

Views on Treasury's Debt Management Framework

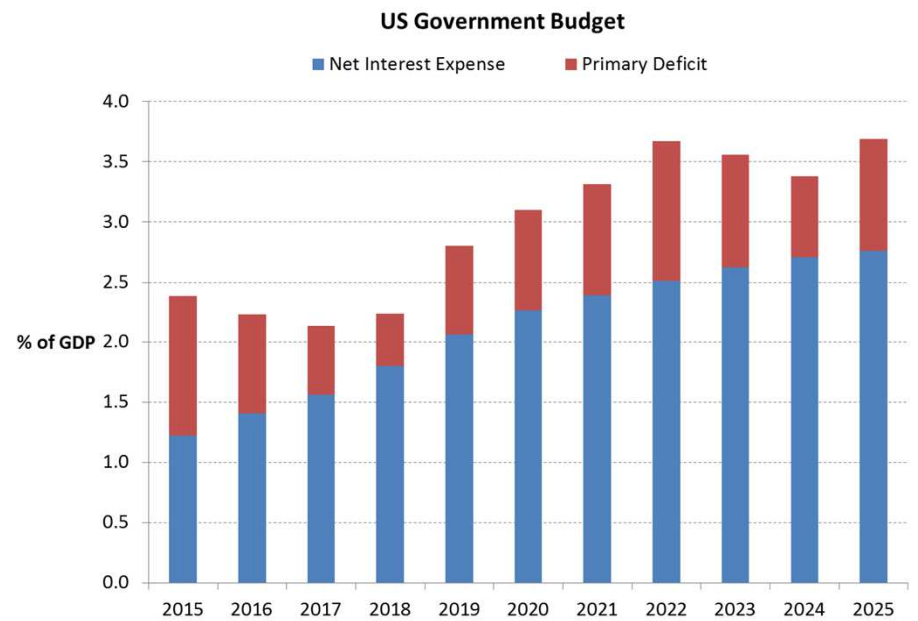
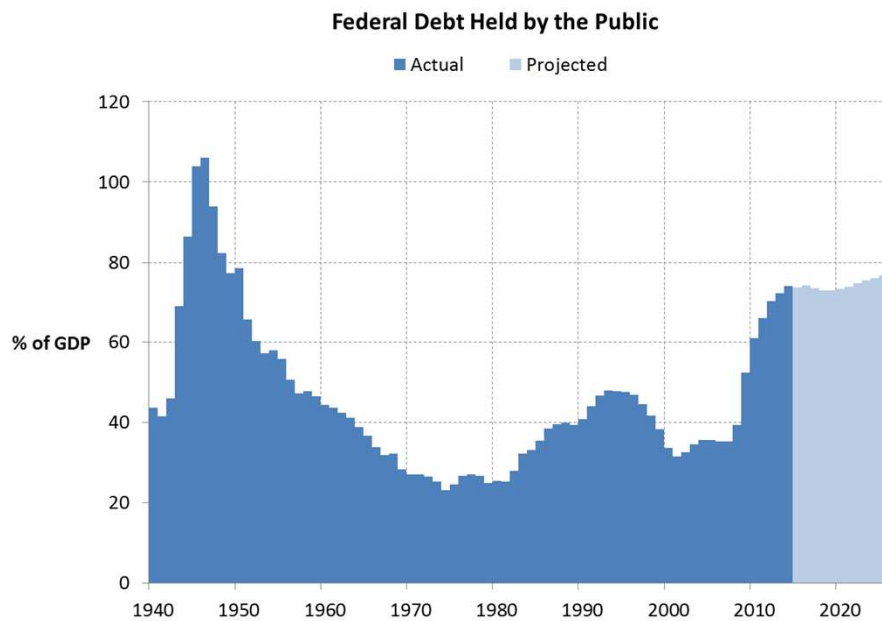
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Broad Views on Treasury Debt Management

