A Registered Investment Advisory Firm

CUMBERLAND ADVISORS®

Where Are We Now?

Global Interdependence Center & Denver Association for Business Economics

July 18, 2016

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Director of Fixed Income

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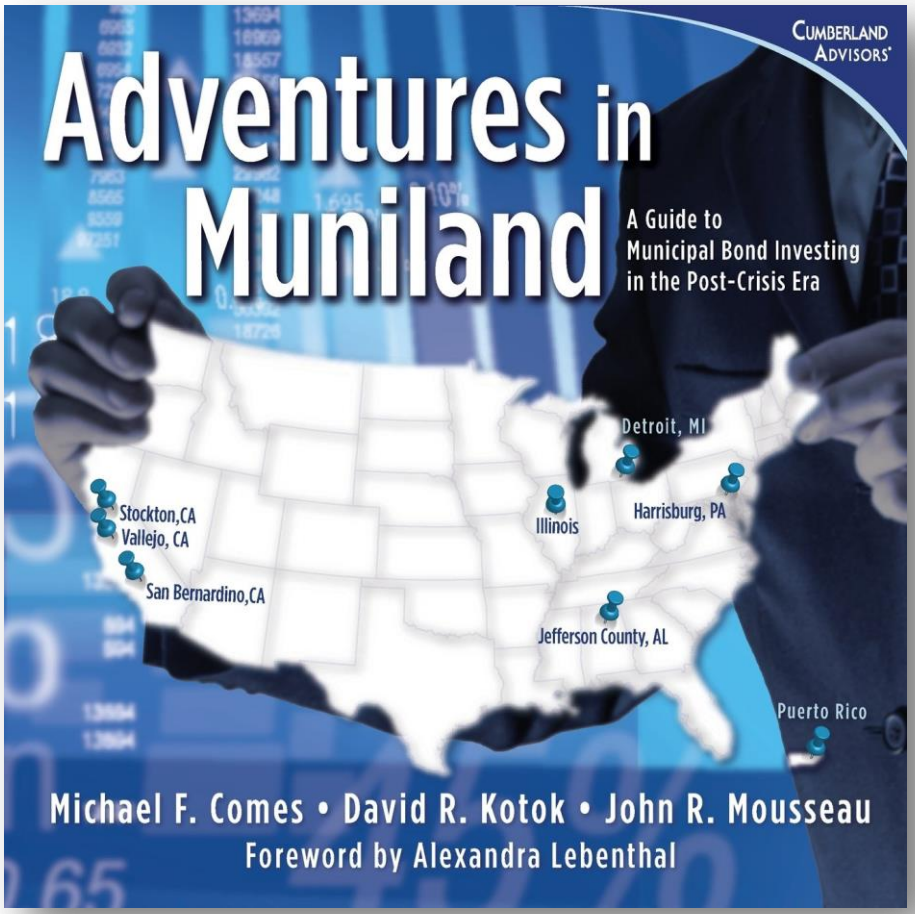
Adventures in Muniland!



Adventures in Muniland:
A Guide to Municipal Bond Investing in the Post-Crisis Era

Co-Authors:
Michael Comes
David Kotok
John Mousseau

Foreword by: Alexandra Lebenthal

Available for purchase on Amazon.com

With a perspective that only decades of experience can bring, Adventures in Muniland captures the municipal bond market's transformation from stodgy to dynamic. This concise, yet comprehensive stroll offers an insider's view, brings the reader right up to today's discussions, and carries the added benefit of providing a clear understanding of what can at times appear to be an opaque marketplace. The Cumberland team has produced an insightful review for the seasoned professional and a must read for newcomers and investors.

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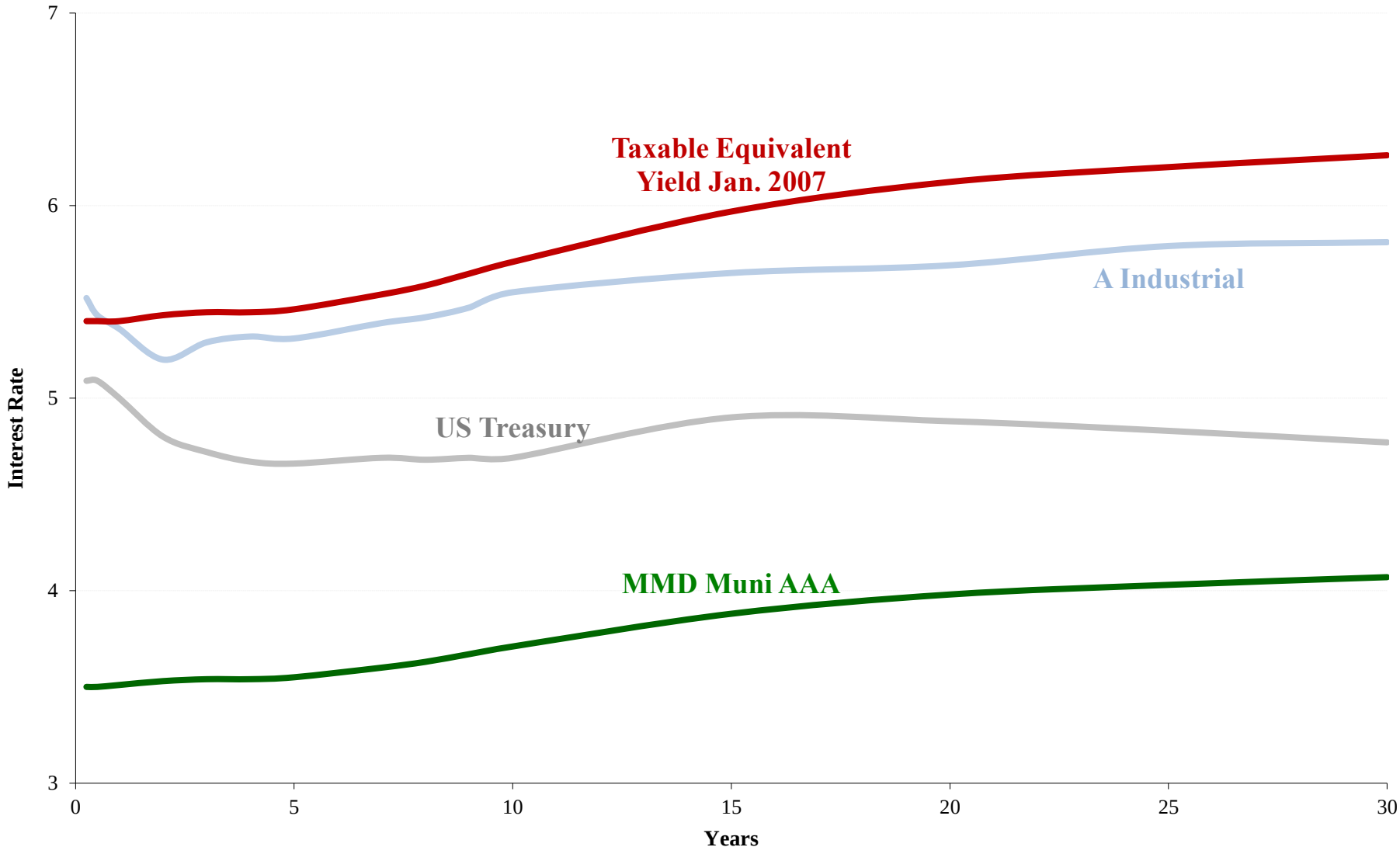
Munis & Treasuries: Jan. 2, 2007



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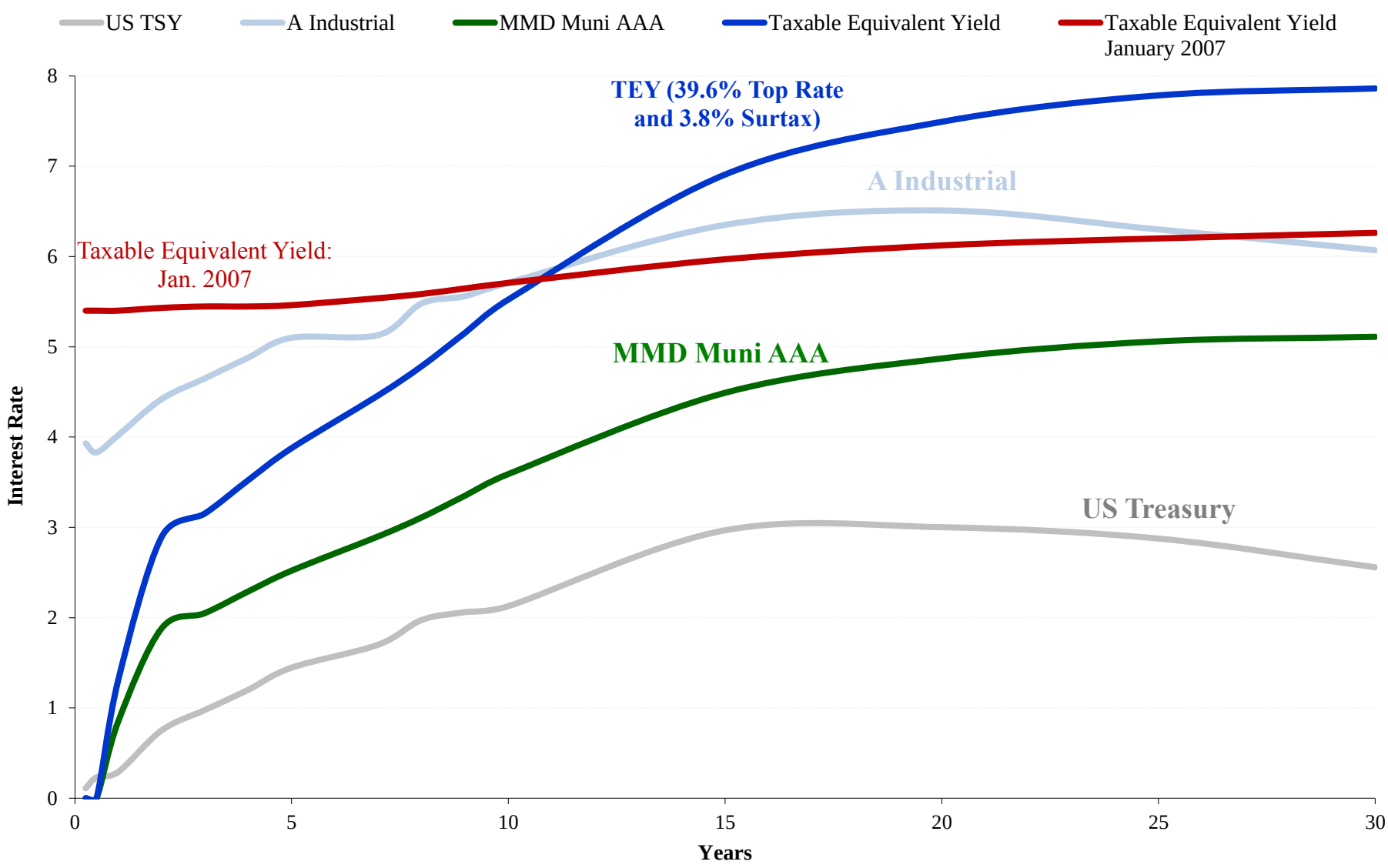
Munis & Treasuries: Dec. 29, 2009



