

# **Market Transparency Report**

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

## February 2015

As of Feb. 27, 2015

#### 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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#### **Treasury, Agency and CD**

 Daily trades and the median yield remained in-line with January levels while the buy-to-sell ratio increased marginally for CD. There was a moderate increase in the median yield, buy-to-sell ratio, and daily trade volume across Agencies. Median yield increased considerably for Treasury in February, which also saw mild increases in the buy-to-sell ratio and daily trade volume.

## **Corporate**

• Median yields and credit spreads for corporate bonds dropped in February from the previous month. In addition, the number of daily trades increased 12% and buy-to-sell ratio climbed by 6%.

## **Municipal**

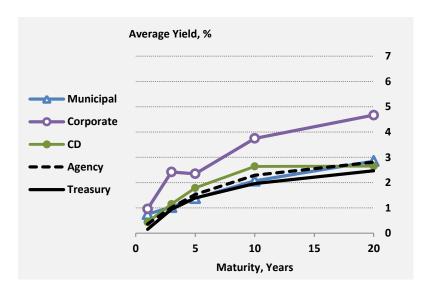
 Municipal bond median spreads did not see much change from January levels, while median yields increased marginally. Daily trade volume increased by 6% in February and the buy-to-sell ratio increased by 17%.



## **Yield Matrix**

Average Yield, %	Asset		Mat	Median			
Feb-15	Class	1	3	5	10	20	Maturity, Years
	Treasury	0.2	0.9	1.4	2.0	2.5	1.8
	Agency	0.4	1.0	1.5	2.3	2.8	3
	CD	0.4	1.2	1.8	2.6	2.7	1.8
	Corporate	1.0	2.4	2.4	3.8	4.7	5
	Municipal	0.8	1.0	1.4	2.1	2.9	14

				Mat	urity, Y	ears		Median
Asset Class		Rating	1	3	5	10	20	Maturity, Years
		AAA	-	-	-	-	-	-
		AA	0.6	1.4	1.0	2.9	3.9	3
	Financial	Α	0.8	1.5	2.0	3.0	4.0	4
		BBB	1.1	2.0	2.2	3.7	5.3	8
		High Yield	2.0	3.2	3.9	4.8	7.3	4
Corporate		AAA	0.3	-	1.7	2.6	3.4	6
		AA	0.5	1.1	1.9	2.9	3.7	4
	Non- Financial	Α	0.6	1.4	2.2	3.0	4.0	6
		BBB	0.9	1.8	2.8	4.1	5.3	8
		High Yield	1.3	4.3	7.9	6.5	7.9	12
		AAA	0.5	0.8	1.1	1.6	2.6	12
		AA	0.6	0.9	1.2	1.9	3.0	12
	General	Α	0.7	1.1	1.5	2.2	3.0	11
	Obligation	BBB	1.0	1.5	2.0	2.8	3.1	9
B.G i ai a l		High Yield	10.1	9.0	7.0	7.6	8.0	14
Municipal		AAA	0.5	0.8	1.2	1.8	2.7	11
	•	AA	0.6	0.9	1.2	1.9	2.6	14
	Revenue	Α	0.7	1.1	1.4	2.2	2.8	19
	•	BBB	1.3	1.6	2.0	2.4	3.0	18
		High Yield	15.5	7.4	13.1	7.6	5.9	15



Source: TRACE, RTRS (MSRB's Real-time Transaction Reporting System) and Tradeweb Direct as of 2/27/2015.

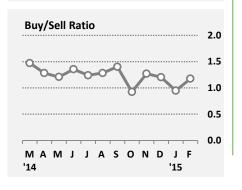
- The yields in each cell for Corporate/Agency/Municipal are the weighted average yield based on odd-lot customer buy transactions reported in TRACE/MSRB.
- The yields in each cell for Treasury/CD are the weighted average yield based on buy transactions on the Tradeweb Direct Platform.
- The weights 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.



