

NORTH CAROLINA
DEPARTMENT OF STATE TREASURER



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INVESTMENT MANAGEMENT DIVISION

Investment Grade Fixed Income Review

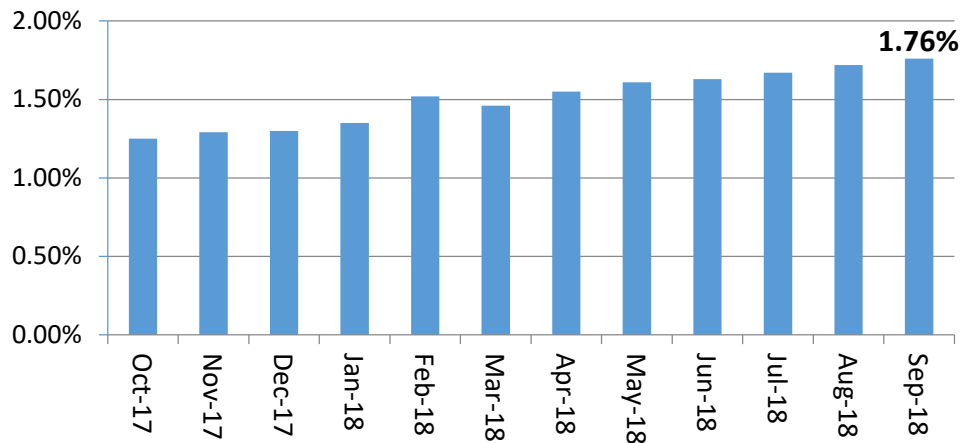
November 15, 2018



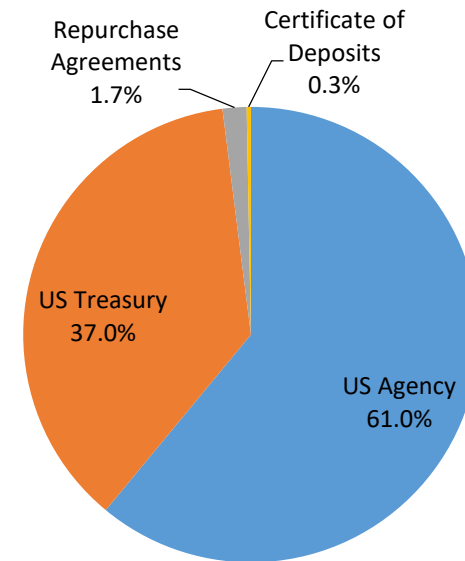
North Carolina Short Term Portfolio (STIF)

September 30, 2018

Monthly STIF Rate History



STIF Allocation

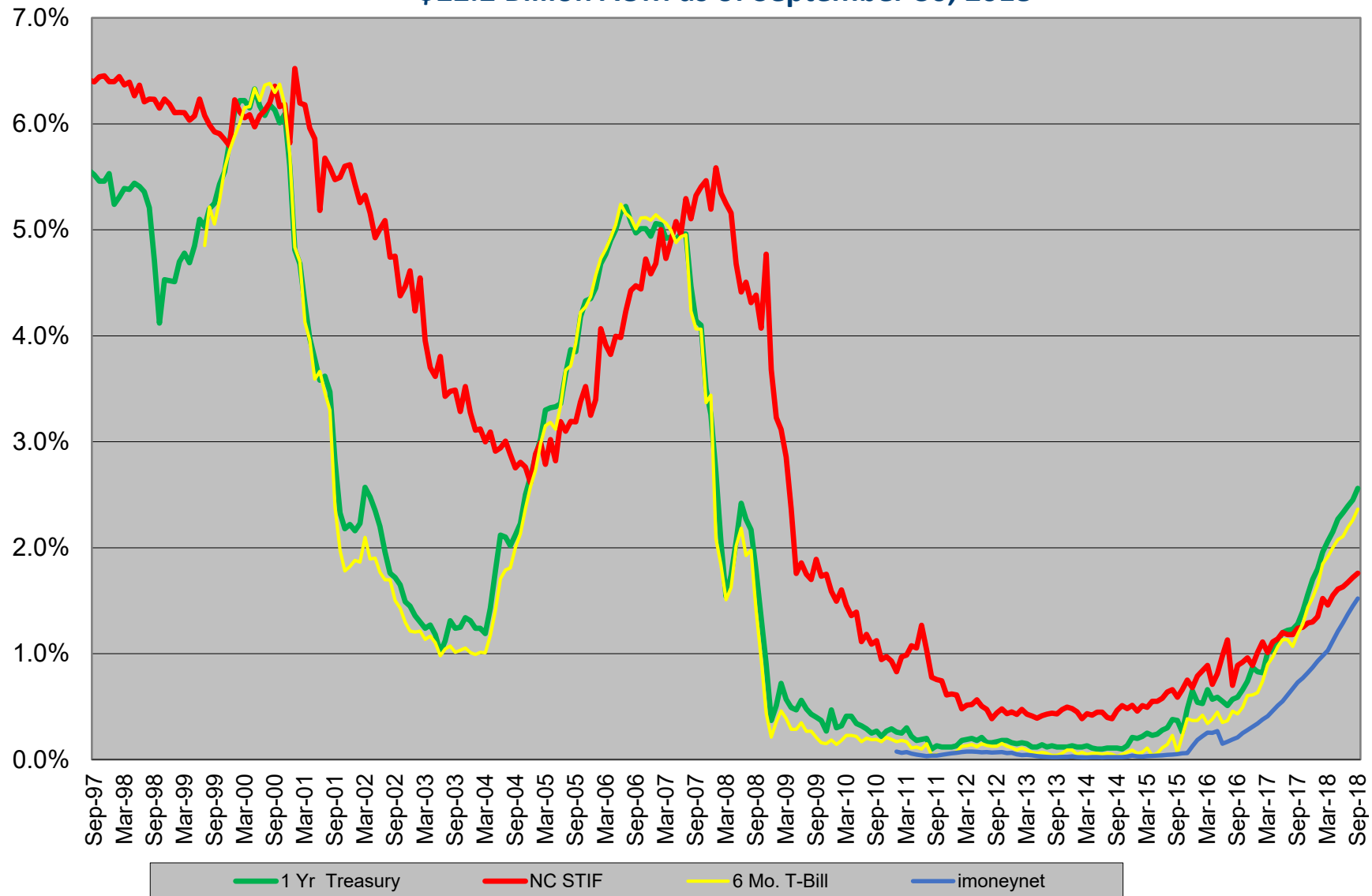


Portfolio Characteristics	Month ending 9/30/18
Current Net Cash Return	1.76%
Effective Duration	1.21
Average Maturity (Yrs)	1.5
Average Credit Rating (Moody's)	AAA
Average Price	99.62
Average Coupon	1.53%



