	914	0.40	25	1.7	2.3	2.6	3.4	4.4
2	DELL	DELL	BB	9	0.3%	1,094	405	689	0.59	25	2.7	3.7		6.1	6.7
3	X	UNITED STS STL CORP NEW	B	6	0.2%	964	367	597	0.61	20	3.6	4.7	6.7		7.7
4	AA	ALCOA	BB	11	0.3%	1,333	555	778	0.71	30	2.0	3.5	4.1	5.0	5.9
5	CS	CREDIT SUISSE	N/R	377	0.5%	1,993	840	1,153	0.73	41	9.2	2.6	3.4	4.0	
6	RIG	TRANSOCEAN INC	B	13	0.4%	1,637	710	927	0.77	35	4.0	6.1	7.2	8.7	8.9
7	WMT	WAL-MART	AA	23	0.3%	1,083	489	594	0.82	26	1.4	1.9	2.4	3.1	4.0
8	INTC	INTEL CORP	A	18	0.2%	988	455	533	0.85	24	1.4	1.9	2.3	3.0	3.5
9	MRO	MARATHON OIL CORP	BBB	19	0.2%	936	439	497	0.88	20		2.9	3.5	4.0	5.5
10	KMI	KINDER MORGAN ENERGY PARTNERS L P	BBB	68	0.4%	1,770	833	937	0.89	38	1.9	2.8	3.3	3.9	5.7
11	STI	SUNTRUST BKS INC	BBB	18	0.2%	931	439	492	0.89	21	2.0	1.9	2.7	4.1	
12	BCS	BARCLAYS	N/R	424	0.5%	1,943	918	1,025	0.90	38	2.4	2.4	3.3	4.0	4.0
13	PCLN	PRICELINE COM INC	BBB	5	0.3%	1,227	584	643	0.91	11				3.5	
14	CMCS	COMCAST	A	45	0.6%	2,592	1,294	1,298	1.00	51	1.5	1.9	2.7	3.1	4.3
15	CSCO	CISCO	AA	23	0.4%	1,532	769	763	1.01	28	1.4	1.8	2.4	3.0	4.0
16	EDP	ENTERPRISE PRODS OPER LLC	BBB	31	0.3%	1,169	586	583	1.01	22	1.8	2.3	3.0	3.5	4.7
17	AXP	AMERICAN EXPRESS	BBB	38	0.9%	3,460	1,746	1,714	1.02	73	1.7	2.0	2.5	3.4	
18	PTRB	PETROBRAS	B	8	0.3%	1,161	589	572	1.03	38	2.8	4.6			7.3
19	RDS	SHELL	AA	31	0.4%	1,489	767	722	1.06	33	1.6	1.9	2.5	3.1	4.2
20	RY	ROYAL BANK OF CANADA	AA	237	0.4%	1,700	873	827	1.06	34	1.6	2.1	2.2	3.7	3.7