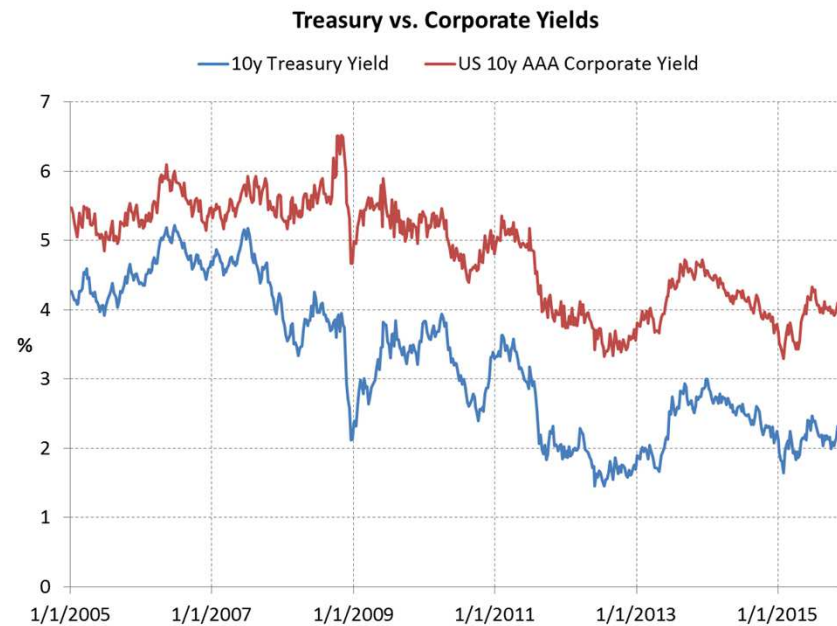
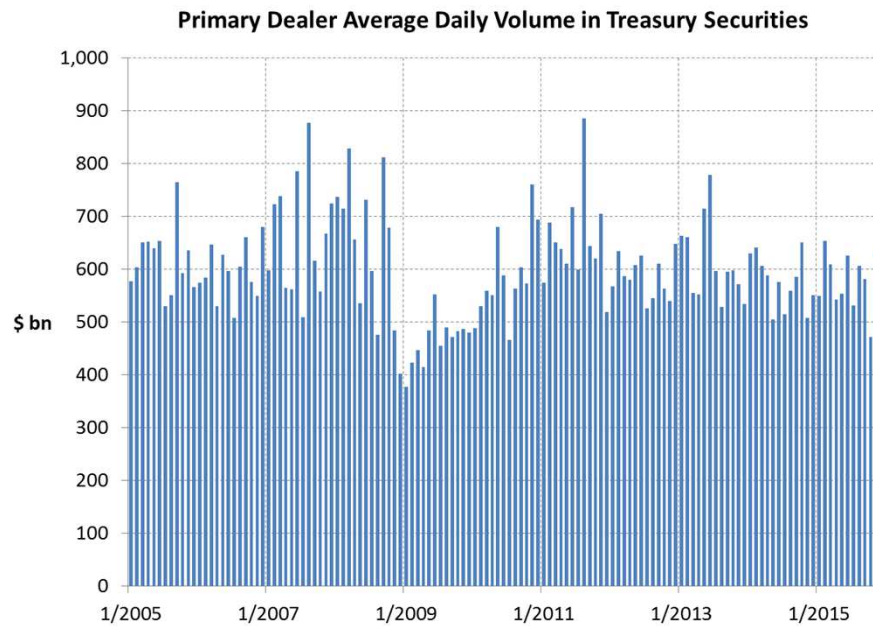
- Treasury has established many sound debt management practices
 - These have contributed to the attractiveness of Treasury securities
- Overall objective function for debt management could be clarified
 - Still some uncertainty about the specific objectives governing debt management decisions and their relative importance
 - Makes it difficult to quantify optimal debt maturity/structure
- Treasury faces several key issues in the current market environment
 - Must determine how to adjust debt in response to the low level of long-term rates and the potential demand for Treasury bills

Maintaining a Low Funding Cost is Critical



Source: Congressional Budget Office (August 2015 Baseline Projections)