Short Term Portfolio (STIF) Rate History

\$22.2 Billion AUM as of September 30, 2018



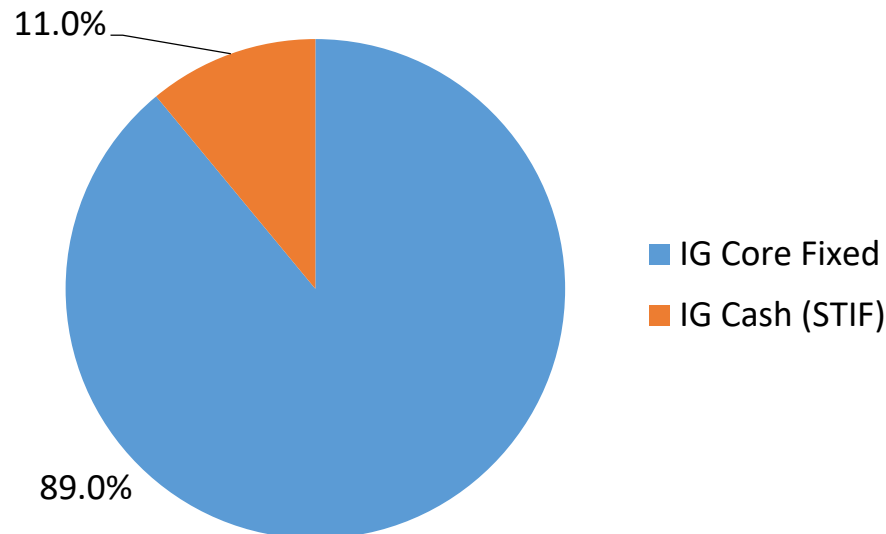
SOURCE: Bloomberg and BNY Mellon



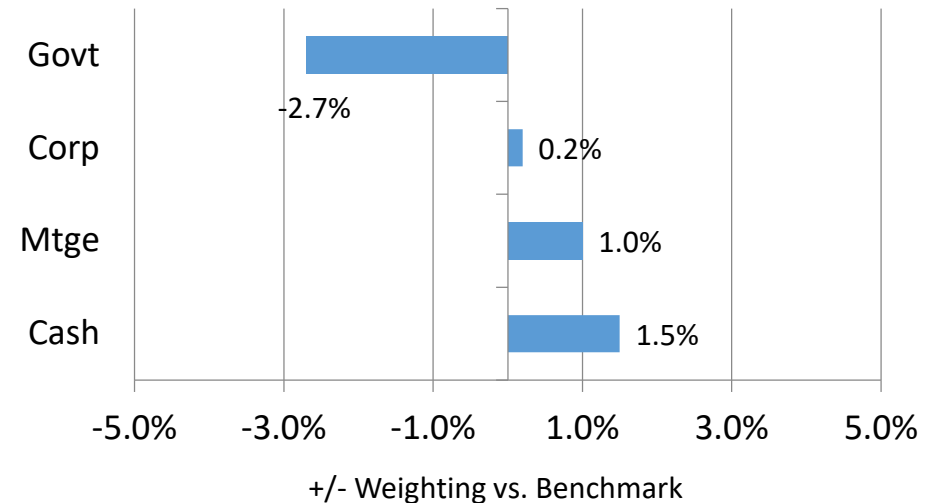
Investment Grade Fixed Income Profile

As of September 30, 2018

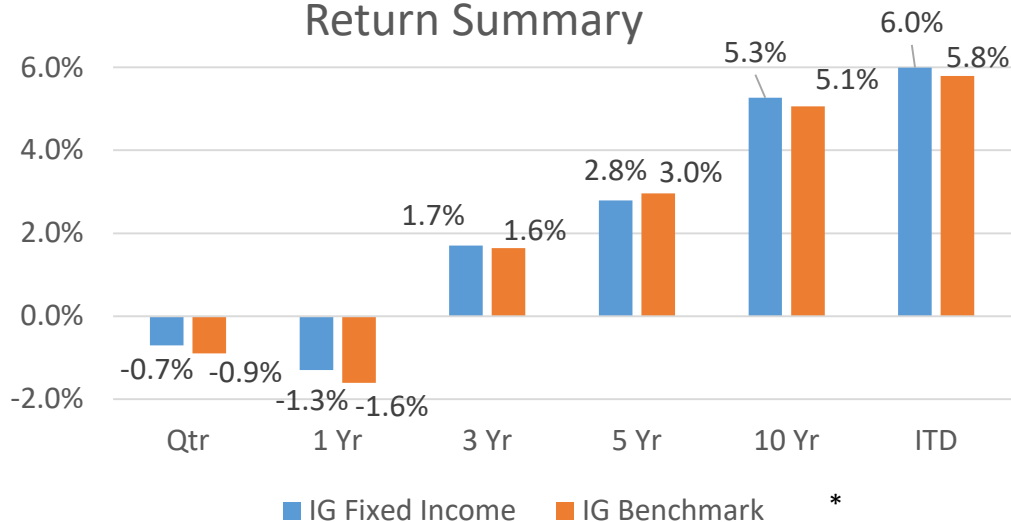
Allocation



Relative Weighting in Core Fixed



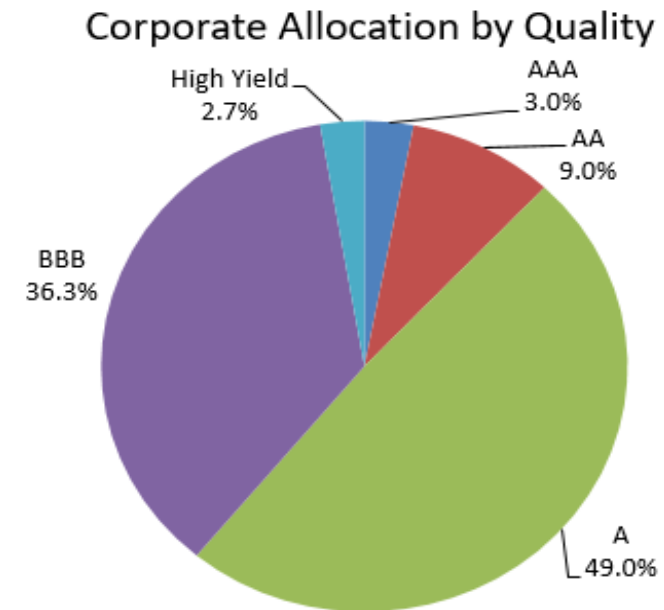
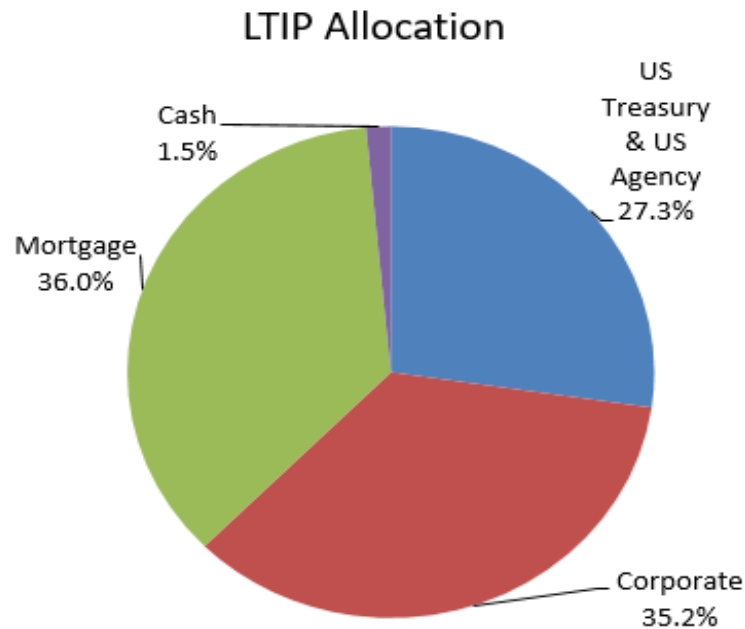
Return Summary