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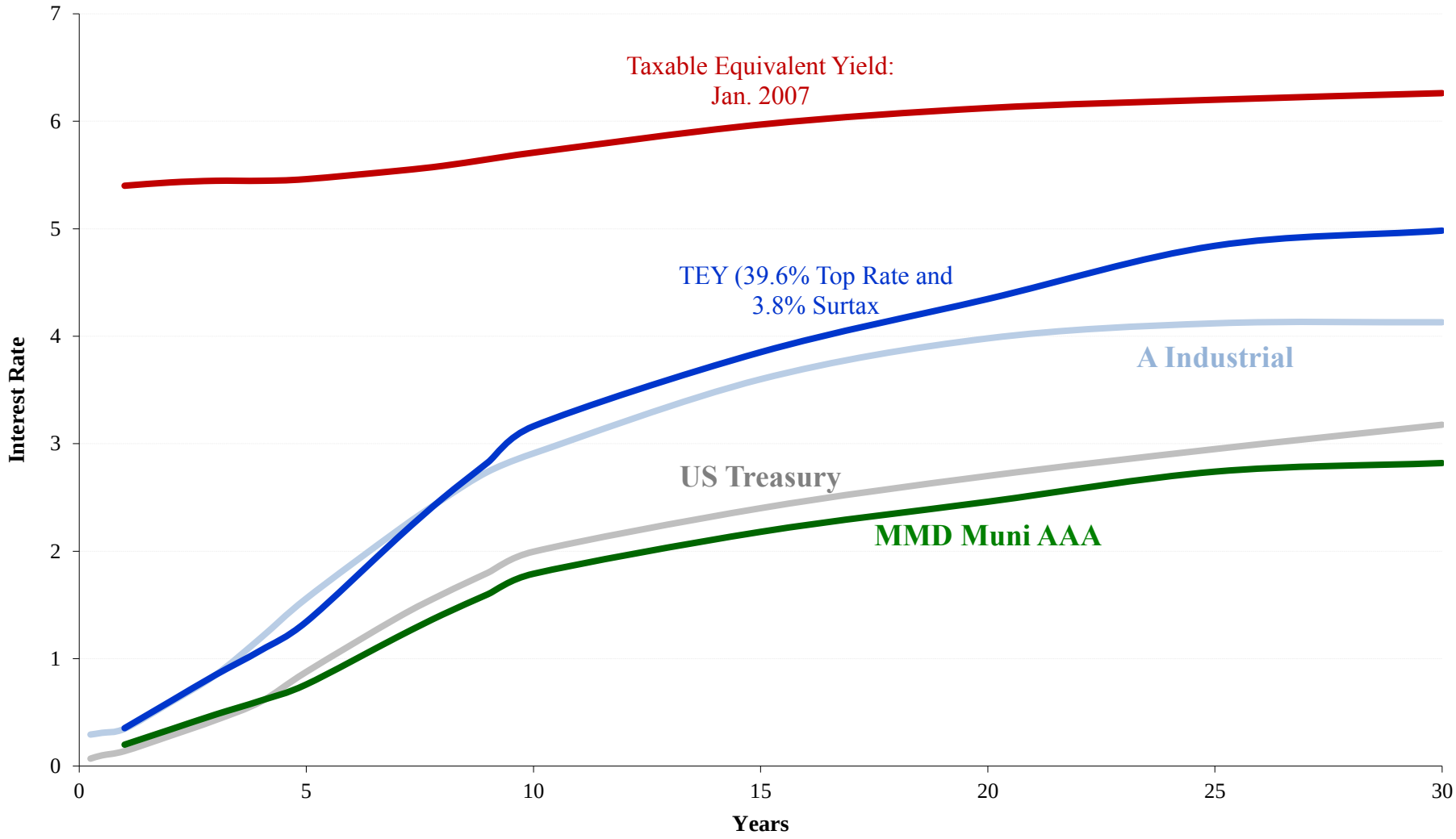
Munis & Treasuries: Jan. 23, 2013



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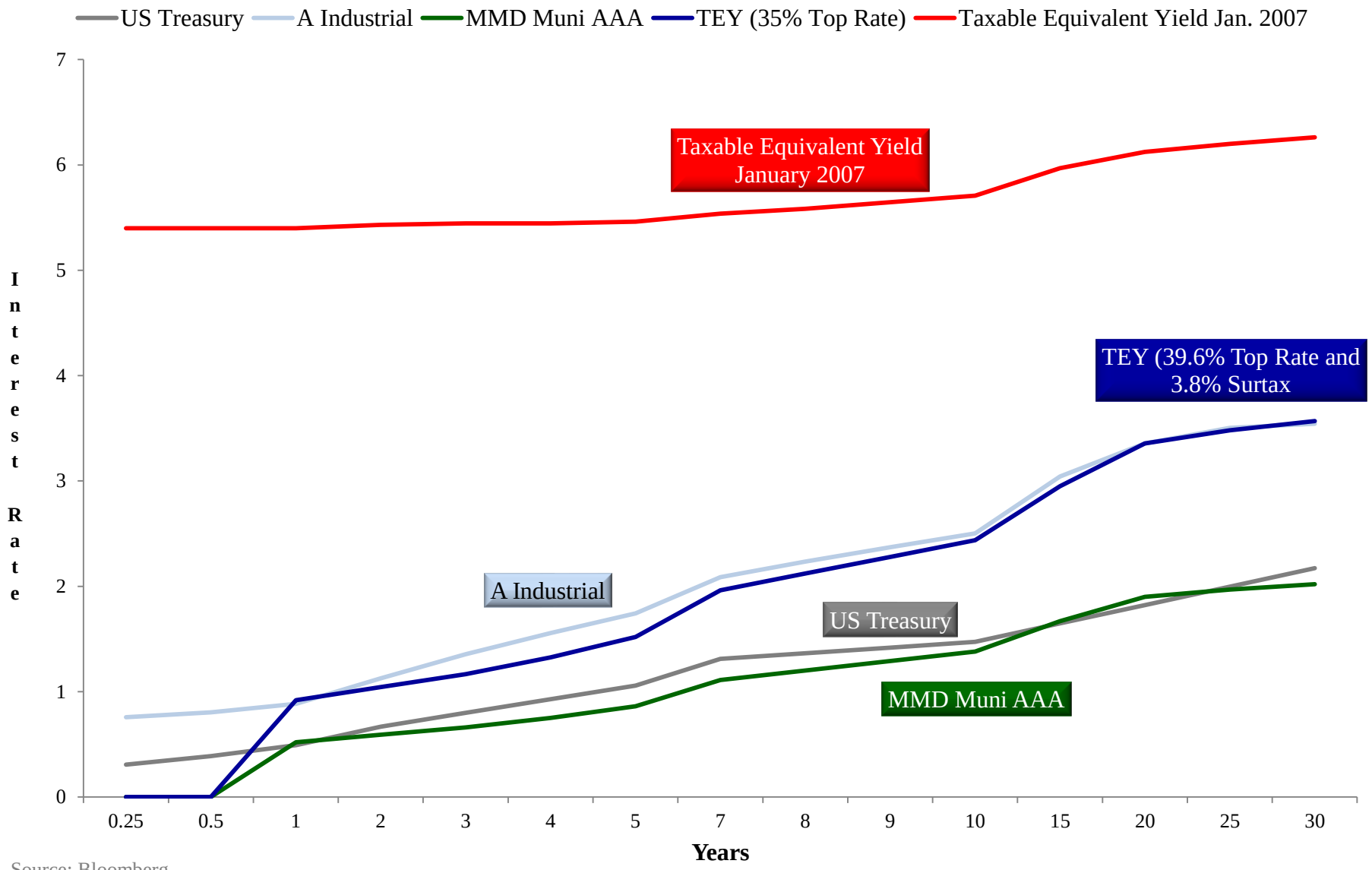
Munis & Treasuries: July 13, 2016