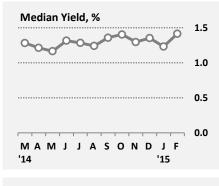
# Treasury, Agency, CD Transaction Trend Summary

# Treasury Median Yield, % 0.6 0.5 0.4 0.3 0.2 0.1 0.0 M A M J J A S O N D J F 14 15 Daily Trades, Mar. 2014= 100 120 100 80

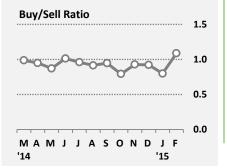




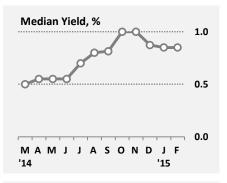
#### **Agency**

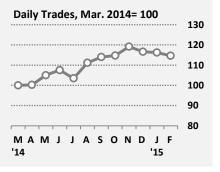


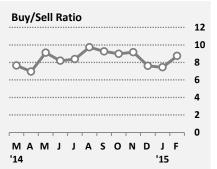




#### CD







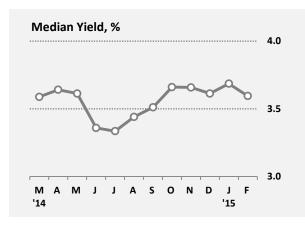
Source: TRACE and Tradeweb Direct as of 2/27/2015.

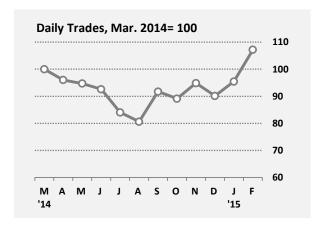
Treasury and CD are based on transactions on the Tradeweb Direct Platform. Median yields are based on all customer buy transactions.

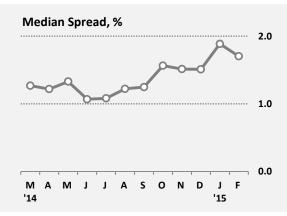
Agency is based on odd-lot customer transactions (<100M) reported in TRACE. Median yields are based on all odd-lot customer buy transactions.

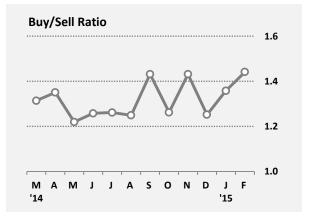


# Corporate Bonds: Odd-Lot Customer Transaction Trend Summary





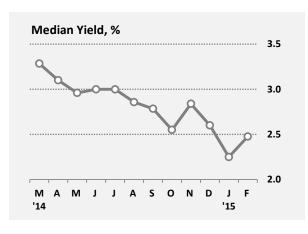


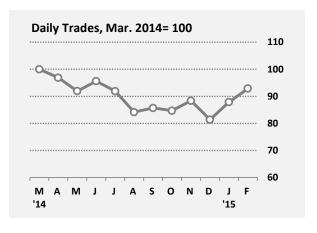


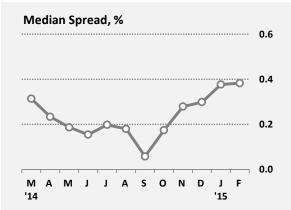
- Based on odd-lot customer transactions (<100M) reported in TRACE.
- Median yields and spreads are based on all odd-lot customer buy transactions.
- Spread for each transaction is calculated against the Treasury yield for the same maturity.

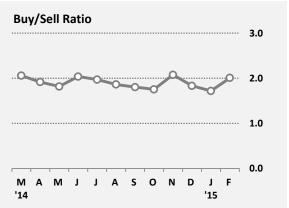


# Municipal Bonds: Odd-Lot Customer Transaction Trend Summary









Source: RTRS (MSRB's Real-time Transaction Reporting System) and Tradeweb Direct as of 2/27/2015.

- 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.