- We maintain a short duration position relative to the benchmark 7.7 vs 8.7 in Core Fixed Income
- The short relative duration position has allowed the portfolio to outperform the benchmark during the rate back up by 50 bps for 2018 CYTD.



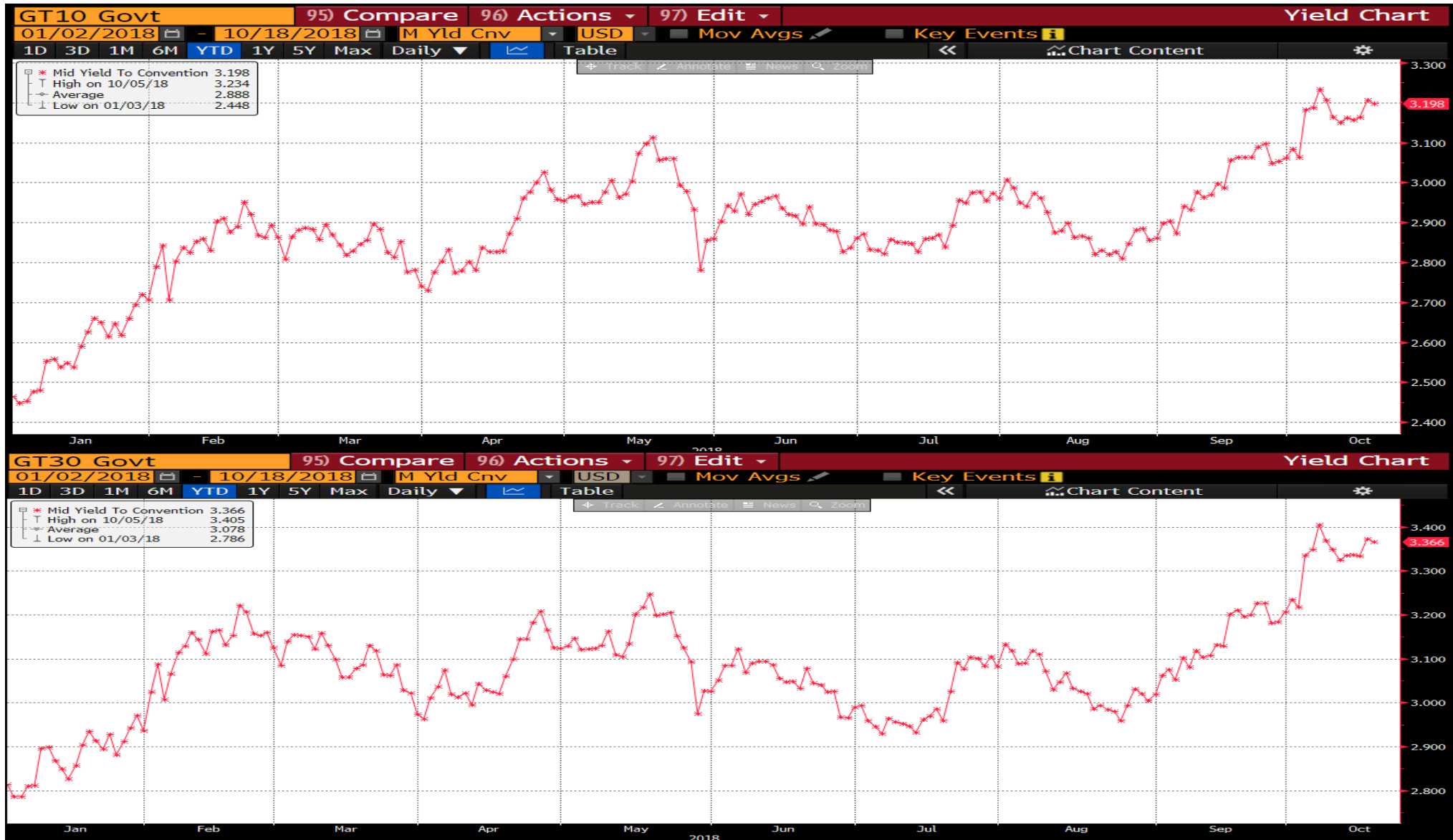
Core Fixed Income Long Term Portfolio (LTIP) September 30, 2018



Portfolio Characteristics (ex cash)	As of 9/30/18
Yield to Maturity	3.70%
Duration	7.6
Average Maturity (Yrs)	10.5
Average Credit Rating	AA
Average Coupon	4.00%