Treasuries Highly Valued for Safety and Liquidity



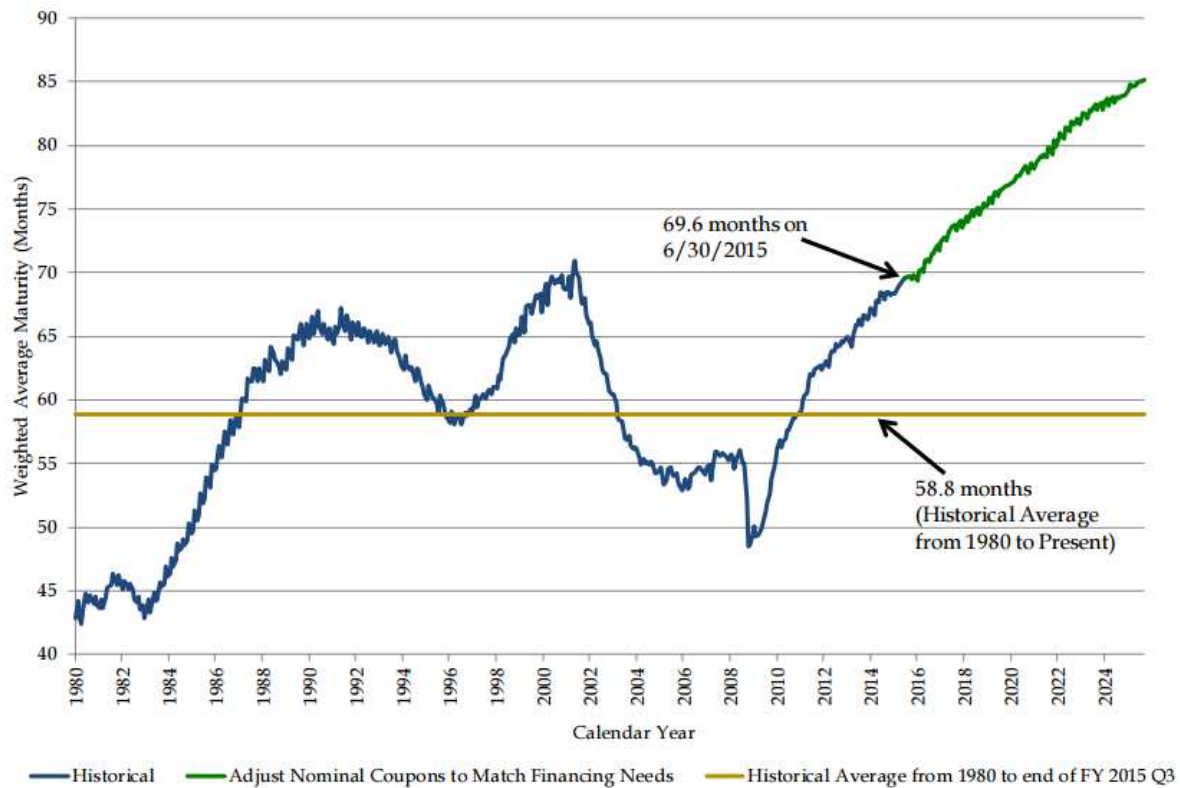
Source: Federal Reserve Bank of New York, Bloomberg

Sound Debt Management Practices in Place

- The value that investors place on Treasury securities reflects many factors underlying their safety and liquidity
- Sound debt management practices have been an important component
- Treasury benefits from a set of practices in place for some time:
 - Regular and predictable issuance
 - Large benchmark issue sizes
 - Wide range of maturity points
 - Efficient auction procedures
 - Effective relationships with primary dealers