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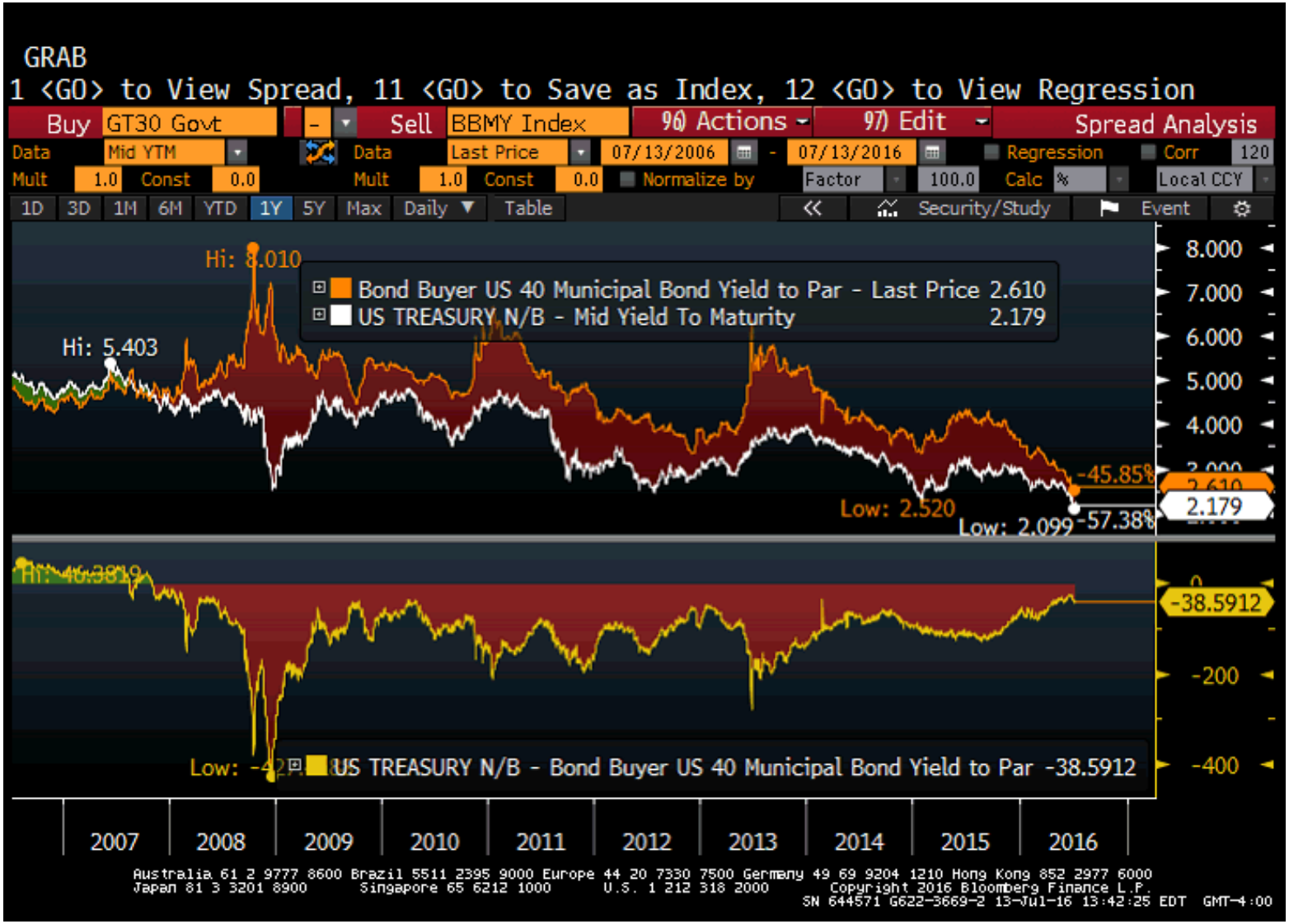
Bond Buyer 40 vs. 30-yr Treasury



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Muni Market Feast & Famine

This graph illustrates the performance of the municipal bond market since 2006. Since then, the market has experienced 3 major sell-offs: 1) Flight into Treasurys out of risk, 2) Panic selling because of Meredith Whitney, 3) Fears of Fed tapering.

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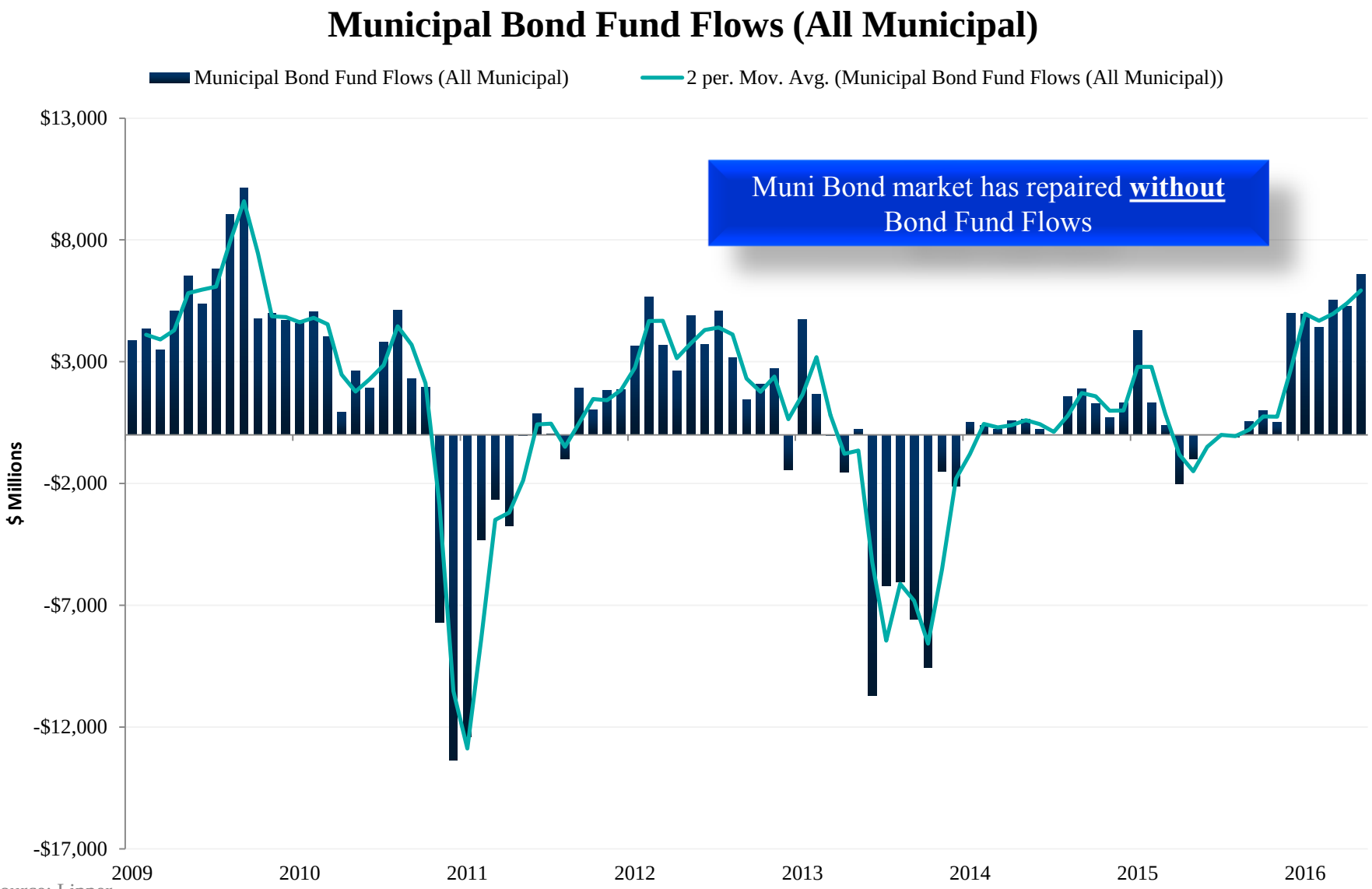
Muni Bond Fund Flows



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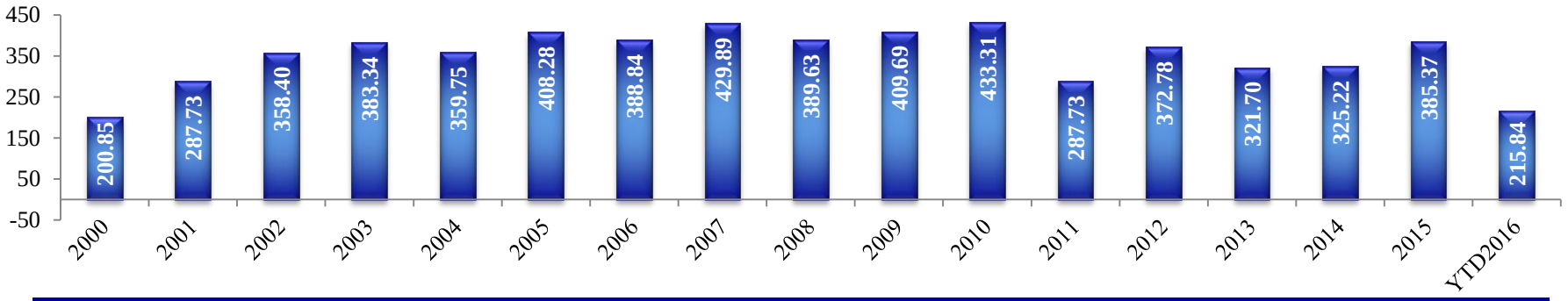
Municipal Bond Issuance



Selected Categories
2000 - 2016 Year-to-Date
($ Billions)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
2000	9.98	13.32	18.11	15.70	15.96	23.44	15.05	16.88	16.59	19.77	20.29	15.76	**200.85**
2001	12.58	21.14	25.11	18.86	28.91	30.87	21.01	24.14	14.32	32.08	30.48	28.24	**287.73**
2002	21.77	20.98	25.42	25.86	34.00	38.46	28.02	31.58	27.57	42.41	35.60	26.73	**358.40**
2003	27.10	30.23	28.14	36.31	35.70	48.25	33.20	25.86	26.26	34.87	26.27	31.15	**383.34**
2004	20.71	26.85	38.69	31.09	37.61	35.07	25.30	27.94	25.20	32.22	25.77	33.30	**359.75**
2005	22.12	31.20	45.01	31.31	35.94	44.25	34.49	34.02	31.67	27.31	39.42	31.56	**408.28**
2006	18.78	23.87	27.07	29.35	35.04	45.33	27.86	31.59	28.03	31.57	42.77	47.58	**388.84**
2007	31.21	32.03	44.35	33.54	42.92	47.18	31.86	29.21	32.82	45.18	30.12	29.47	**429.89**
2008	19.78	21.40	43.83	51.72	43.75	50.79	37.09	32.50	20.19	21.93	25.73	20.91	**389.63**
2009	23.15	23.40	38.83	36.84	30.41	43.86	26.11	36.36	29.95	46.37	38.29	36.11	**409.69**
2010	32.66	27.05	44.69	27.50	38.32	34.68	29.15	29.71	35.70	45.73	46.07	42.05	**433.31**
2011	12.44	16.54	18.91	15.76	21.39	31.97	24.91	23.83	27.46	32.86	37.29	24.37	**287.73**
2012	17.20	26.76	34.72	34.25	37.36	42.71	28.18	32.71	25.90	33.78	33.09	26.12	**372.78**
2013	26.77	24.34	32.21	36.63	29.02	25.36	28.62	22.51	19.84	27.12	23.34	25.94	**321.70**
2014	18.87	15.44	28.29	25.79	25.75	34.78	25.61	24.60	24.07	35.26	28.93	37.83	**325.22**
2015	29.23	33.06	44.96	40.25	35.26	34.39	35.21	32.22	23.43	31.97	23.19	22.20	**363.17**
YTD2016	25.41	31.42	42.00	32.48	40.61	**43.92**							**215.84**