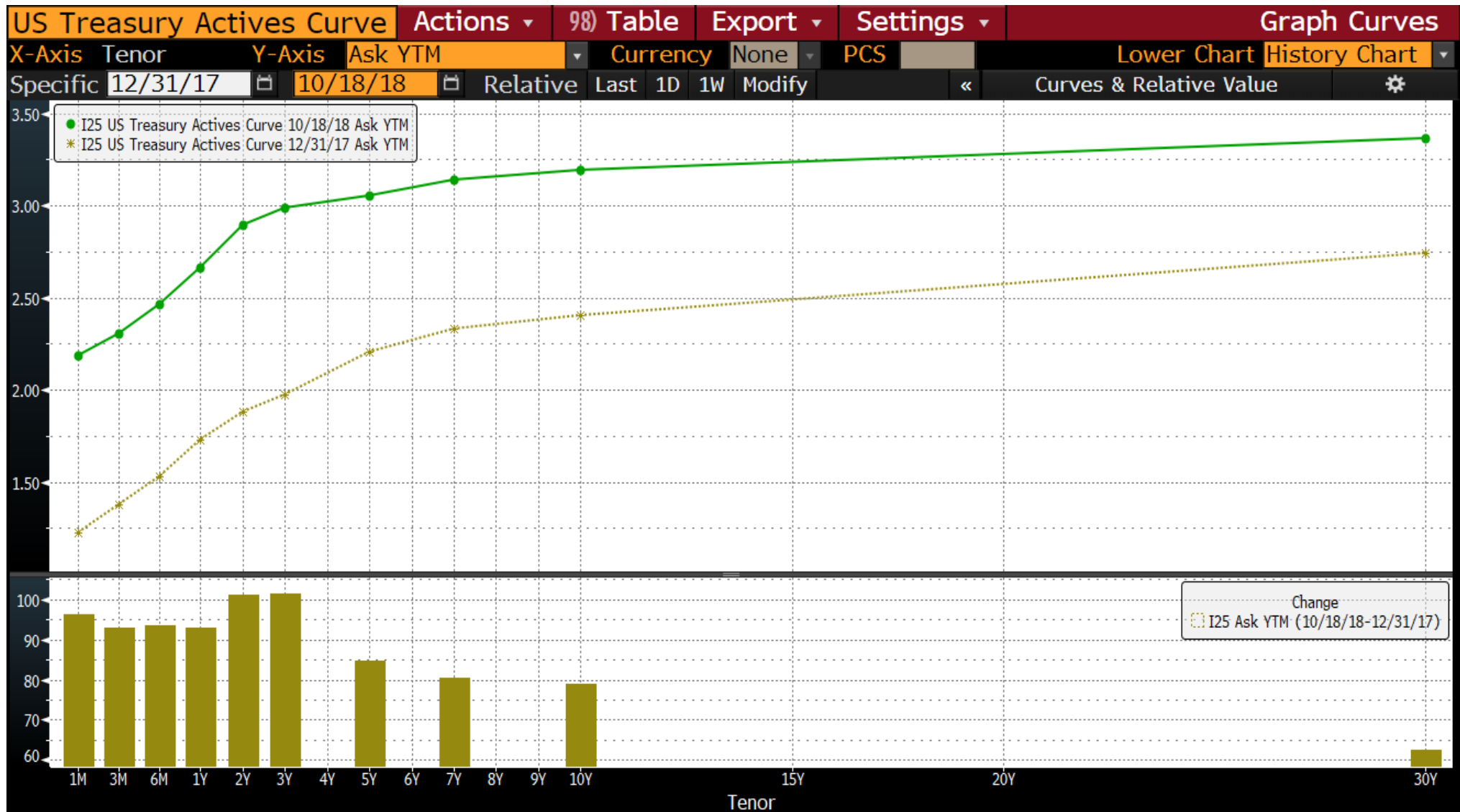
10 year and 30 Year UST Yield History



Source: Bloomberg

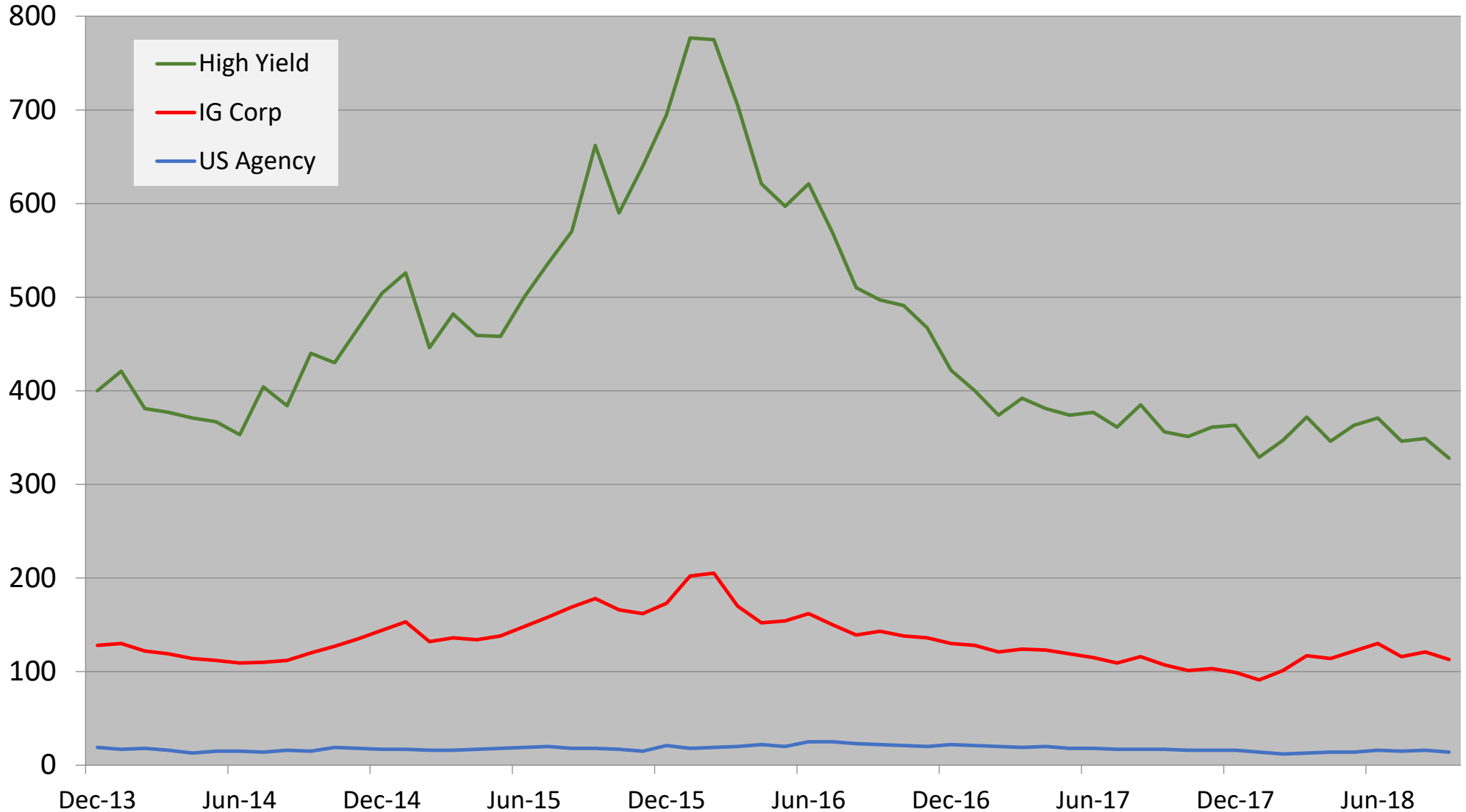


Yield Curve Movement in 2018



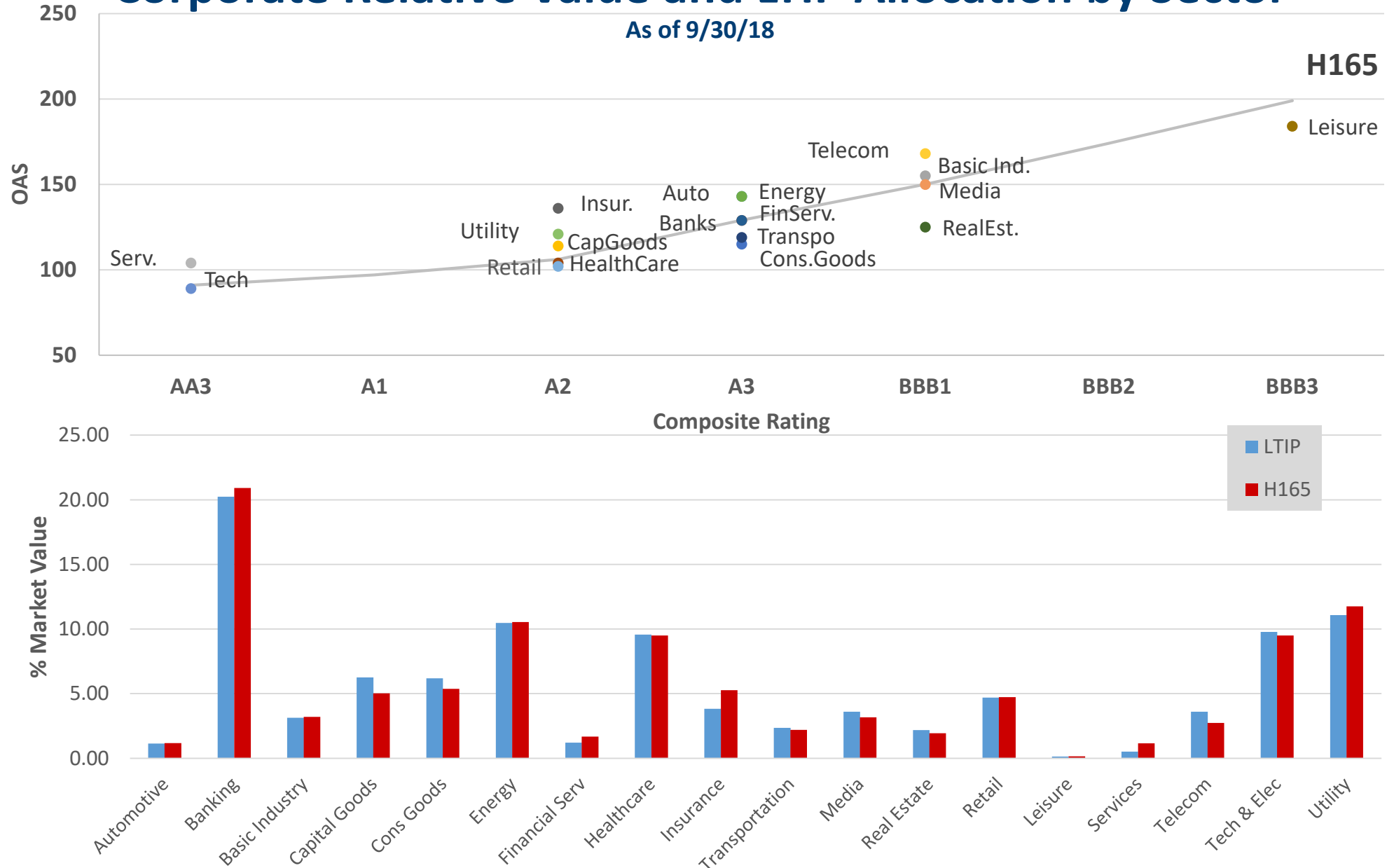


Fixed Income Credit Markets 10 Year Spread History





Corporate Relative Value and LTIP Allocation by Sector





FOMC Projections

Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents under their individual assessments of projected appropriate monetary policy, September 2018