# Corporate Bonds: Top 20 Most Active Issuers

#### February 2015

	Issuer			Issues Traded	% of	Num of	Buy/Sell	Dollar Vol.	Median Yield (%), Investor Buys					
		Issuer Name	Rating		% of		Ratio	Traded (in Millions)	1Y	3Y	5Y	10Y	20Y	
1	JPM	JP MORGAN CHASE	BBB	466	3.6	12,198	1.5	263	0.9	1.6	2.2	3.2	6.0	
2	GS	GOLDMAN SACHS	BBB	685	3.1	10,644	1.1	276	0.9	1.9	2.4	3.3	4.4	
3	ВАС	BANK OF AMERICA	BBB	572	3.0	10,336	0.9	204	1.1	1.8	2.5	3.7	3.6	
4	GE	GENERAL ELECTRIC	AA	452	2.7	9,339	0.9	208	0.7	1.4	2.1	3.1	3.9	
5	RIG	TRANSOCEAN INC	BBB	13	2.7	9,157	7.8	179	2.3	6.9	8.6	7.6	9.0	
6	PBR	PETROBRAS	ВВ	23	2.2	7,412	1.6	196	5.4	7.1	7.3	7.2	8.0	
7	VZ	VERIZON	BBB	64	2.1	7,051	0.9	138	1.0	1.9	2.5	3.2	4.7	
8	С	CITIGROUP	BBB	270	2.0	6,777	1.8	160	1.1	1.7	2.2	3.5	4.0	
9	WFC	WELLS FARGO	Α	190	1.8	6,153	1.4	153	0.8	1.4	2.1	3.1	3.3	
10	MS	MORGAN STANLEY	BBB	619	1.8	6,109	0.7	173	0.9	1.8	2.3	3.5	1.1	
11	T	AT&T	BBB	59	1.6	5,437	2.0	128	0.9	1.9	1.7	3.0	4.5	
12	FCX	FREEPORT-MCMORAN COPPER & GOLD INC	BBB	18	1.1	3,717	10.4	76	-	2.7	4.2	5.3	6.3	
13	AAPL	APPLE INC	AA	18	1.0	3,492	1.7	85	0.4	1.2	1.6	2.5	-	
14	GNW	GENWORTH	ВВ	10	1.0	3,312	3.2	77	-	5.5	7.2	7.0	7.0	
15	НВС	HSBC	Α	431	0.8	2,745	0.8	128	0.8	1.7	2.9	3.0	4.1	
16	BCS	BARCLAYS	Α	482	0.8	2,737	0.7	59	1.0	1.8	2.4	3.2	3.6	
17	CTL	CENTURYLINK	ВВ	32	0.8	2,692	0.9	61	-	2.2	4.0	5.0	7.1	
18	BRK	BERKSHIRE HATHAWAY	AA	118	0.8	2,633	1.2	66	0.7	1.2	3.4	2.7	4.2	
19	EBAY	EBAY INC	Α	11	0.7	2,557	9.1	52	0.6	1.4	2.7	3.7	-	
20	CS	CREDIT SUISSE	Α	242	0.6	2,205	1.4	45	0.5	1.9	2.7	3.1	-	



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

<sup>-</sup> Issuer ratings are based on median rating of traded bonds from each issuer. Bond ratings are from Moody's and S&P.

<sup>\*</sup> Actual issue symbol will vary.