Optimal Maturity/Structure of Debt is Less Clear

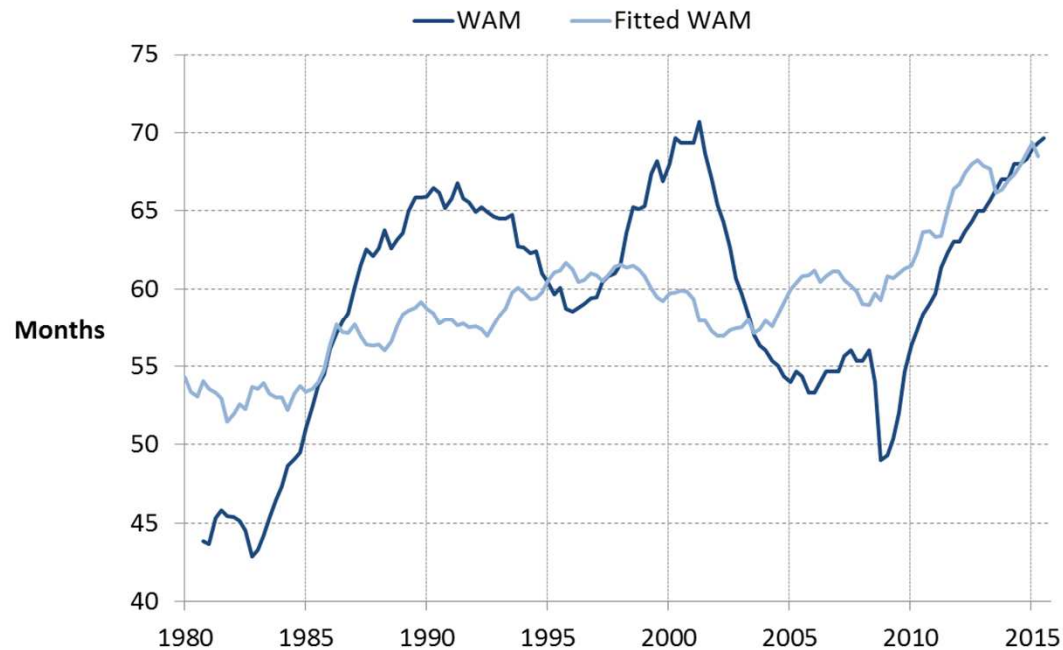
Weighted Average Maturity of Marketable Debt Outstanding



Source: US Treasury

Have Decisions on Debt Structure Been Systematic?

