

NORTH CAROLINA
DEPARTMENT OF STATE TREASURER



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INVESTMENT MANAGEMENT DIVISION

Investment Grade Fixed Income Review

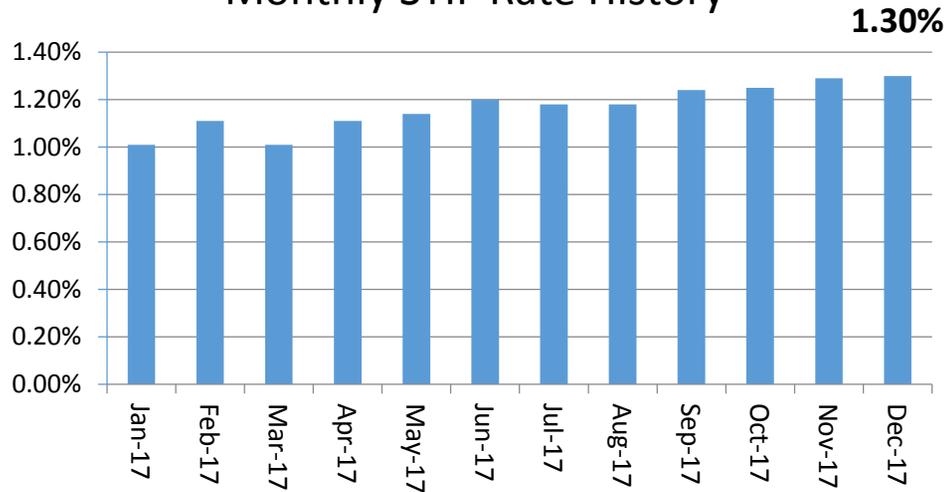
February 15, 2018



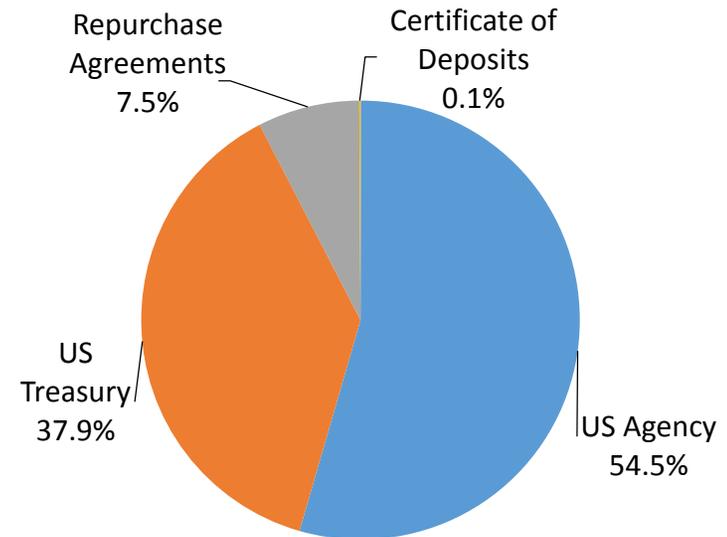
North Carolina Short Term Portfolio (STIF)