# Corporate Bonds: Top 20 Issuers with Highest Buy/Sell Ratio

#### February 2015

	Issuer			Issues	% of -	Nu	m of Tra	des	- Buy/Sell	Dollar Vol.	Med	ian Yiel	d (%), lı	nvestor	Buys
		e* Issuer Name	Rating	Traded	Trades	All	Buys	Sells	Ratio	Traded (in Millions)	1Y	3Y	5Y	10Y	20Y
1	SPN	SESI L L C	ВВВ	2	0.2	748	732	16	46	14	-	-	5.5	-	-
2	RCII	RENT A CTR INC NEW	В	2	0.3	864	845	19	44	11	-	-	7.5	-	-
3	NBR	NABORS INDS INC	BBB	6	0.5	1,652	1,571	81	19	36	2.2	4.5	5.5	6.0	-
4	CHRC	REVIVAL PENTE TABERNACLE	N/R	118	0.5	1,779	1,684	95	18	13	-	-	-	-	7.0
5	NE	NOBLE HLDG INTL LTD	BBB	10	0.4	1,287	1,210	77	16	25	1.5	4.3	6.1	-	-
6	FCX	FREEPORT-MCMORAN COPPER & GOLD INC	ВВВ	18	1.1	3,717	3,390	327	10	76	-	2.7	4.2	5.3	6.3
7	EBAY	EBAY INC	Α	11	0.7	2,557	2,303	254	9	52	0.6	1.4	2.7	3.7	-
8	FITB	FIFTH THIRD BANCORP	ВВ	16	0.2	808	723	85	9	14	0.9	2.0	2.0	3.3	4.7
9	WFT	WEATHERFORD INTL LTD BERMUDA	BBB	12	0.5	1,672	1,486	186	8	32	2.8	5.7	6.5	-	7.9
10	RIG	TRANSOCEAN INC	BBB	13	2.7	9,157	8,117	1,040	8	179	2.3	6.9	8.6	7.6	9.0
11	OKE	ONEOK INC NEW	BBB	6	0.2	709	616	93	7	13	-	-	-	3.0	6.1
12	PSEC	PROSPECT CAPITAL CORPORATION	ВВВ	139	0.5	1,601	1,354	247	5	30	4.5	5.2	3.6	5.1	5.0
13	LINE	Linn Energy, LLC	В	7	0.4	1,294	1,087	207	5	25	-	-	10.7	11.6	-
14	MUR	MURPHY OIL CORP	BBB	6	0.3	1,006	834	172	5	24	-	2.8	-	4.4	-
15	СНК	CHESAPEAKE ENERGY	ВВ	15	0.6	2,119	1,730	389	4	40	1.0	-	11.7	4.8	-
16	WMB	WILLIAMS COS INC	BBB	25	0.3	883	720	163	4	20	-	1.6	3.1	4.7	-
17	ALLY	ALLY FINANCIAL	ВВ	57	0.4	1,434	1,161	273	4	34	2.0	3.1	3.6	4.2	5.4
18	EMC	EMC CORP	Α	3	0.3	866	701	165	4	18	-	1.6	2.2	3.1	-
19	AMZN	AMAZON COM INC	Α	8	0.3	906	724	182	4	22	0.5	1.2	2.1	2.9	4.1
20	IEP	ICAHN ENTERPRISES	ВВ	4	0.4	1,280	1,022	258	4	31	-	3.2	4.2	-	-

- 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 issuer. Bond ratings are from Moody's and S&P.
- \* Actual issue symbol will vary.



# Corporate Bonds: Top 20 Issuers with Lowest Buy/Sell Ratio

#### February 2015

Issuer				Issues	% of	Num of Trades			D/Call	Dollar Vol.	Median Yield (%), Investor Sells					
R		Issuer Name	Rating	Traded	Trades	All	Buys	Sells	- Buy/Sell Ratio	Traded (in Millions)	1Y	3Y	5Y	10Y	20Y	
1 L)	ΚK	LEXMARK INTL INC	ВВВ	2	0.2	802	130	672	0.2	8.1	-	3.1	3.6	-	-	
2 D	ELL	DELL	ВВ	8	0.4	1,255	345	910	0.4	30.3	2.4	3.5	4.0	-	6.5	
3 CI	LF	CLIFFS NATURAL RESOURCES	В	5	0.3	1,015	281	734	0.4	14.4	-	11.4	12.2	-	-	
4 A	A	ALCOA	ВВВ	11	0.5	1,626	472	1,154	0.4	39.6	-	2.9	3.5	4.6	5.5	
5 M	IET	METLIFE	A	19	0.3	996	302	694	0.4	22.7	0.9	1.8	2.4	3.0	3.8	
6 CI	RBM	DYNCORP INTL INC	В	23	0.4	1,346	422	924	0.5	29.7	-	4.8	5.6	7.7	7.6	
7 A	GO	ASSURED GTY U S HLDGS INC	A	3	0.3	855	280	575	0.5	18.1	-	-	-	4.1	5.5	
8 RI	BS	ROYAL BANK OF SCOTLAND	ВВВ	89	0.3	861	289	572	0.5	23.0	1.2	3.1	2.7	4.4	4.1	
9 D	В	DEUTSCHE BANK	Α	134	0.3	1,089	386	703	0.5	23.0	1.0	1.6	-	3.1	-	
10 C	sco	CISCO	AA	12	0.3	982	354	628	0.6	20.5	0.5	1.6	2.0	2.6	4.0	
11 D	UK	DUKE ENERGY	Α	79	0.2	741	287	454	0.6	18.1	1.0	1.6	2.3	3.2	3.9	
12 U	BS	UBS	А	172	0.2	751	295	456	0.6	27.0	1.2	1.9	4.0	5.0	-	
13 W	/MT	WAL-MART	AA	30	0.4	1,366	537	829	0.6	33.9	0.5	1.3	2.0	2.7	3.8	
14 A	IG	AIG	ВВВ	41	0.3	1,057	422	635	0.7	25.1	2.5	1.6	2.3	4.1	3.9	
15 R	Υ	ROYAL BANK OF CANADA	AA	213	0.5	1,733	698	1,035	0.7	32.8	0.8	1.4	1.8	3.2	3.7	
16 B	CS	BARCLAYS	Α	482	0.8	2,737	1,126	1,611	0.7	59.1	1.7	2.2	3.1	5.5	4.1	
17 IN		INTEL CORP	Α	9	0.3	879	370	509	0.7	19.1	0.7	1.2	-	2.7	1.4	
18 M	1S	MORGAN STANLEY	ВВВ	619	1.8	6,109	2,615	3,494	0.7	173.3	1.2	1.9	2.6	3.7	3.2	
19 CI	MCS	COMCAST	Α	43	0.4	1,335	578	757	0.8	33.1	0.8	1.4	2.1	2.8	3.9	
20 H	ВС	HSBC	Α	431	0.8	2,745	1,198	1,547	0.8	127.5	1.5	2.2	3.0	3.6	4.5	