Source: Bond Buyer

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Fed Funds vs. Treasury

Source: Bloomberg and Cumberland Advisors

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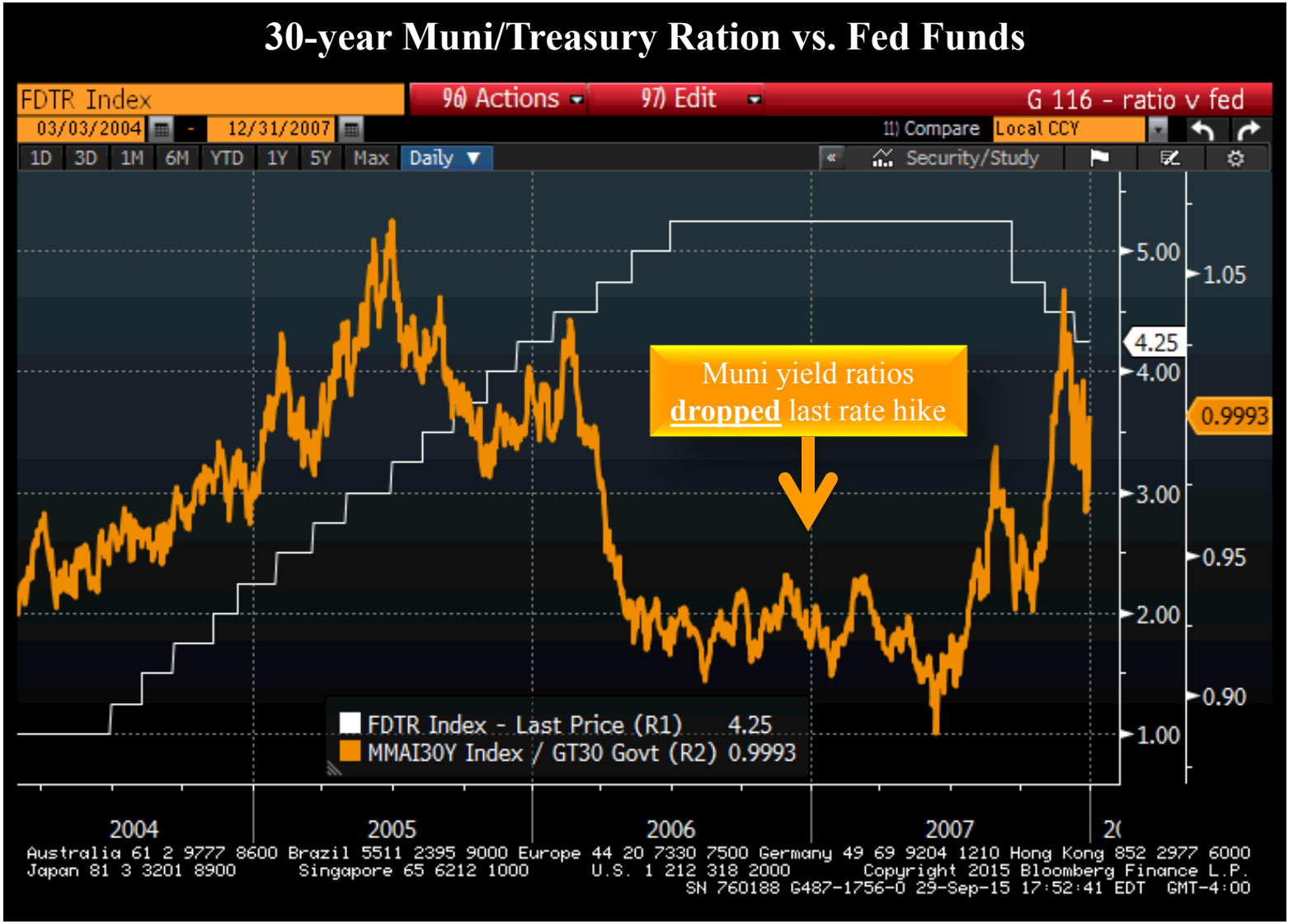
Muni/Treasury Ratio: Last Fed Hike



Source: Bloomberg and Cumberland Advisors

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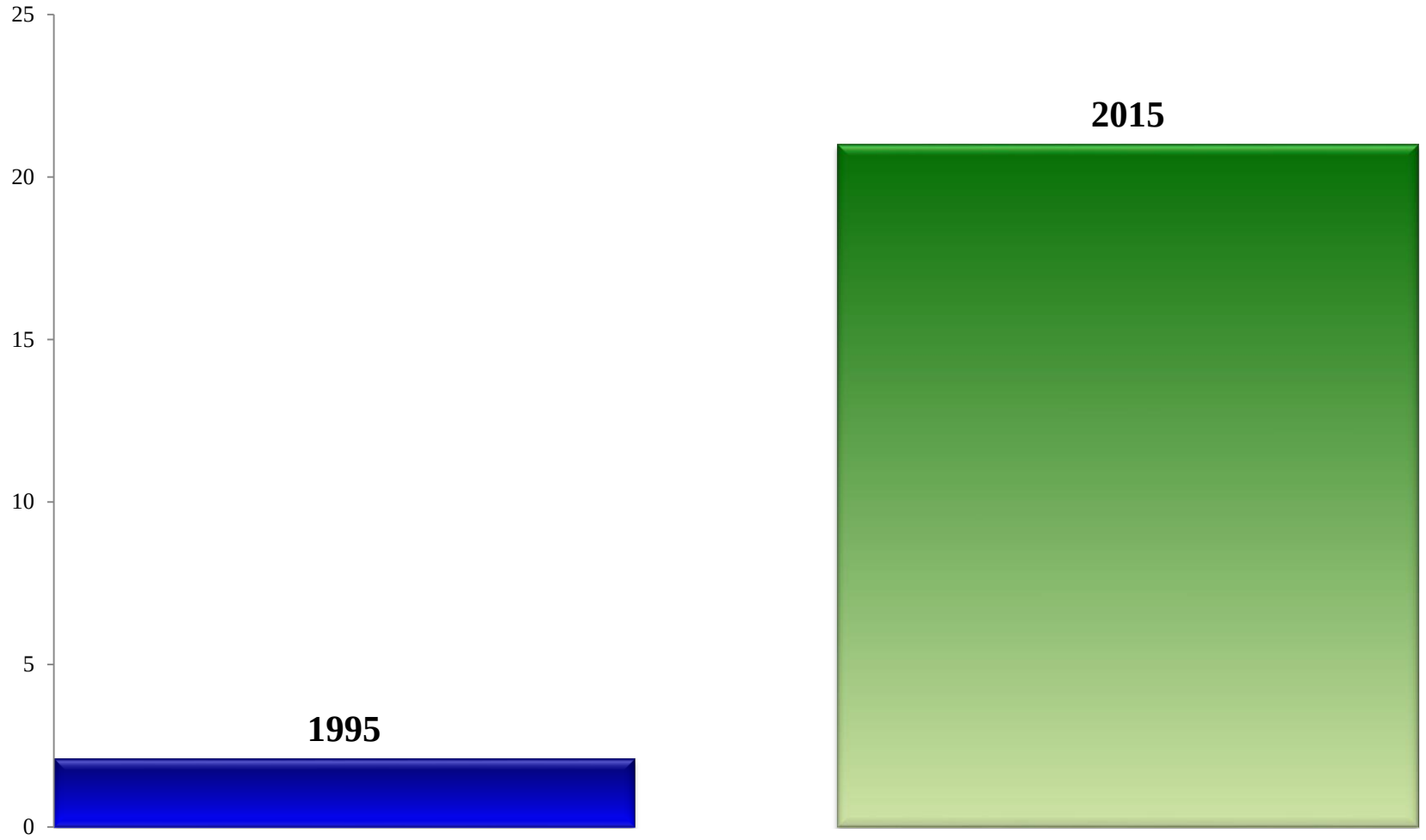
Total Assets: Central Banks