Weighted Average Maturity of Outstanding Debt



Source: US Treasury

Dependent Variable: WAM (Months)
Sample: 1980Q1 - 2015Q2

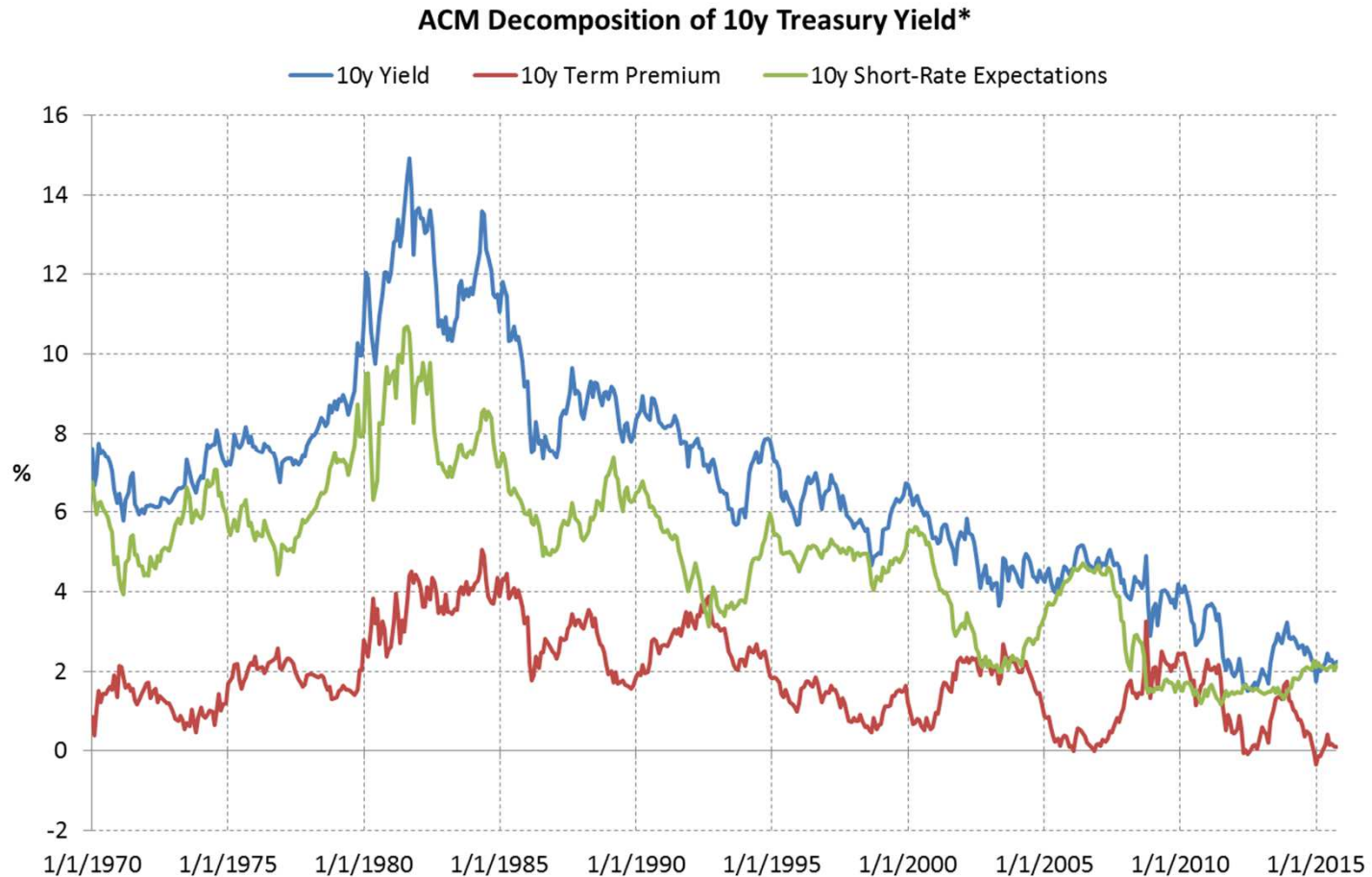
Constant	53.4 (8.87)
Outstanding Debt / GDP	0.19 (2.36)
10y ACM Term Premium	-1.67 -(1.48)
R²	0.31

HAC t-stats in parentheses

Developing Explicit Debt Management Objectives

- Critical for determining optimal maturity/structure of debt
- In my view, the objective function has three components
 - Expected funding cost over time
 - Variation in funding cost
 - Efficient market functioning
- Key debt management practices understood in this context
 - Practices such as regular and predictable issuance are not themselves the objectives of debt management
 - They are practices that are useful for achieving above objectives