- 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 issuer. Bond ratings are from Moody's and S&P.
- \* Actual issue symbol will vary.



# Corporate Bonds: Top 20 Most Bought Issues

#### February 2015

		Issuer	<sup>*</sup> Coupon	Maturity		Number of Trades			Dollar Vol.	Median Yield, %		Median Pric	
	Issue	Reference*			Rating	Buys	Sells	Total	Traded (in Million)	Buys	Sells	Buys	Sells
1	TRANSOCEAN INC	RIG	6.500	Nov-20	BBB	2,033	198	2,231	43.2	8.6	9.1	90.5	88.8
2	TRANSOCEAN INC	RIG	6.000	Mar-18	BBB	1,132	158	1,290	28.7	6.8	7.4	97.8	96.1
3	CHESAPEAKE ENERGY CORP	СНК	3.503	Apr-19	ВВ	1,052	10	1,062	21.8	-	-	99.1	97.9
4	TRANSOCEAN INC	RIG	7.500	Apr-31	BBB	1,049	152	1,201	17.2	9.0	9.2	87.0	85.6
5	GENWORTH FINANCIAL INC	GNW	7.625	Sep-21	ВВ	972	117	1,089	26.5	7.0	7.2	103.5	102.2
6	TRANSOCEAN INC	RIG	6.375	Dec-21	BBB	929	98	1,027	20.1	8.7	9.1	88.6	86.7
7	JPMORGAN CHASE & CO	JPM	6.000	Dec-49	BBB	828	120	948	19.1	-	-	102.8	101.5
8	FREEPORT-MCMORAN INC	FCX	4.550	Nov-24	BBB	799	8	807	13.3	5.4	5.5	93.9	92.8
9	TRANSOCEAN INC	RIG	5.050	Dec-16	BBB	784	49	833	19.1	4.8	5.2	100.5	99.8
10	RENT A CTR INC NEW	RCII	6.625	Nov-20	В	735	12	747	8.4	7.5	7.9	95.9	94.3
11	EBAY INC	EBAY	3.450	Aug-24	Α	669	26	695	11.4	3.7	3.7	98.2	97.7
12	CITIGROUP INC	С	5.800	Oct-44	ВВ	625	33	658	18.2	-	-	102.6	100.3
13	JPMORGAN CHASE & CO	JPM	7.900	Apr-49	BBB	602	817	1,419	27.5	-	-	108.0	107.6
14	NEWFIELD EXPL CO	NFX	6.875	Feb-20	ВВ	593	24	617	6.0	6.3	6.2	101.5	101.7
15	SESI L L C	SPN	7.125	Dec-21	BBB	582	10	592	11.3	6.7	7.1	101.6	100.2
16	TRANSOCEAN INC	RIG	7.375	Apr-18	BBB	573	49	622	11.9	7.4	7.6	100.0	99.3
17	VERISIGN INC	VRSN	4.625	May-23	BBB	569	39	608	6.6	4.6	4.7	99.9	99.5
18	TITAN INTL INC ILL	TWI	6.875	Oct-20	В	549	38	587	6.0	8.9	9.2	91.1	90.1
19	CITIGROUP INC	С	5.950	Dec-49	ВВ	547	52	599	10.9	-	-	100.4	99.9
20	CREDIT SUISSE INDEX LINKED NOTE	CS	10.000	Feb-30	N/R	539	0	539	12.8	-	-	99.3	-

- 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).