Source: David Stockman

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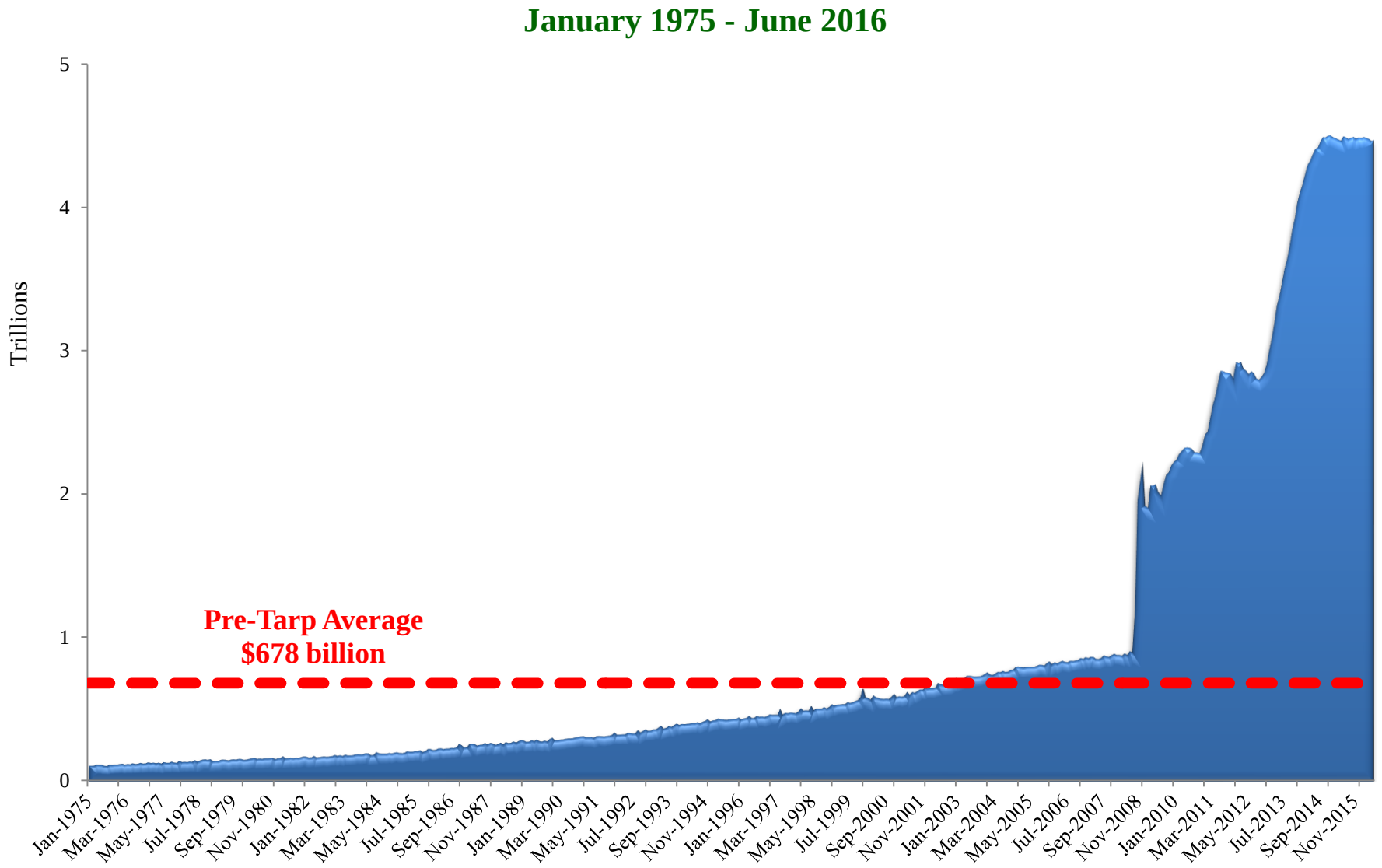
Total Assets: Fed



Source: Haver Analytics

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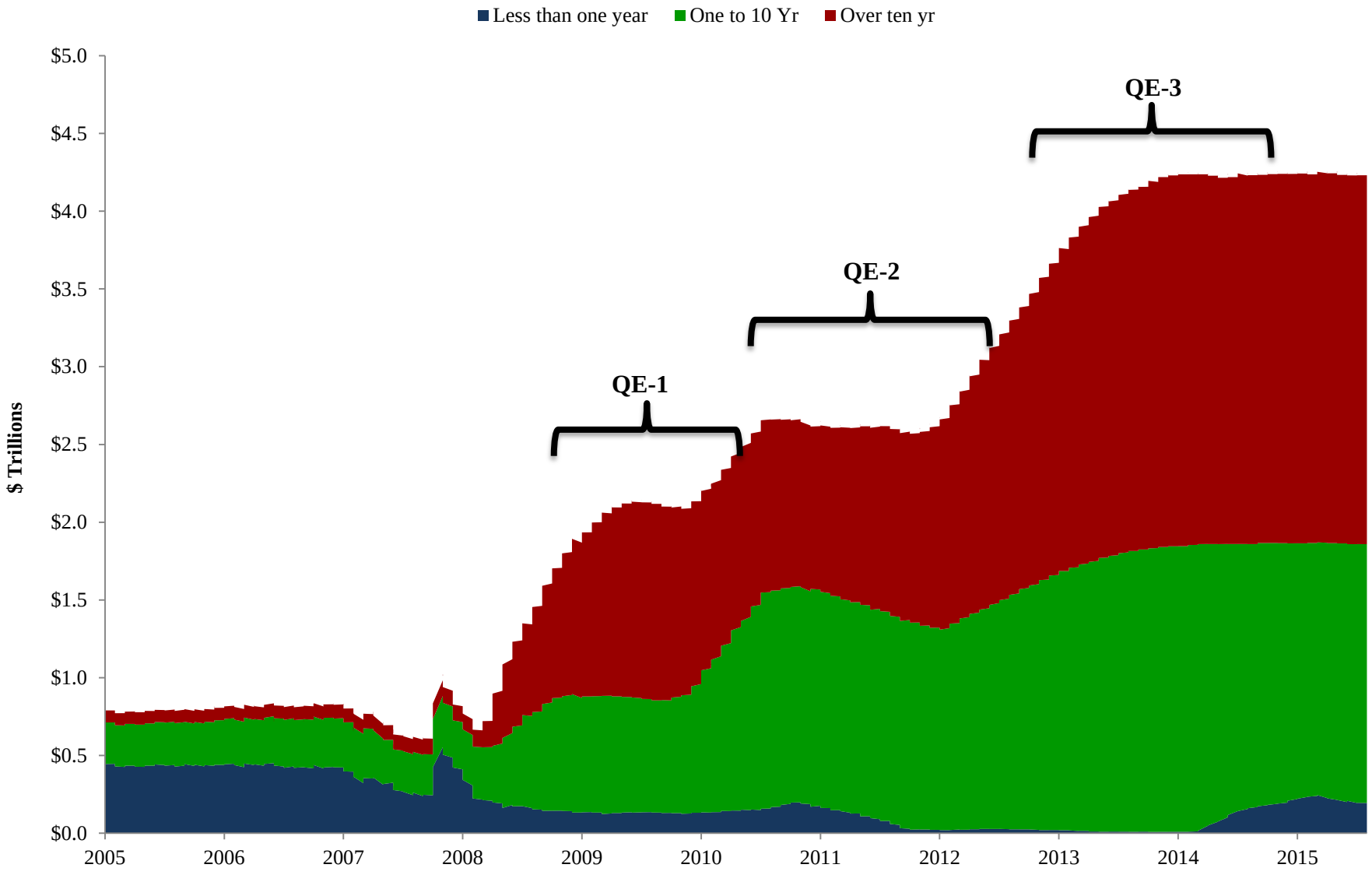
Fed Maturity Structure: Assets



Source: Haver Analytics

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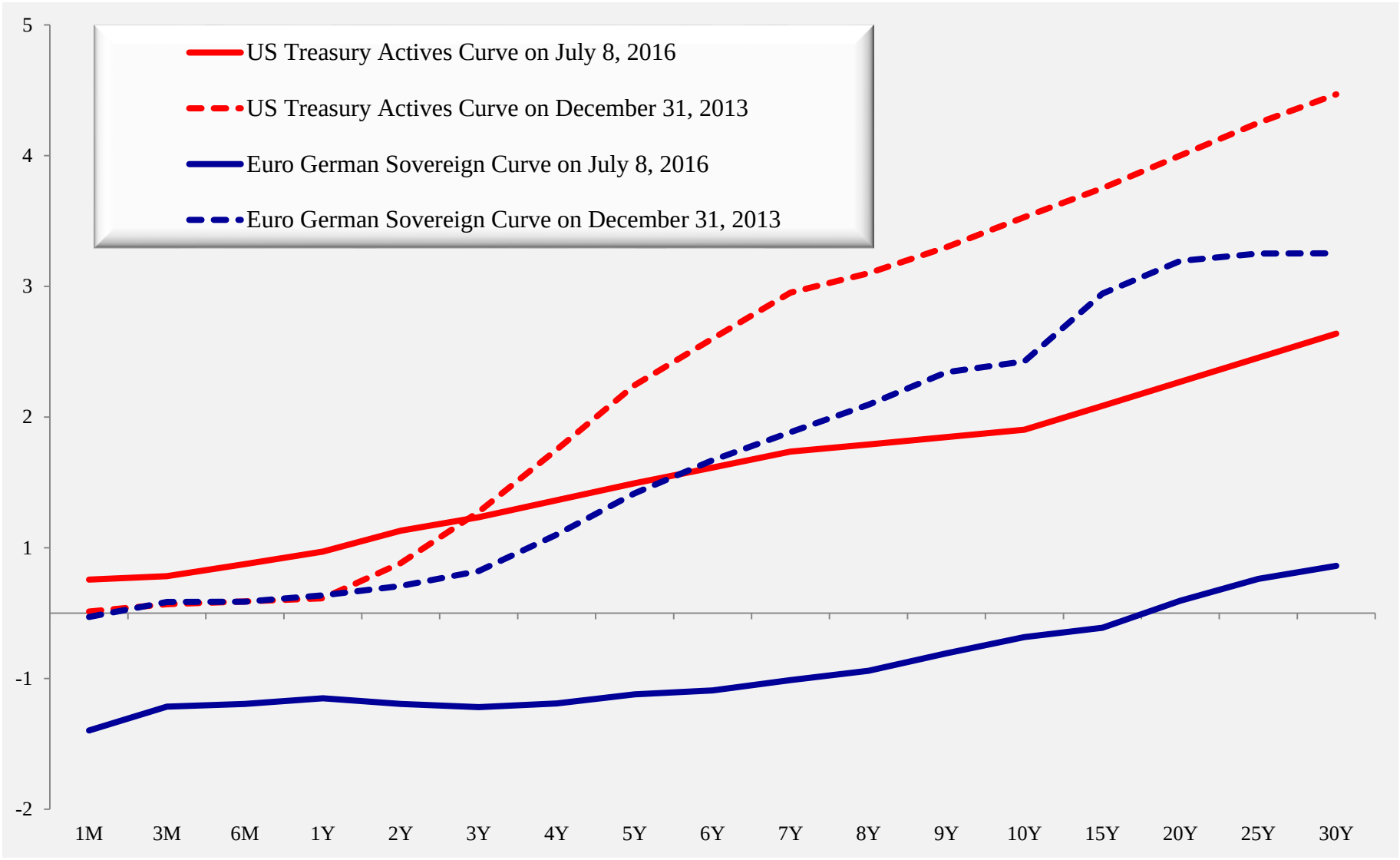
US Tsy vs. German Yield Curves