December 31, 2017

Monthly STIF Rate History



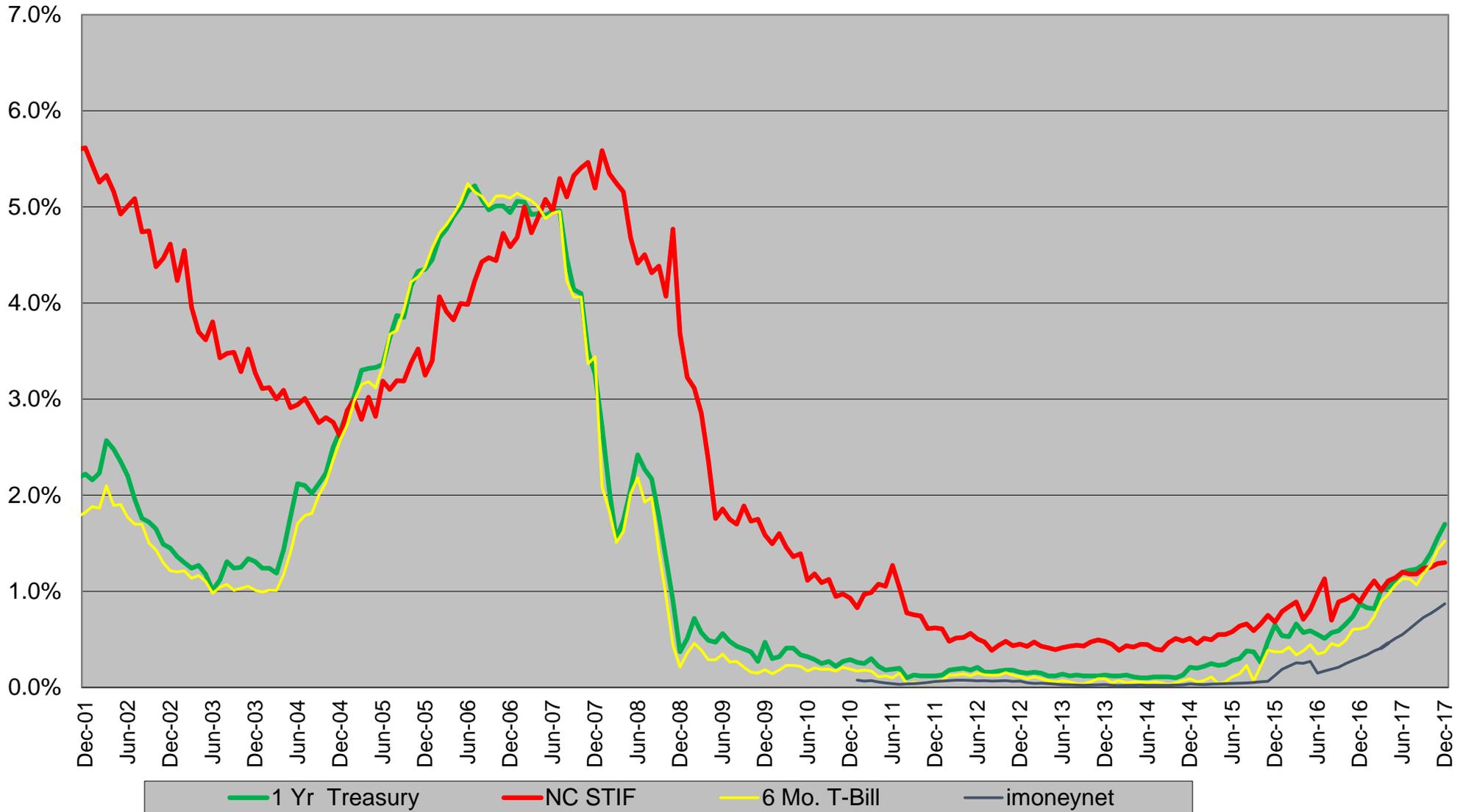
STIF Allocation



Portfolio Characteristics	Month Ending 12/31/17
Current Net Cash Return	1.30%
Effective Duration	1.27
Average Maturity (Yrs)	1.4
Average Credit Rating (Moody's)	AAA
Average Price	99.92
Average Coupon	1.21%

Short Term Portfolio (STIF) Rate History

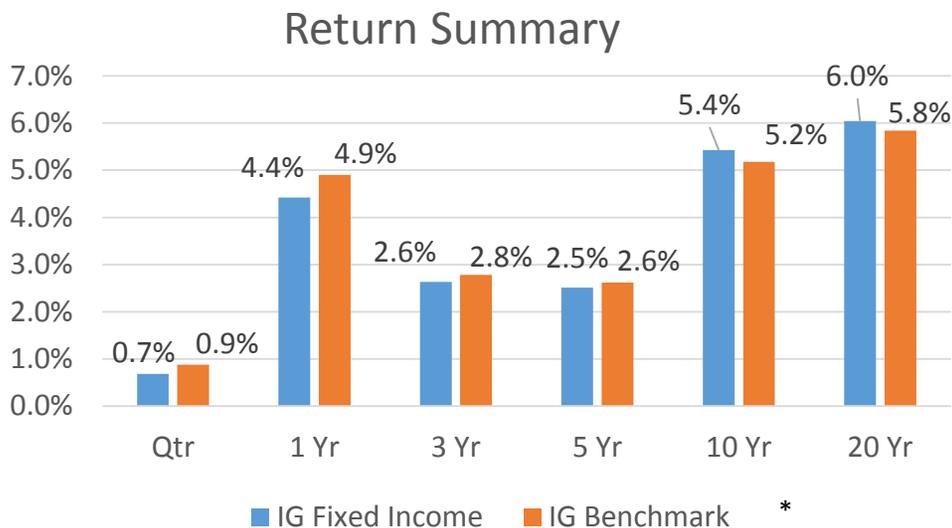
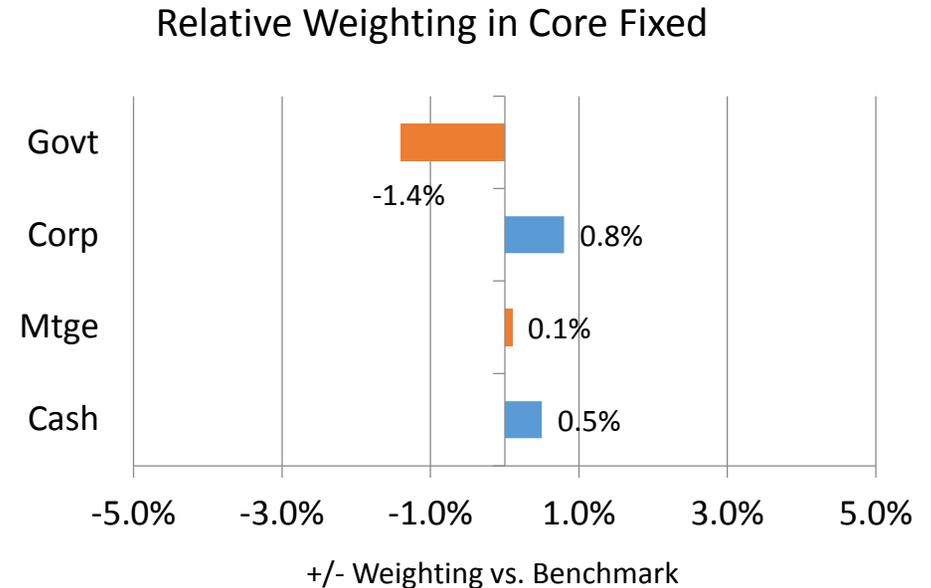
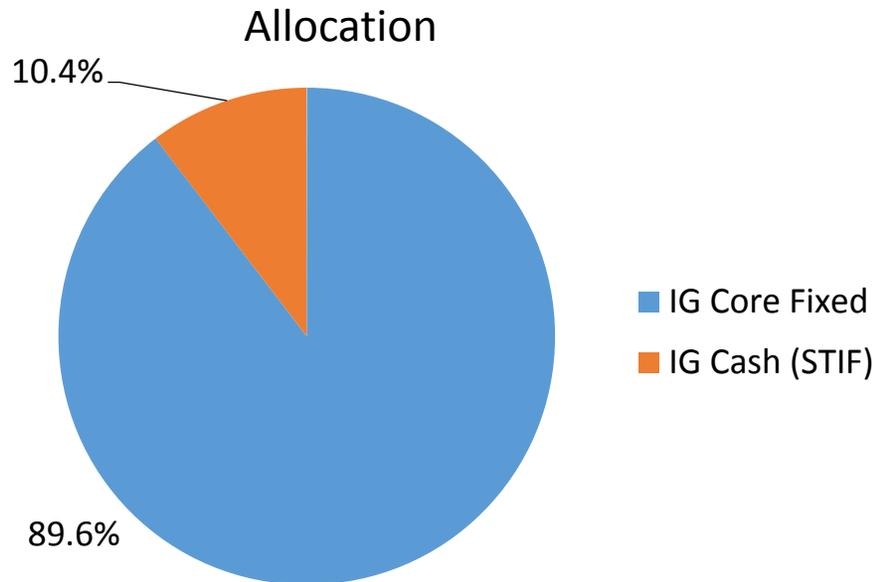
\$21.4 Billion AUM as of 12/31/17