Incorporating the Low Level of Long-term Interest Rates



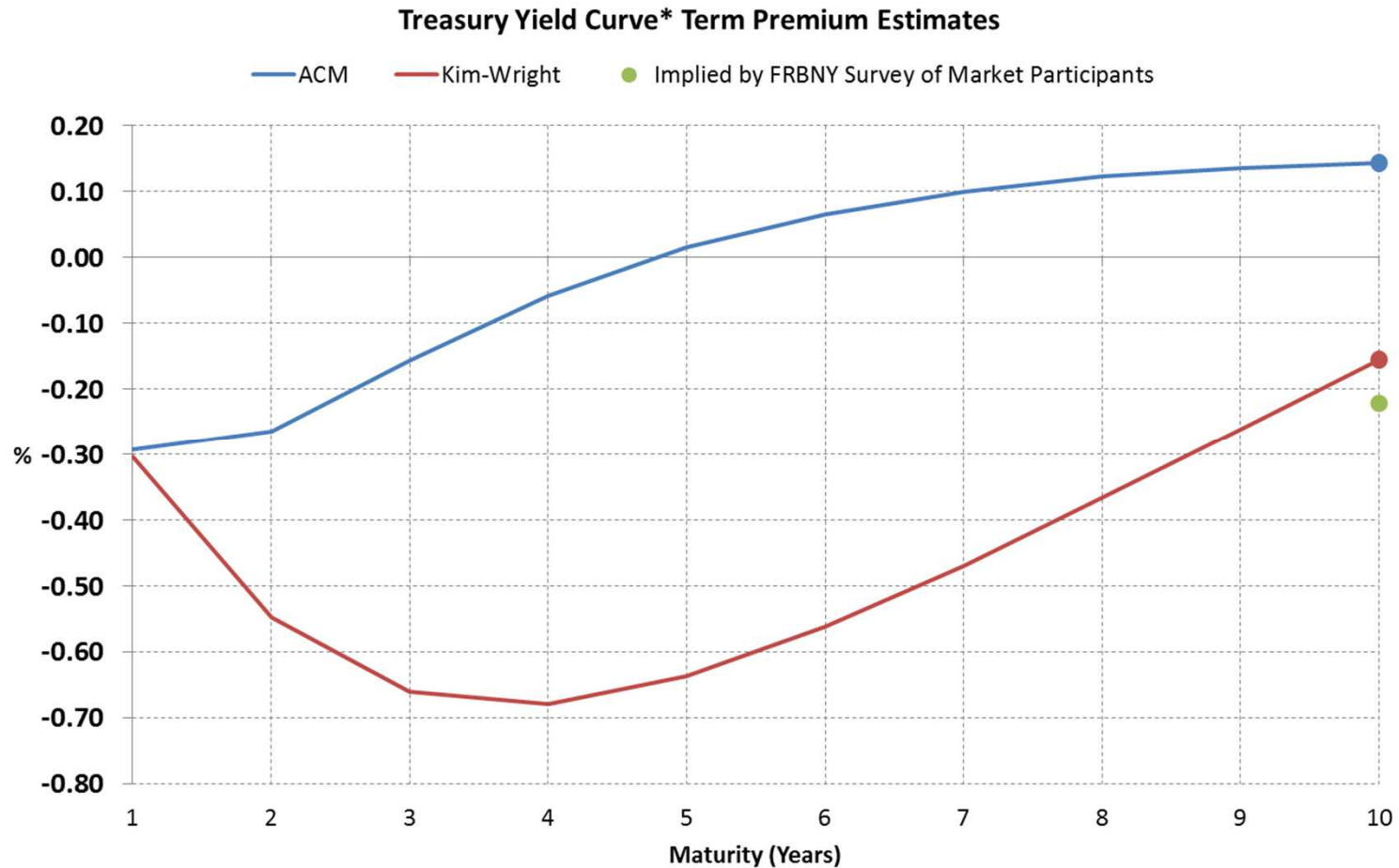
* Zero-coupon security.

Sources: Federal Reserve Bank of New York; Adrian, Crump, and Moench (2013)

Considerations Regarding Low Long-term Rates

- Distinguish between low rates and low term premium
 - Maturity structure should depend on term premium, not level of rates
 - Term premium is difficult to measure
- Low term premium is a reason for longer maturity
- Arguments for being cautious about further maturity extension
 - The extent to which the low term premium will persist is uncertain
 - Term premium appears particularly low at shorter maturities
 - Variation in funding costs from shorter debt has good correlation properties
 - Bill demand is substantial relative to supply
- WAM has already been extended meaningfully
 - Case for further extension is less clear