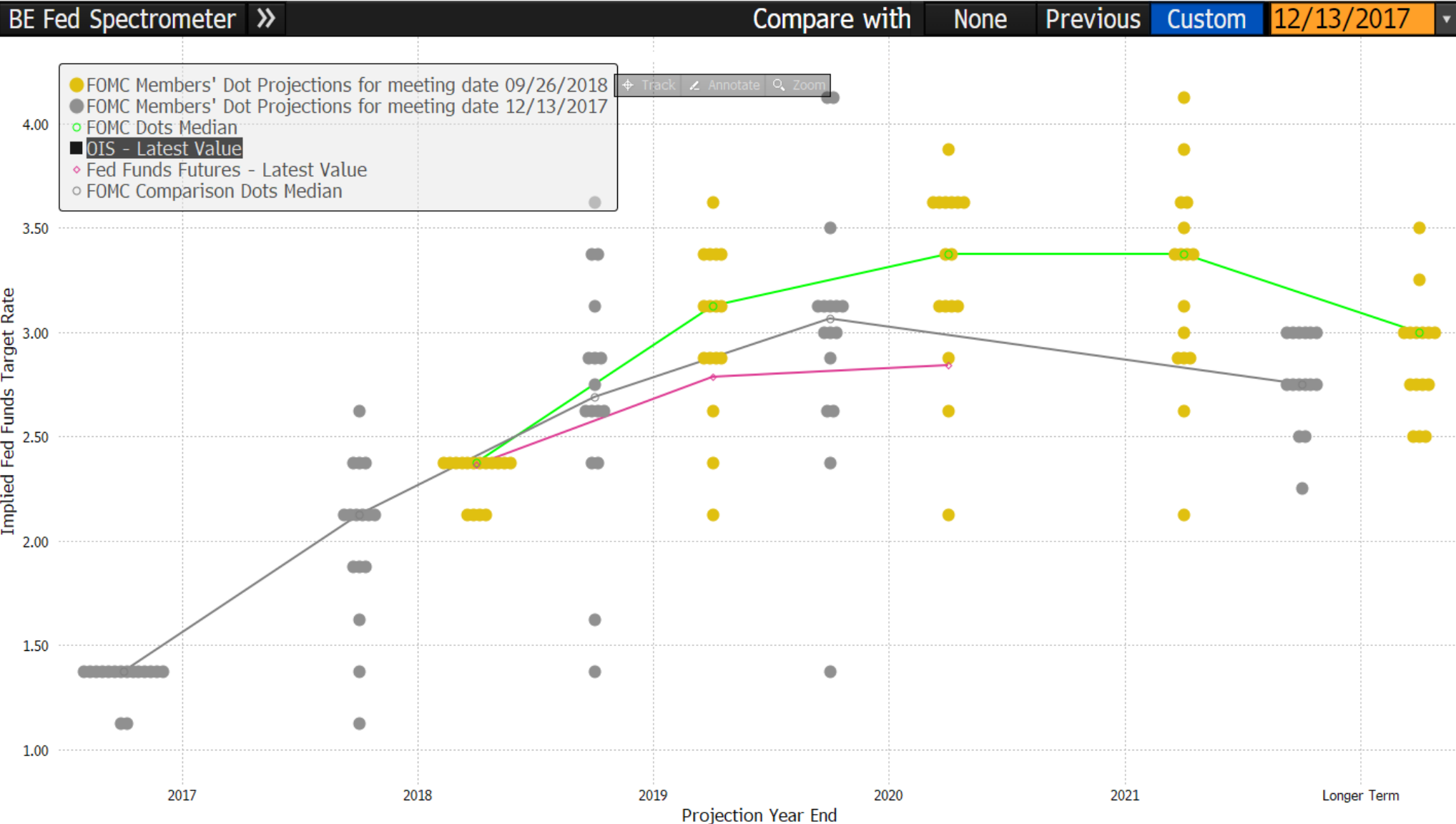
Advance release of table 1 of the Summary of Economic Projections to be released with the FOMC minutes

Percent

Variable	Median ¹					Central tendency ²					Range ³				
	2018	2019	2020	2021	Longer run	2018	2019	2020	2021	Longer run	2018	2019	2020	2021	Longer run
Change in real GDP	3.1	2.5	2.0	1.8	1.8	3.0–3.2	2.4–2.7	1.8–2.1	1.6–2.0	1.8–2.0	2.9–3.2	2.1–2.8	1.7–2.4	1.5–2.1	1.7–2.1
June projection	2.8	2.4	2.0	n.a.	1.8	2.7–3.0	2.2–2.6	1.8–2.0	n.a.	1.8–2.0	2.5–3.0	2.1–2.7	1.5–2.2	n.a.	1.7–2.1
Unemployment rate	3.7	3.5	3.5	3.7	4.5	3.7	3.4–3.6	3.4–3.8	3.5–4.0	4.3–4.6	3.7–3.8	3.4–3.8	3.3–4.0	3.4–4.2	4.0–4.6
June projection	3.6	3.5	3.5	n.a.	4.5	3.6–3.7	3.4–3.5	3.4–3.7	n.a.	4.3–4.6	3.5–3.8	3.3–3.8	3.3–4.0	n.a.	4.1–4.7
PCE inflation	2.1	2.0	2.1	2.1	2.0	2.0–2.1	2.0–2.1	2.1–2.2	2.0–2.2	2.0	1.9–2.2	2.0–2.3	2.0–2.2	2.0–2.3	2.0
June projection	2.1	2.1	2.1	n.a.	2.0	2.0–2.1	2.0–2.2	2.1–2.2	n.a.	2.0	2.0–2.2	1.9–2.3	2.0–2.3	n.a.	2.0
Core PCE inflation ⁴	2.0	2.1	2.1	2.1		1.9–2.0	2.0–2.1	2.1–2.2	2.0–2.2		1.9–2.0	2.0–2.3	2.0–2.2	2.0–2.3	
June projection	2.0	2.1	2.1	n.a.		1.9–2.0	2.0–2.2	2.1–2.2	n.a.		1.9–2.1	2.0–2.3	2.0–2.3	n.a.	
Memo: Projected appropriate policy path															
Federal funds rate	2.4	3.1	3.4	3.4	3.0	2.1–2.4	2.9–3.4	3.1–3.6	2.9–3.6	2.8–3.0	2.1–2.4	2.1–3.6	2.1–3.9	2.1–4.1	2.5–3.5
June projection	2.4	3.1	3.4	n.a.	2.9	2.1–2.4	2.9–3.4	3.1–3.6	n.a.	2.8–3.0	1.9–2.6	1.9–3.6	1.9–4.1	n.a.	2.3–3.5