Investment Grade Fixed Income Profile

As of December 31, 2017



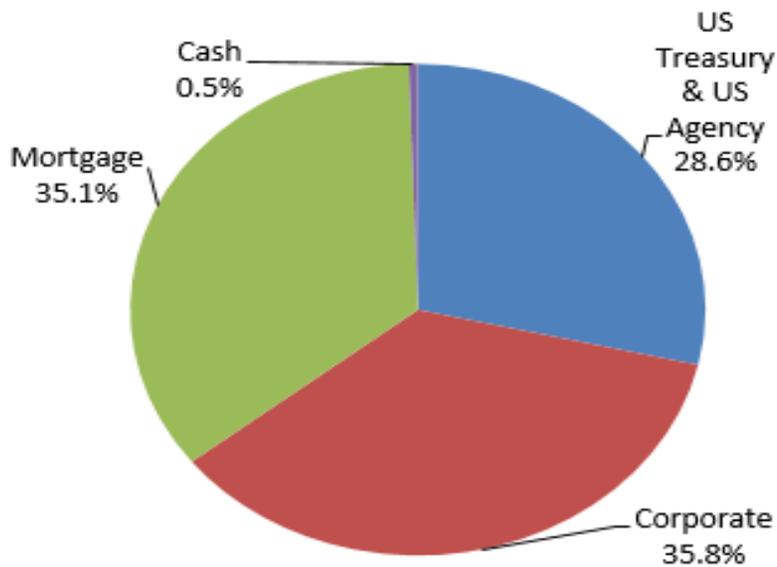
- We maintain a short duration position relative to the benchmark 7.6 vs 8.3
- As discussed at previous IAC meetings, the costs of maintaining a defensive position are weaker relative returns during a rate decline
- While our IG Cash outperformed the benchmark, the short duration gap resulted in Core trailing the benchmark



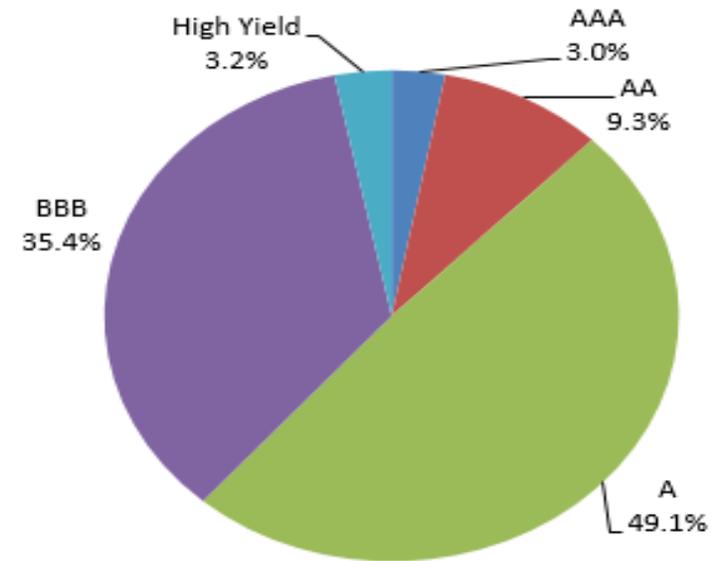
Core Fixed Income Long Term Portfolio (LTIP)