<sup>\*</sup> Actual issue symbol will vary.

# Corporate Bonds: Top 20 Most Sold Issues

#### February 2015

		Issuer	* Coupon	Maturity		Num	ber of T	rades	Dollar Vol.	Median Yield, %		Median Price	
	Issue	Reference*			Rating	Buys	Sells	Total	Traded (in Million)	Buys	Sells	Buys	Sells
1	GTE FLA INC	VZ	6.860	Feb-28	BBB	532	1,096	1,628	24.7	6.6	7.1	102.6	97.8
2	JPMORGAN CHASE & CO	JPM	7.900	Apr-49	BBB	602	817	1,419	27.5	-	-	108.0	107.6
3	LEXMARK INTL INC	LXK	5.125	Mar-20	BBB	95	646	741	6.7	3.4	3.6	108.1	106.9
4	ASSURED GTY US HLDGS INC	AGO	5.000	Jul-24	Α	209	516	725	15.7	3.9	4.1	108.2	107.0
5	SAFEWAY INC	SWY	7.250	Feb-31	В	195	515	710	18.6	7.5	7.7	97.7	95.8
6	U S BANCORP MTNS BK ENT	USB	1.950	Nov-18	Α	434	485	919	13.7	1.7	1.6	101.1	101.3
7	PETROBRAS INTL	PBR	5.375	Jan-21	ВВ	468	457	925	22.7	7.3	7.5	91.0	89.8
8	GTE CALIF INC	VZ	6.750	May-27	AA	198	448	646	10.3	5.6	5.8	109.9	108.0
9	APPLE INC	AAPL	2.400	May-23	AA	514	431	945	22.6	2.5	2.5	99.3	99.1
10	BANK AMER CORP	BAC	2.600	Jan-19	BBB	123	430	553	8.3	2.1	2.2	102.0	101.6
11	WELLS FARGO & COMPANY	WFC	7.980	Feb-49	BBB	351	406	757	16.8	-	-	110.0	109.5
12	GTE CALIF INC	VZ	6.750	May-27	BBB	284	330	614	9.1	6.3	6.3	103.8	104.2
13	APPLE INC	AAPL	0.489	May-18	AA	84	324	408	6.7	-	-	100.3	100.2
14	KLA-TENCOR CORP	KLAC	4.650	Nov-24	BBB	27	317	344	4.5	3.8	3.9	106.5	106.2
15	GENERAL ELECTRIC CO	GE	5.250	Dec-17	AA	121	306	427	7.4	1.2	1.2	111.2	111.0
16	CENTURYLINK INC	CTL	5.800	Mar-22	ВВ	86	298	384	7.9	4.6	4.8	106.9	105.8
17	PETROBRAS GLOBAL FINANCE B V	PBR	3.000	Jan-19	ВВ	215	298	513	13.5	7.1	7.3	86.2	85.8
18	CISCO SYS INC	csco	5.500	Feb-16	AA	80	297	377	5.5	0.4	0.5	105.1	104.9
19	DELL INC	DELL	6.500	Apr-38	ВВ	30	292	322	8.0	6.3	6.5	102.2	100.3
20	PETROBRAS GLOBAL FINANCE B V	PBR	4.375	May-23	BB	266	291	557	15.0	6.9	7.1	84.1	83.0



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

<sup>-</sup> Ratings (AAA, AA, A, BBB, BB, B, C) are based on aggregate ratings from Moody's and S&P (when available).

<sup>\*</sup> Actual issue symbol will vary.

# **Appendix**

#### **Maturity**

We consider the following maturity ranges for maturity buckets. TTM is Time to Maturity in years.

```
1Y: 0.5 <= TTM <= 1.5

3Y: 2 <= TTM <= 4

5Y: 4 < TTM <= 6

10Y: 7.5 <= TTM <= 12.5

20Y: 15 <= TTM <= 25
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## 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.
- Corp 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 BBB 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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