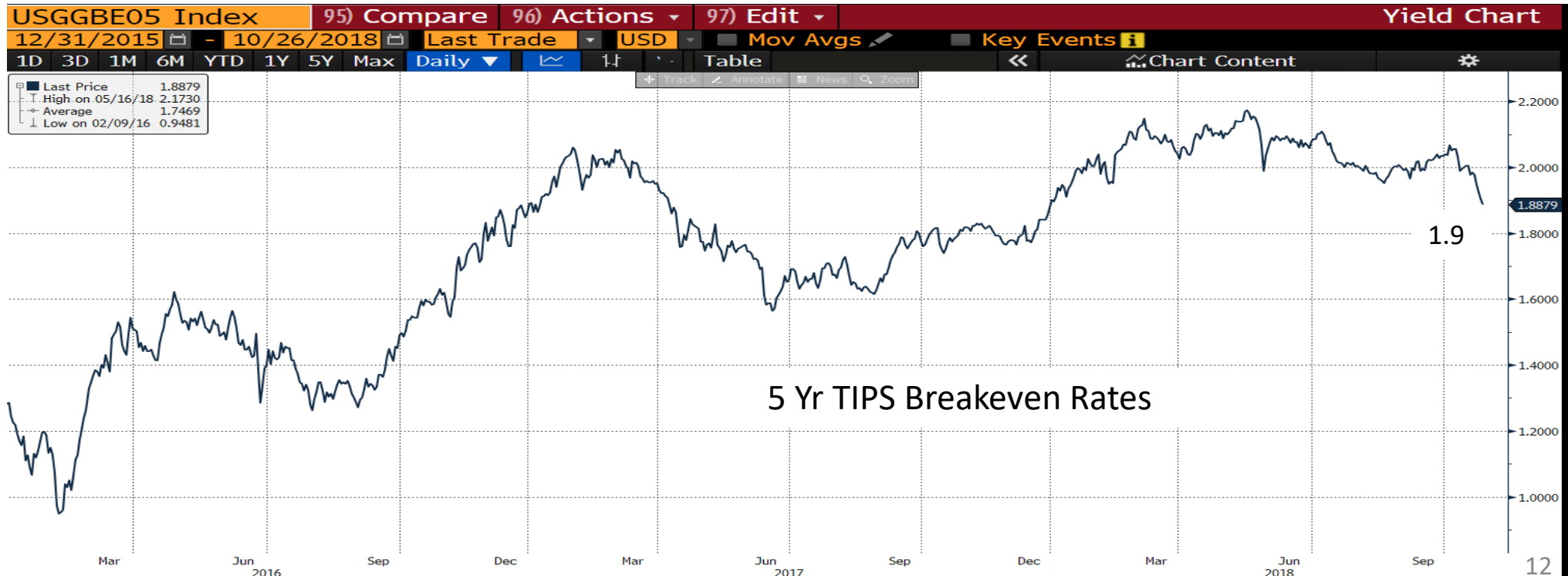
Fed Dot Plot





Modest Rate Increases Expected in the Near Term

Rate	Market Yld	Q4 18	Q1 19	Q2 19	Q3 19	Q4 19	Q1 20	Q2 20	Q3 20	Q4 20	Q1 21
United States											
US 30-Year	3.32	3.35	3.43	3.51	3.56	3.64	3.70	3.75	3.77	3.74	3.74
US 10-Year	3.09	3.17	3.26	3.33	3.36	3.41	3.44	3.48	3.50	3.46	3.53
US 5-Year	2.92	2.95	3.05	3.14	3.20	3.26	3.32	3.30	3.32	3.35	
US 2-Year	2.81	2.89	3.02	3.13	3.21	3.26	3.31	3.33	3.34	3.28	3.28
US 3-Month Libor	2.51	2.61	2.79	2.96	3.10	3.17	3.24	3.24	3.26	3.21	3.21
Fed Funds Rate - Upper Bound	2.25	2.50	2.70	2.90	3.05	3.10	3.05	3.05	3.05	3.05	3.05
Fed Funds Rate - Lower Bound	2.00	2.23	2.45	2.66	2.80	2.85	2.81	2.81	2.81	2.79	2.80
2 Year - 10 Year Spread	0.28	0.28	0.25	0.20	0.16	0.15	0.13	0.15	0.16	0.18	0.25