December 31, 2017

LTIP Allocation



Corporate Allocation by Quality



Portfolio Characteristics (ex cash)	As of 12/31/17
Yield to Maturity	2.98%
Duration	7.6
Average Maturity (Yrs)	10.6
Average Credit Rating	AA
Average Coupon	4.17%

* BOAML Custom Fixed Income Benchmark

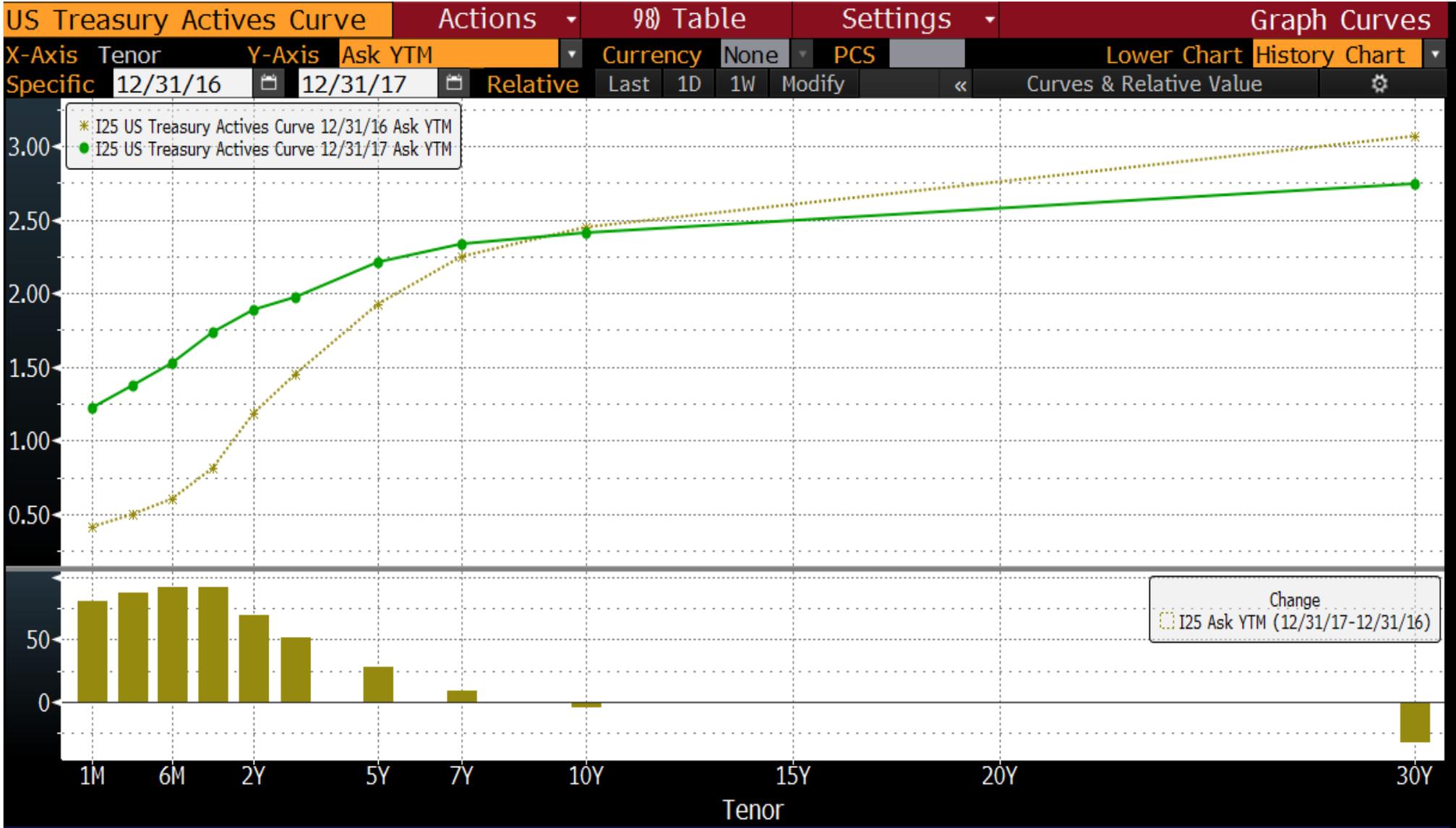


10 year and 30 Year UST Yield History





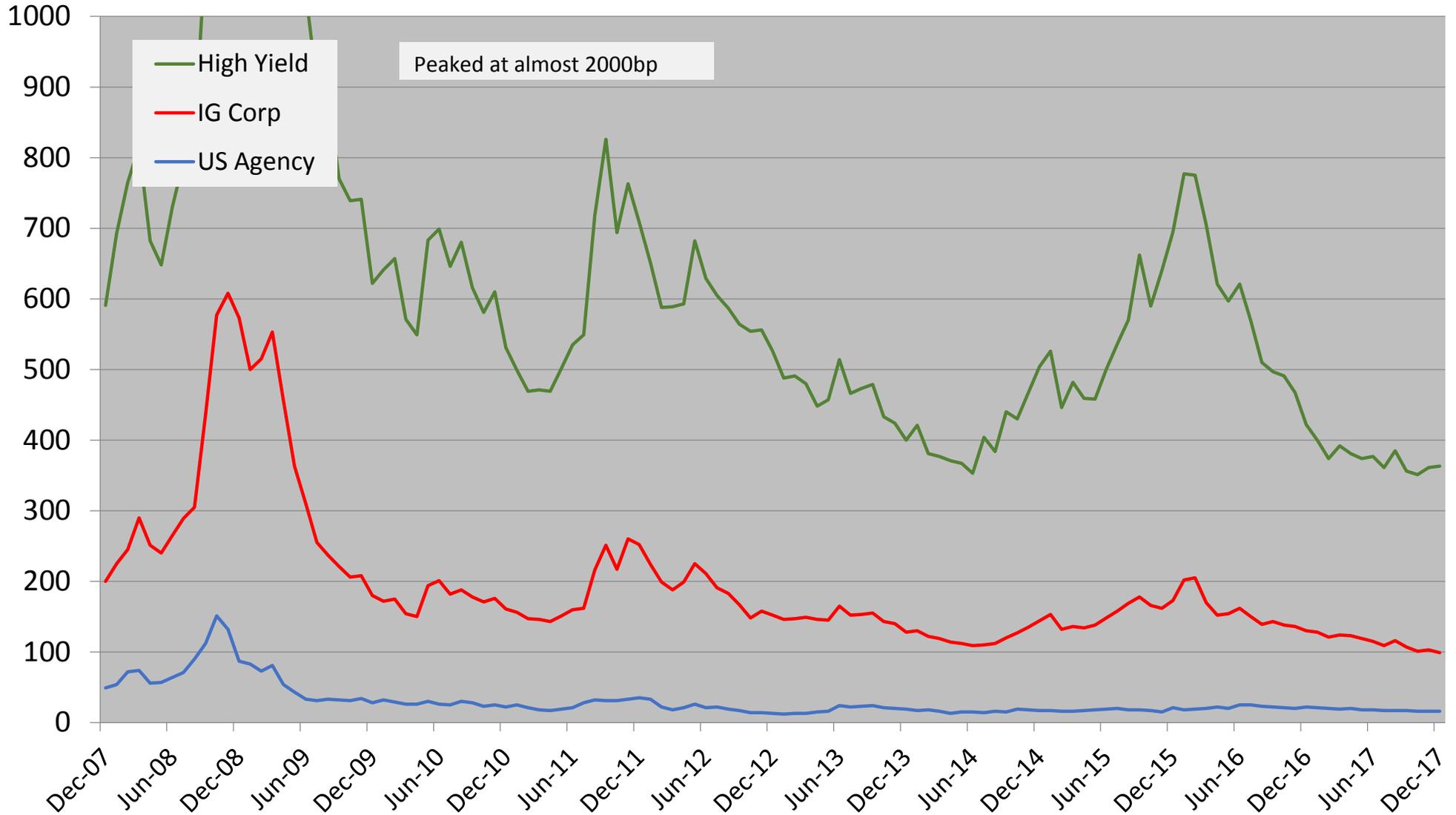
Yield Curve Movement in 2017





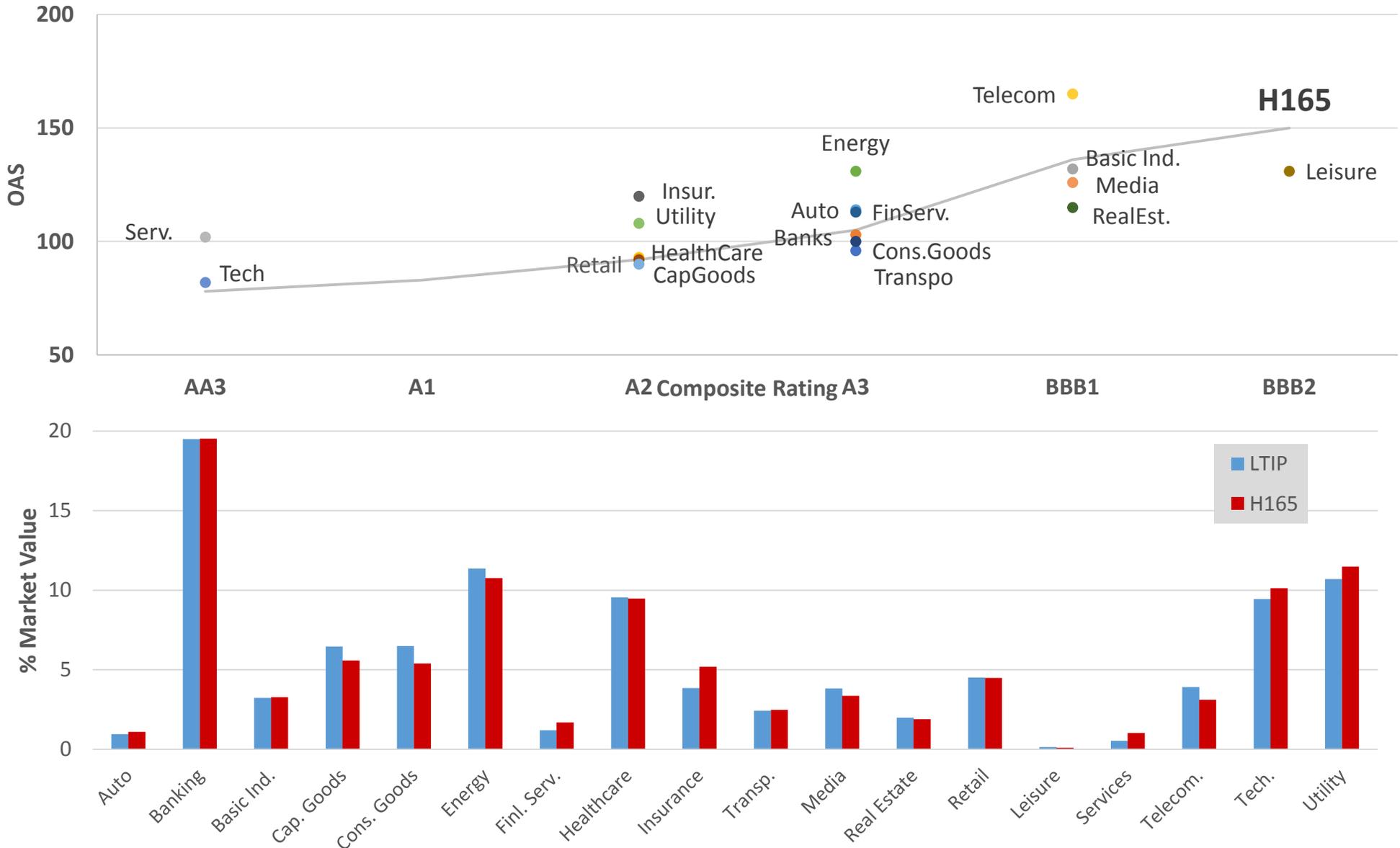
Fixed Income Credit Markets

10 Year Spread History



Corporate Relative Value and LTIP Allocation by Sector

As of 12/31/17





Investment Grade Fixed Income Discussion Items

- Comfort level with short relative duration position?
 - Costs of maintaining position (absolute vs. relative returns)
- Will inflation prevent further curve flattening by pushing long rates higher?