Source: Bloomberg

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10-yr Treasury vs. 10-yr Bund

Source: Bloomberg

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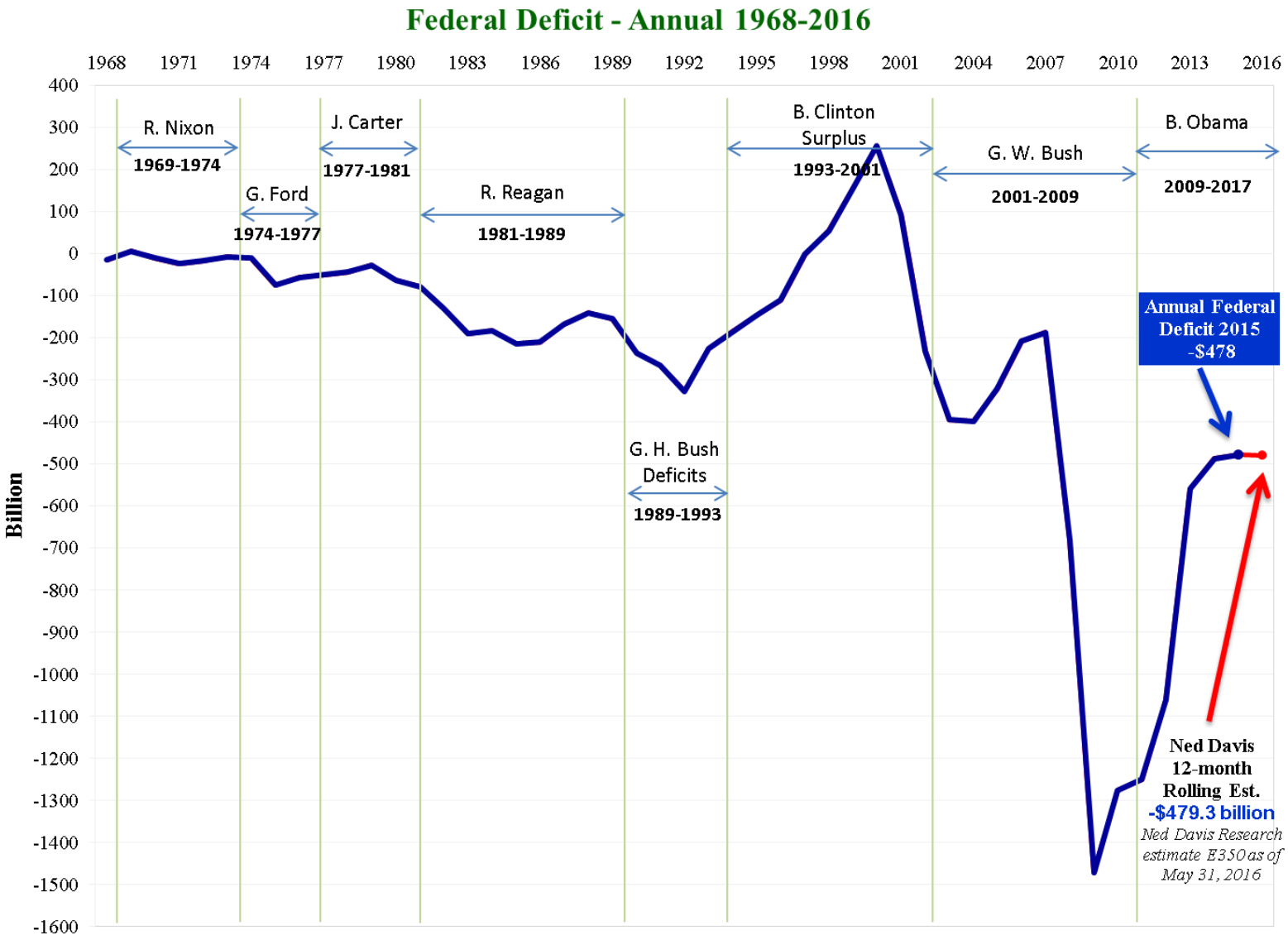
Federal Deficit



Source: Haver Analytics and Ned Davis Research

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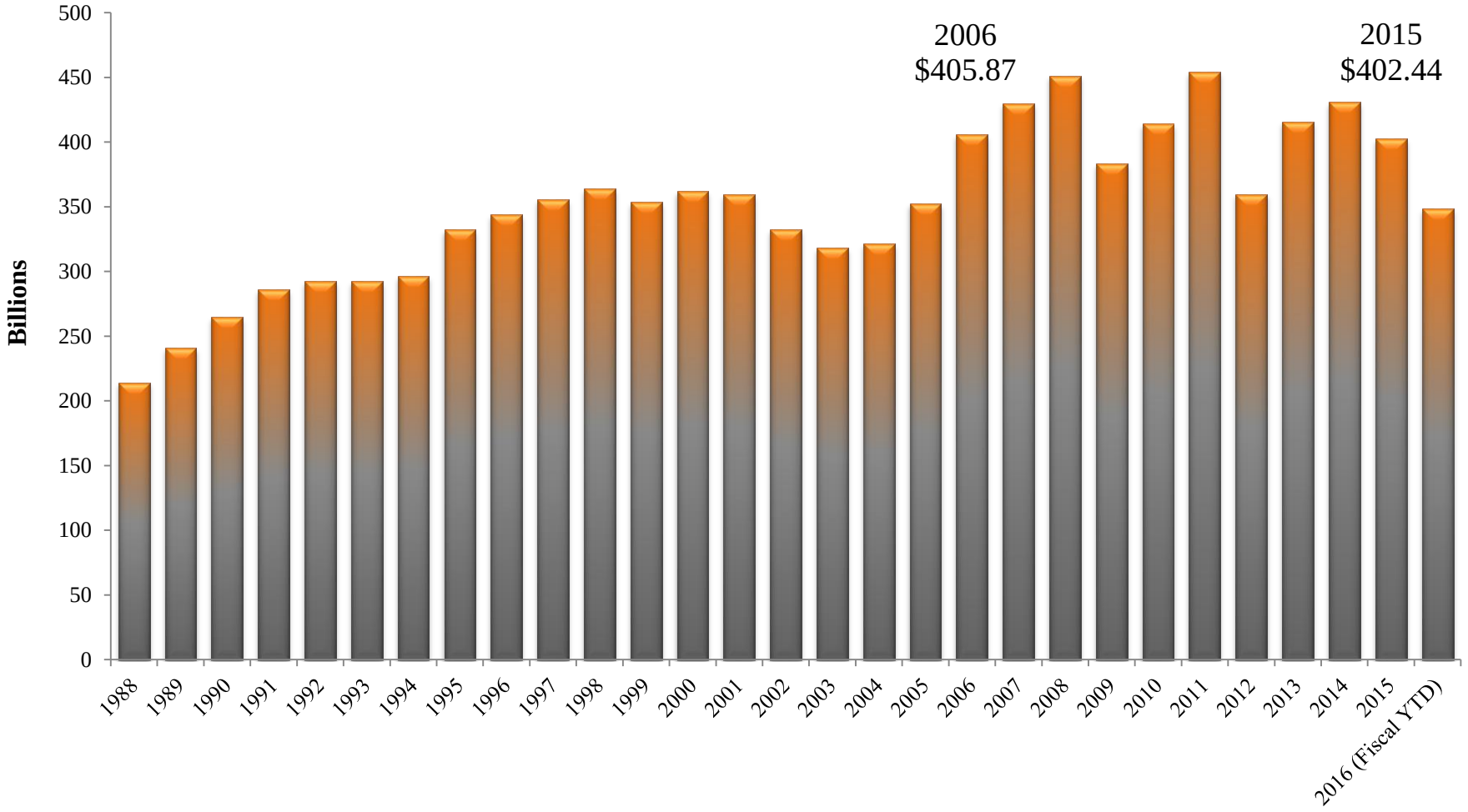
Interest Expense: Debt Outstanding

Interest Expense on Debt Outstanding
US Treasury (Fiscal Year End)
through June 2016



Source: Department of the Treasury, Bureau of the Fiscal Service. Treasurydirect.gov.