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

April 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	ATW	ATWOOD OCEANICS INC	Feb-20	C	6.500	1,773	73	1,846	19	10.8		90.2	89.4
2	HTZ	HERTZ CORP	Jan-21	B	7.375	1,576	31	1,607	17	8.5	8.5	96.5	96.5
3	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Dec-49	A	5.000	1,346	604	1,950	20			105.9	105.6
4	CTL	CENTURYLINK	Jun-57	BBB	6.750	998	141	1,139	8			25.0	24.8
5	HTZ	HERTZ CORP	Oct-20	B	5.875	944	38	982	17	8.2	8.2	92.9	93.2
6	PBFQ	PBF HLDG CO LLC / PBF FIN CORP	Nov-23	BB	7.000	787	28	815	10	6.5	6.6	101.8	101.4
7	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	Feb-19	A	2.150	763	378	1,141	6	1.7	1.8	100.8	100.7
8	CBL	CBL & ASSOCS LTD PARTNERSHIP	Dec-26	BBB	5.950	734	112	846	20	6.0	6.1	99.5	98.7
9	CAR	AVIS BUDGET CAR RENTAL LLC/FINANCE INC.	Apr-23	B	5.500	701	74	775	13	6.0	6.1	97.5	96.9
10	T	AT&T	May-25	BBB	3.400	629	154	783	15	3.6	3.8	98.5	97.3
11	STX	SEAGATE HDD CAYMAN	Dec-34	BBB	5.750	626	507	1,133	27	6.2	6.5	94.9	92.0
12	PCLN	PRICELINE COM INC	Jun-20	BBB	0.350	503	14	517	5			146.4	140.3
13	AL	AIR LEASE CORP	Dec-18	N/R	3.875	499	41	540	2			143.4	138.1
14	VZ	VERIZON	Nov-24	BBB	3.500	495	228	723	10	3.4	3.5	100.5	99.9
15	WFM	WHOLE FOODS MARKET INC	Dec-25	BBB	5.200	494	123	617	13	4.3	4.5	106.1	104.8
16	HOLX	HOLOGIC INC	Mar-42	BB	2.000	493	27	520	2			146.9	138.5
17	AOI	ALLIANCE ONE INTL INC	Jul-21	C	9.875	486	49	535	5	14.1	14.4	86.8	86.0
18	JPM	JP MORGAN CHASE	May-49	BBB	5.150	474	166	640	15			102.1	100.4
19	JPM	JP MORGAN CHASE	Apr-49	BBB	7.900	469	209	678	13			104.6	103.8
20	PBI	PITNEY BOWES	Mar-24	BBB	4.625	467	66	533	11	4.5	4.7	100.7	99.5

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

April 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	AXP	AMERICAN EXPRESS	Dec-49	BBB	5.200	336	663	999	16			103.8	103.0
2	GE	GENERAL ELEC CAP CORP MEDIUM TERM NTS BO	Dec-49	A	5.000	1,346	604	1,950	20			105.9	105.6
3	PCLN	PRICELINE COM INC	Mar-18	BBB	1.000	23	527	550	3			187.9	194.7
4	JPM	JP MORGAN CHASE	Aug-49	BBB	6.750	248	513	761	9			112.8	111.6
5	STX	SEAGATE HDD CAYMAN	Dec-34	BBB	5.750	626	507	1,133	27	6.2	6.5	94.9	92.0
6	GS	GOLDMAN SACHS	Dec-49	BB	5.375	245	457	702	12			104.7	103.3
7	RCL	ROYAL CARIBBEAN CRUISES LTD	Nov-22	BBB	5.250	37	441	478	5	3.4	3.2	109.1	110.4
8	GT	GOODYEAR TIRE & RUBBER	May-26	BB	5.000	72	393	465	5	4.5	4.7	103.1	101.7
9	BUD	ANHEUSER BUSCH INBEV WORLDWIDE INC	Feb-19	A	2.150	763	378	1,141	6	1.7	1.8	100.8	100.7
10	HPQ	HEWLETT PACKARD	Sep-41	BBB	6.000	176	375	551	13	5.6	5.7	105.0	103.5
11	C	CITIGROUP	Dec-49	BB	6.250	228	367	595	6			109.1	108.5
12	T	AT&T	Feb-22	BBB	3.000	441	357	798	9	2.8	2.9	100.7	100.5
13	SPLS	STAPLES INC	Jan-23	BBB	4.375	124	337	461	7	4.1	4.1	101.4	101.1
14	VZ	VERIZON	Sep-23	BBB	5.150	311	297	608	12	3.2	3.3	111.0	110.6
15	AAPL	APPLE INC	May-23	AA	2.400	309	291	600	12	2.5	2.5	99.5	99.3
16	KEY	KEYCORP MEDIUM TERM SR NTS BOOK ENTRY	Dec-49	BBB	5.000	221	285	506	9			101.2	100.3
17	RCII	RENT A CTR INC NEW	Nov-20	C	6.625	389	273	662	10	8.6	9.1	93.9	92.5
18	IEP	ICAHN ENTERPRISES	Feb-22	BB	5.875	241	266	507	12	4.6	5.2	103.3	101.7
19	ESRX	EXPRESS SCRIPTS HLDG CO	Mar-27	BBB	3.400	388	265	653	6	4.0	4.0	95.4	95.2
20	PBR	PETROBRAS	May-23	B	4.375	254	265	519	18	5.1	5.3	96.2	95.0

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

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