- Hidden illiquidity in Investment Grade credit persists
 - IG Cash position could serve as liquidity provider in a dislocation
- Transfer of non-pension assets from Core Fixed Income completed since the last review with IAC
 - 144a eligibility



FOMC Projections

Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents under their individual assessments of projected appropriate monetary policy, December 2017

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				
	2017	2018	2019	2020	Longer run	2017	2018	2019	2020	Longer run	2017	2018	2019	2020	Longer run
Change in real GDP	2.5	2.5	2.1	2.0	1.8	2.4–2.5	2.2–2.6	1.9–2.3	1.7–2.0	1.8–1.9	2.4–2.6	2.2–2.8	1.7–2.4	1.1–2.2	1.7–2.2
September projection	2.4	2.1	2.0	1.8	1.8	2.2–2.5	2.0–2.3	1.7–2.1	1.6–2.0	1.8–2.0	2.2–2.7	1.7–2.6	1.4–2.3	1.4–2.0	1.5–2.2
Unemployment rate	4.1	3.9	3.9	4.0	4.6	4.1	3.7–4.0	3.6–4.0	3.6–4.2	4.4–4.7	4.1	3.6–4.0	3.5–4.2	3.5–4.5	4.3–5.0
September projection	4.3	4.1	4.1	4.2	4.6	4.2–4.3	4.0–4.2	3.9–4.4	4.0–4.5	4.5–4.8	4.2–4.5	3.9–4.5	3.8–4.5	3.8–4.8	4.4–5.0
PCE inflation	1.7	1.9	2.0	2.0	2.0	1.6–1.7	1.7–1.9	2.0	2.0–2.1	2.0	1.5–1.7	1.7–2.1	1.8–2.3	1.9–2.2	2.0
September projection	1.6	1.9	2.0	2.0	2.0	1.5–1.6	1.8–2.0	2.0	2.0–2.1	2.0	1.5–1.7	1.7–2.0	1.8–2.2	1.9–2.2	2.0
Core PCE inflation ⁴	1.5	1.9	2.0	2.0		1.5	1.7–1.9	2.0	2.0–2.1		1.4–1.5	1.7–2.0	1.8–2.3	1.9–2.3	
September projection	1.5	1.9	2.0	2.0		1.5–1.6	1.8–2.0	2.0	2.0–2.1		1.4–1.7	1.7–2.0	1.8–2.2	1.9–2.2	
Memo: Projected appropriate policy path															
Federal funds rate	1.4	2.1	2.7	3.1	2.8	1.4	1.9–2.4	2.4–3.1	2.6–3.1	2.8–3.0	1.1–1.4	1.1–2.6	1.4–3.6	1.4–4.1	2.3–3.0
September projection	1.4	2.1	2.7	2.9	2.8	1.1–1.4	1.9–2.4	2.4–3.1	2.5–3.5	2.5–3.0	1.1–1.6	1.1–2.6	1.1–3.4	1.1–3.9	2.3–3.5