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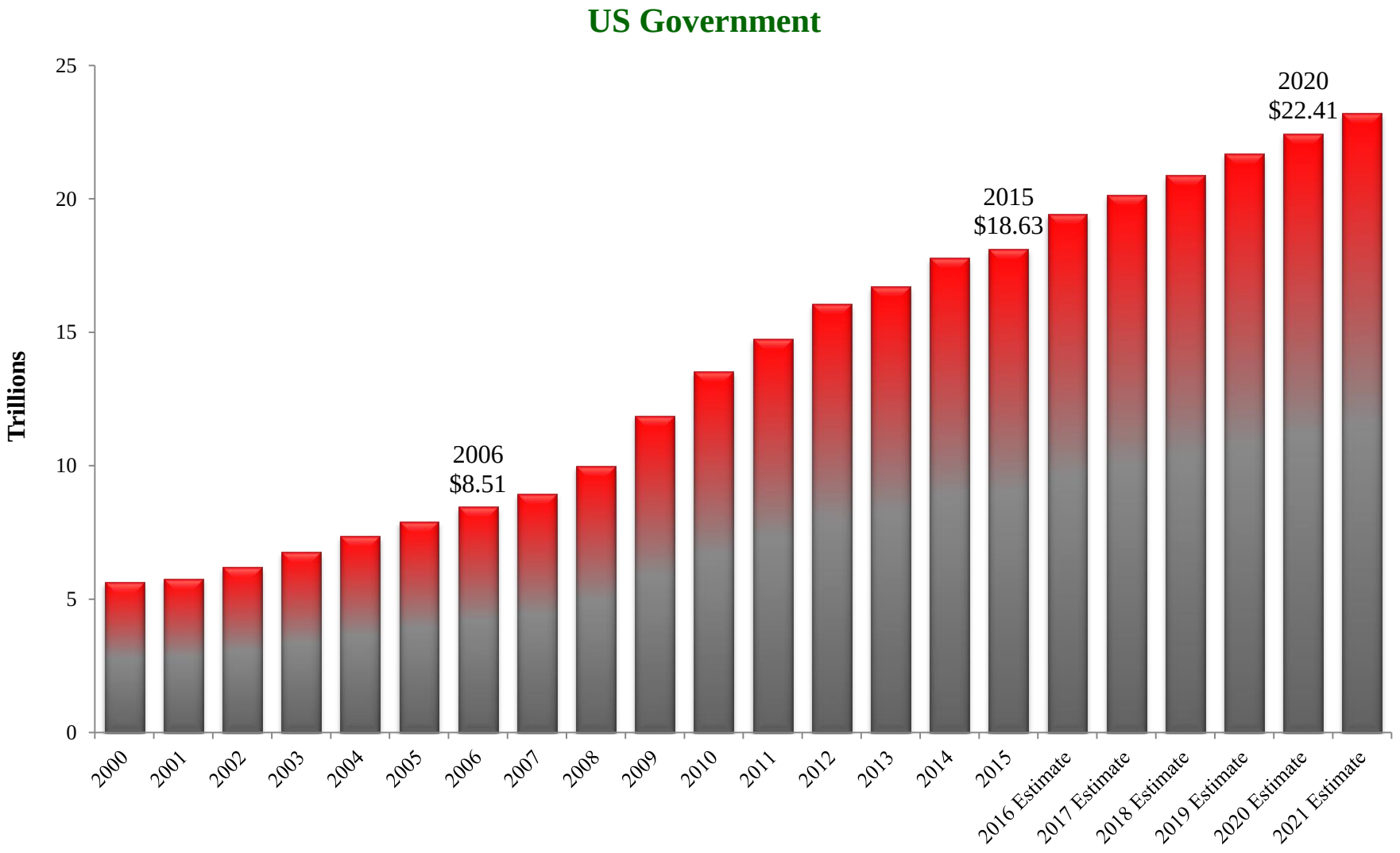
Historical Debt Outstanding



Source: www.whitehouse.gov

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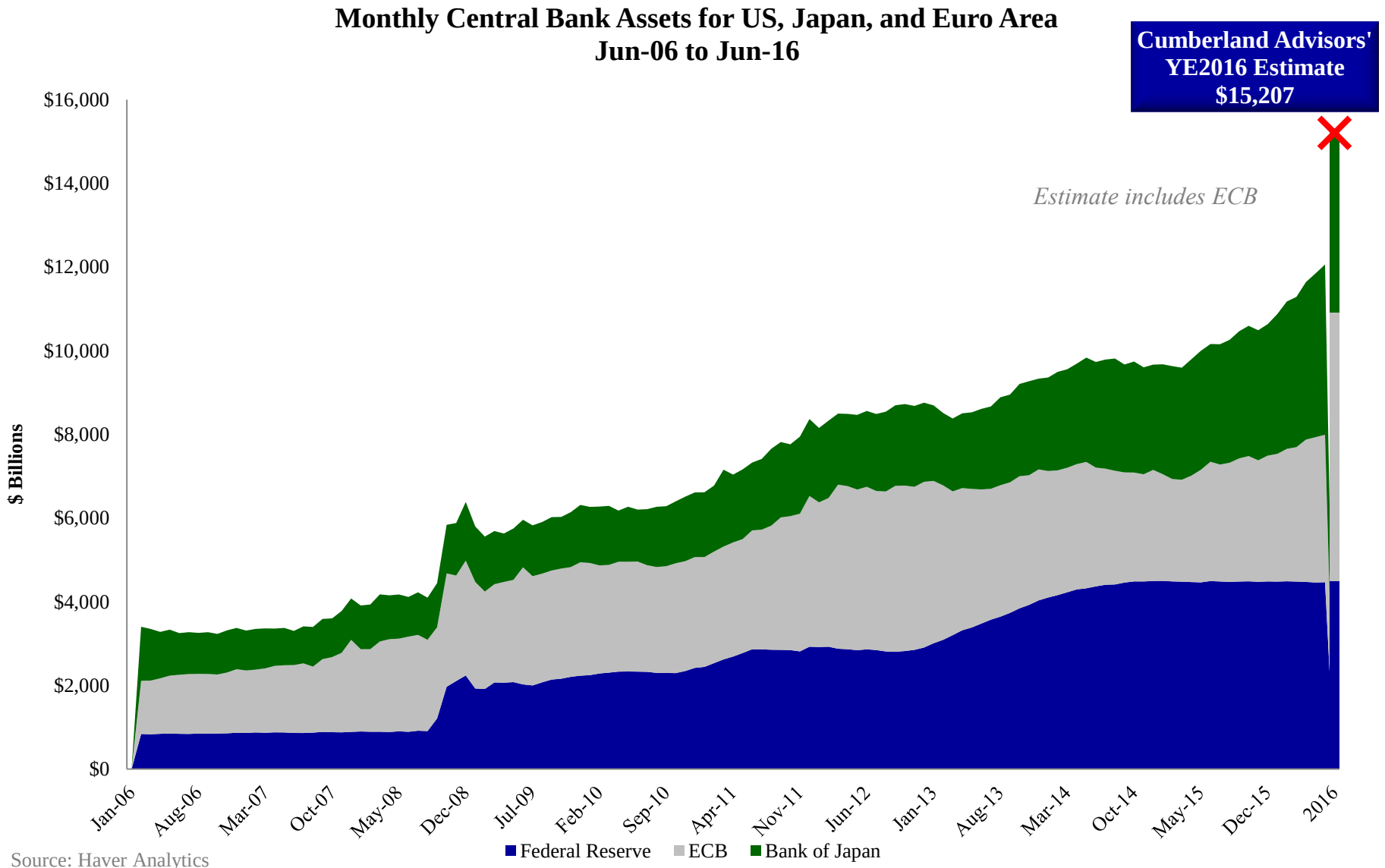
Monthly Central Bank Assets



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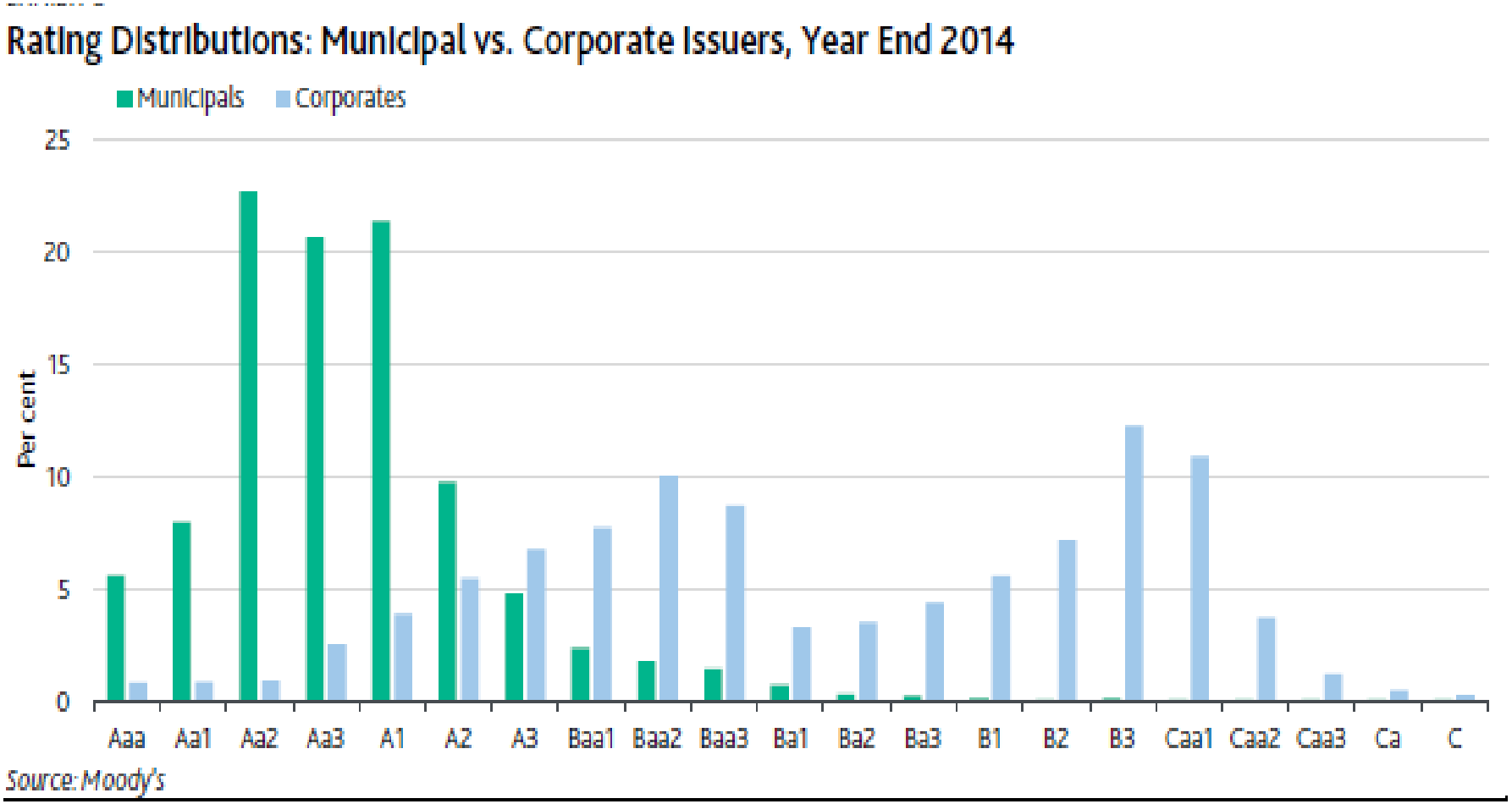
Muni Credit Quality: Very High