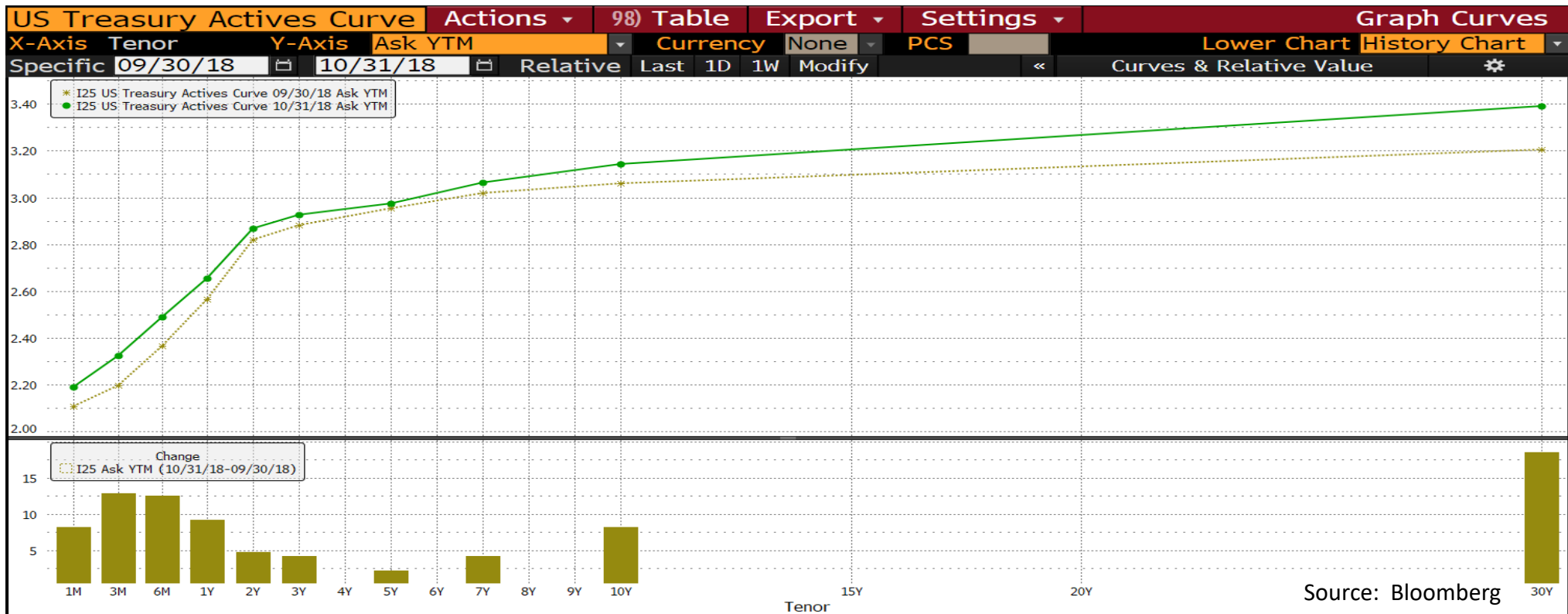


Fixed Income Return Expectations

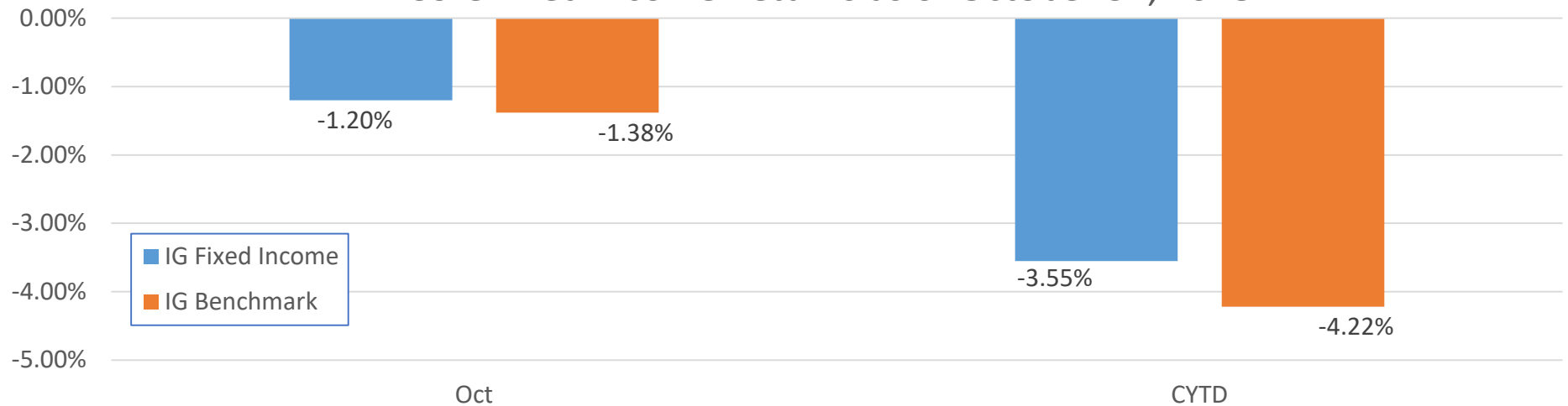
1 Year Core Fixed Income Return Simulation (Parallel Shift) as of 10/31/18



- Expectations are for rates to rise modestly in 2019
- Inflation concerns are moderate, but wage inflation has finally crept higher in the latest releases
- Return expectations over the next five years have risen to 3% - 5% on the backup in rates



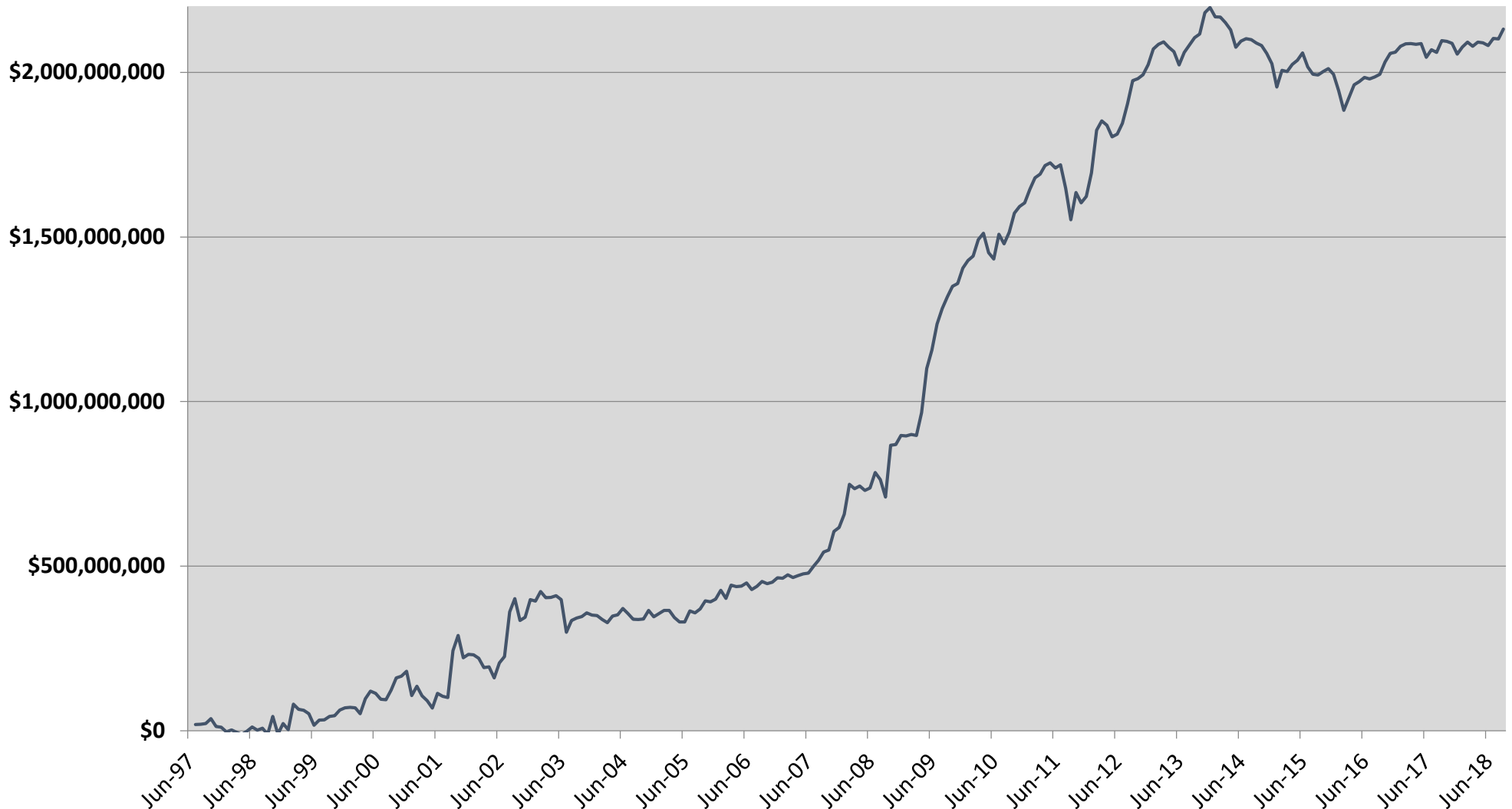
Core Fixed Income Returns as of October 31, 2018





Value Added to the Plan through Excess Return to the Benchmark in Core Fixed Income

As of September 30, 2018





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