Fed Dot Plot

Compare projections between: Sep 2017 and Dec 2017

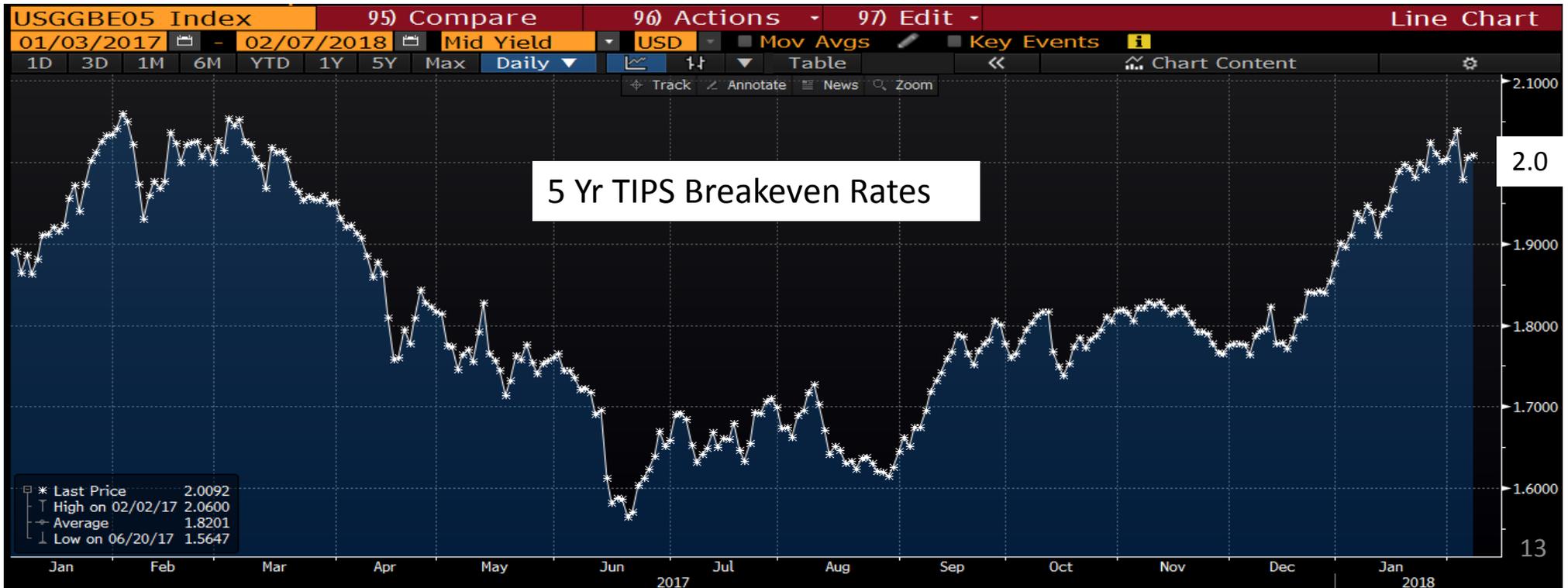
16 Number of governors voting
 ○ ● Older/newer projection
 ● Median of projections





Modest Rate Increases Expected in the Near Term

	Rate	Market Yld	Q1 18	Q2 18	Q3 18	Q4 18	Q1 19	Q2 19	Q3 19	Q4 19	Q1 20	Q2 20
United States												
1)	US 30-Year	3.05	2.97	3.12	3.24	3.37	3.45	3.55	3.62	3.71	3.75	3.85
2)	US 10-Year	2.78	2.63	2.68	2.77	2.86	2.97	3.13	3.19	3.21	3.34	3.48
3)	US 2-Year	2.10	2.08	2.21	2.33	2.42	2.56	2.73	2.83	2.85	2.92	3.01
4)	US 3-Month Libor	1.79	1.83	2.02	2.17	2.30	2.42	2.58	2.70	2.76	2.86	2.96
5)	Fed Funds Rate - Upper Bound	1.50	1.65	1.90	2.05	2.25	2.35	2.55	2.65	2.70	2.75	2.80
6)	Fed Funds Rate - Lower Bound	1.25	1.44	1.68	1.85	2.01	2.11	2.32	2.42	2.47	2.50	2.54
	2 Year - 10 Year Spread	0.68	0.55	0.47	0.44	0.43	0.41	0.40	0.36	0.37	0.43	0.47