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Default Probabilities Even Smaller

Cumulative Default Rates, Average over the Period 1970-2014, Municipal vs. Corporate Issuers

Rating	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Municipal Issuers	%	%	%	%	%	%	%	%	%	%
Aaa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aa	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
A	0.00	0.01	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.06
Baa	0.01	0.04	0.08	0.11	0.15	0.19	0.24	0.29	0.33	0.37
Ba	0.28	0.81	1.27	1.85	2.39	2.80	3.24	3.59	3.88	4.11
B	2.92	5.57	8.03	10.26	12.38	13.82	14.66	15.44	16.30	17.48
Caa-C	7.83	11.01	12.99	14.12	14.71	15.21	15.76	16.37	16.88	16.88
Investment-Grade	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.08
Speculative-Grade	1.31	2.42	3.36	4.29	5.13	5.74	6.26	6.72	7.13	7.52
All Rated	0.02	0.03	0.05	0.06	0.08	0.09	0.11	0.12	0.13	0.14

Source: Moody's

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Higher Corp. Default Experience

Cumulative Default Rates, Average over the Period 1970-2014, Municipal vs. Corporate Issuers

Rating	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Corporate Issuers	%	%	%	%	%	%	%	%	%	%
Aaa	0.00	0.01	0.01	0.04	0.10	0.17	0.24	0.31	0.39	0.48
Aa	0.02	0.07	0.14	0.26	0.40	0.54	0.67	0.78	0.88	0.99
A	0.06	0.20	0.43	0.67	0.95	1.26	1.60	1.97	2.36	2.72
Baa	0.17	0.48	0.86	1.32	1.78	2.27	2.75	3.23	3.78	4.41
Ba	1.07	2.96	5.18	7.55	9.70	11.70	13.44	15.18	16.90	18.69
B	3.71	8.86	14.14	18.82	23.11	27.11	30.82	33.94	36.72	39.16
Caa-C	14.96	25.68	34.29	41.18	46.97	51.21	54.73	58.01	61.26	63.77
Investment-Grade	0.09	0.27	0.51	0.78	1.09	1.41	1.73	2.07	2.43	2.81
Speculative-Grade	4.34	8.92	13.29	17.15	20.52	23.48	26.08	28.36	30.47	32.41
All Rated	1.66	3.37	4.95	6.32	7.49	8.51	9.39	10.17	10.90	11.58

Source: Moody's

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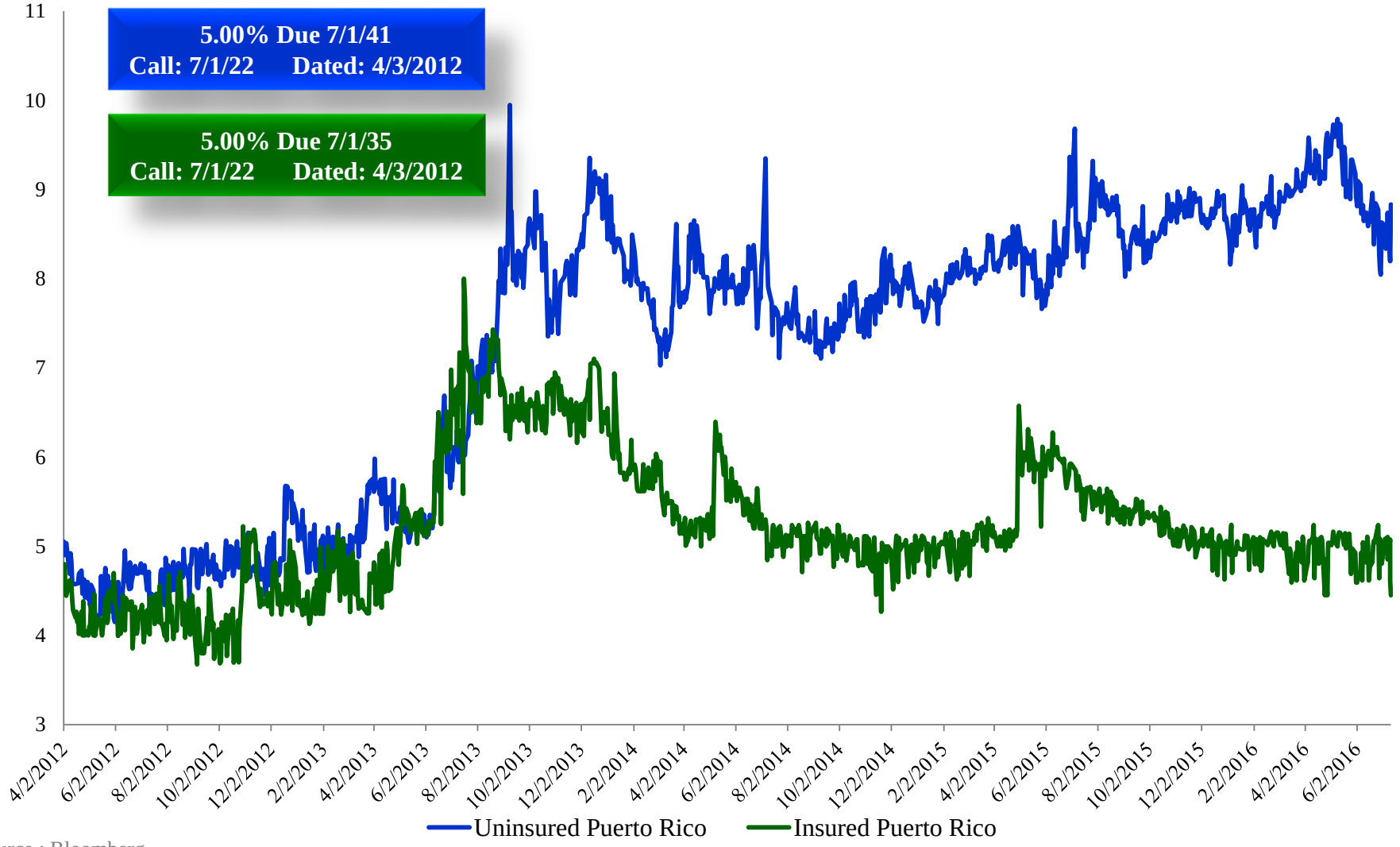
Uninsured vs. Insured

Puerto Rico Uninsured vs. Insured



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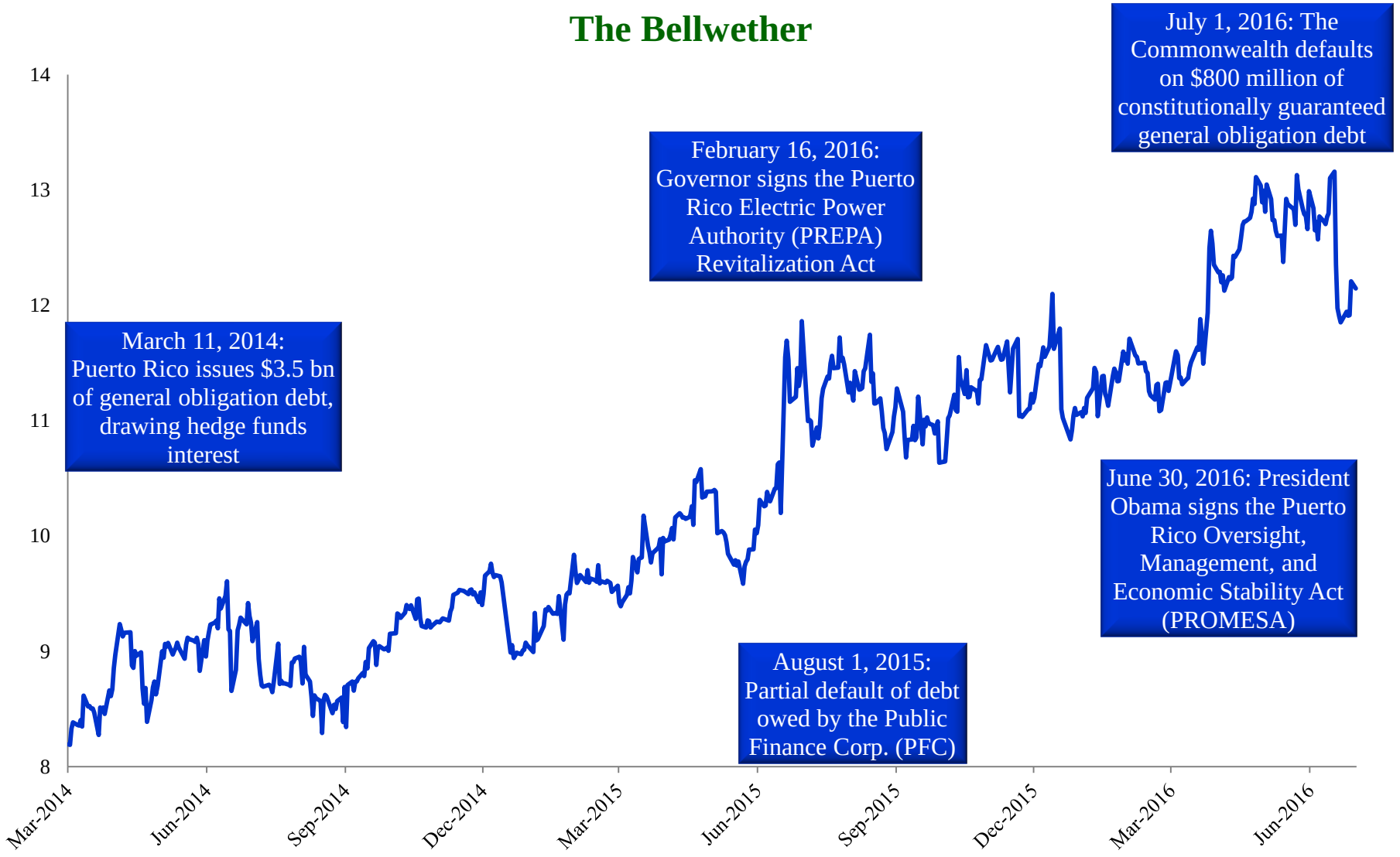
Bellwether



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