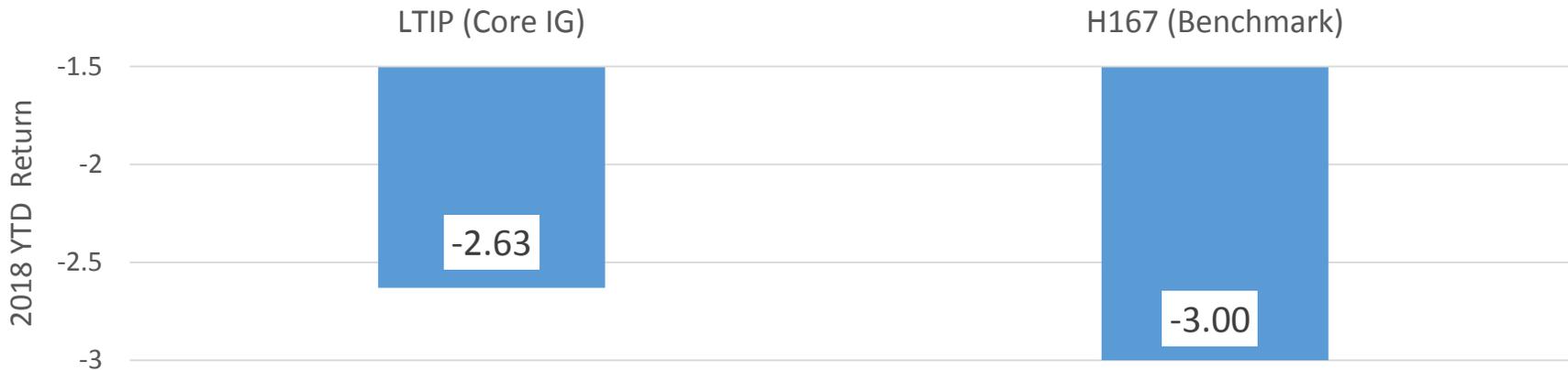
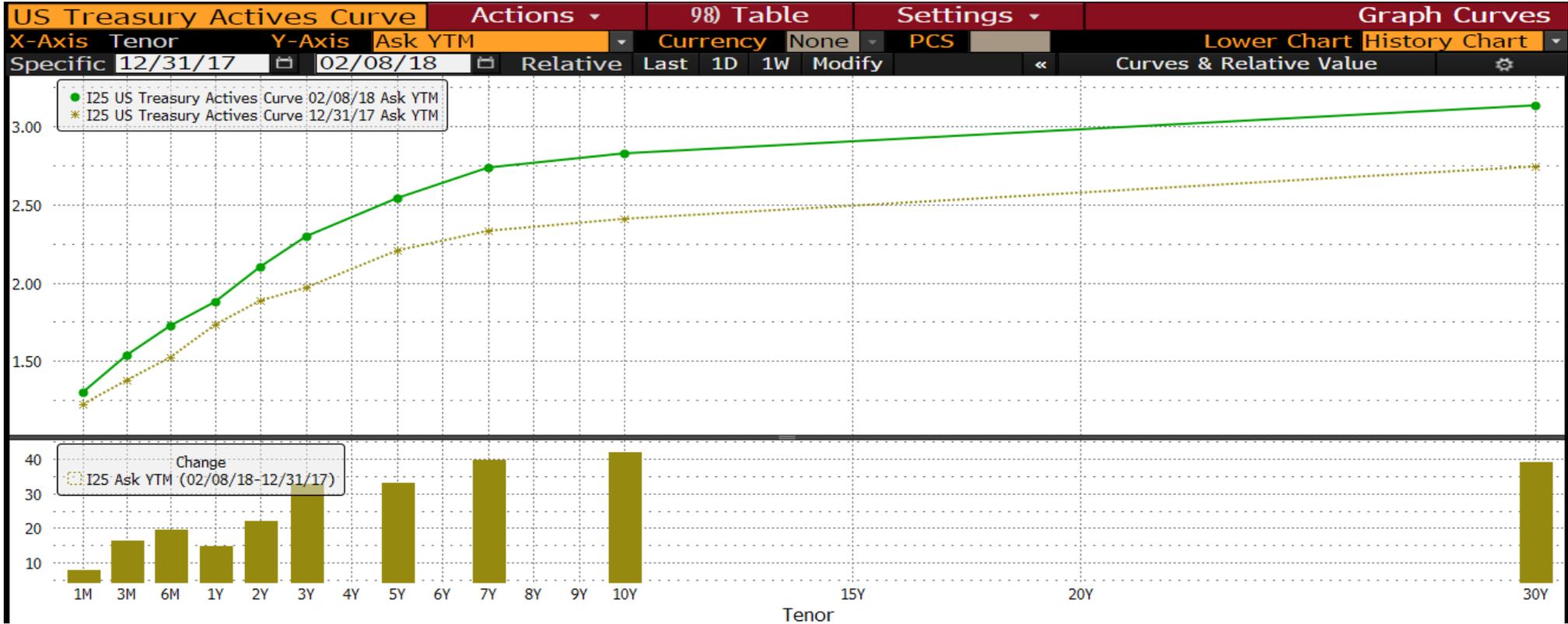
Fixed Income Return Expectations

1 Year Core Fixed Income Return Simulation (Parallel Shift) as of 12/31/17



- Expectations are for rates to rise modestly in 2018
- Inflation concerns growing, but still modest expectations
- Return expectations over the next five years remain in the 2% to 4% range

2018 Market Moves & Impact (as of 2/8/18)





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