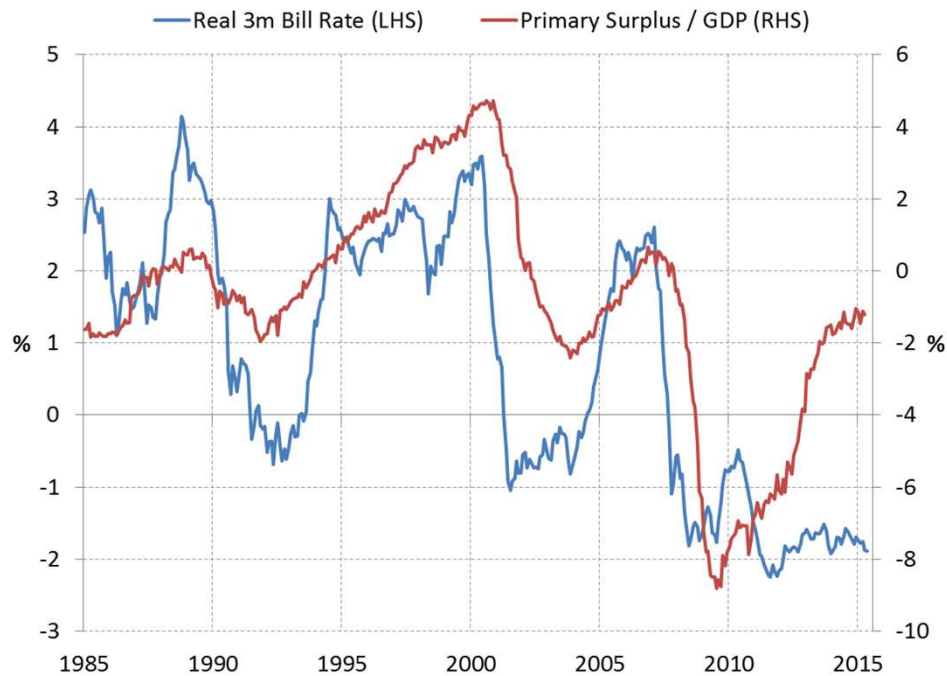
Empirical Estimates of the Term Premium



* Zero-coupon securities, on 9/8/2015

Sources: Federal Reserve Board; Federal Reserve Bank of New York; Adrian, Crump, and Moench (2013); Kim and Wright (2005)

Variation in Funding Costs from Short-term Debt

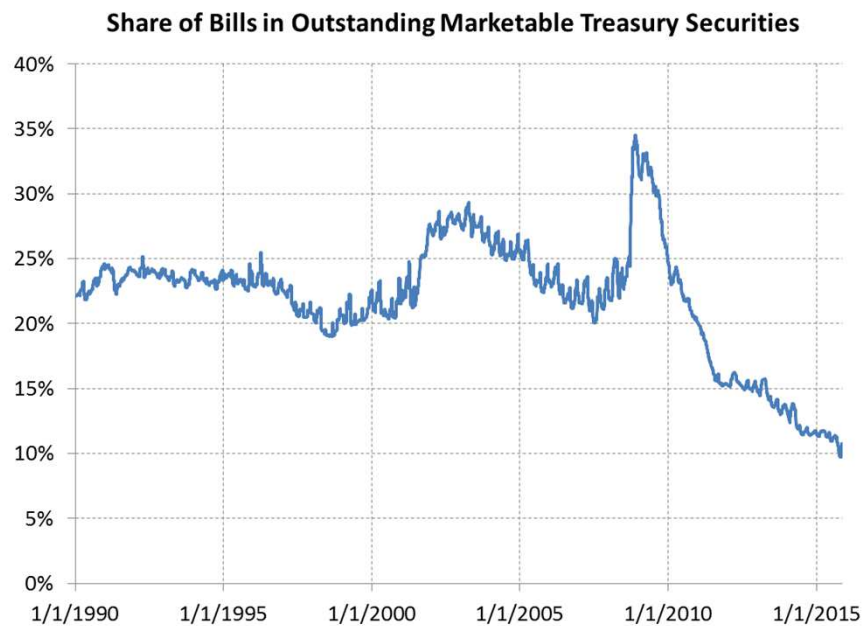


Dependent Variable:	Real 3m Bill Rate	10y ACM Term Premium
Sample: 1981M9 - 2015M9		
Constant	1.44 (7.37)	1.92 (14.18)
Primary Surplus / GDP	0.37 (8.01)	-0.05 (-1.34)
R²	0.28	0.02

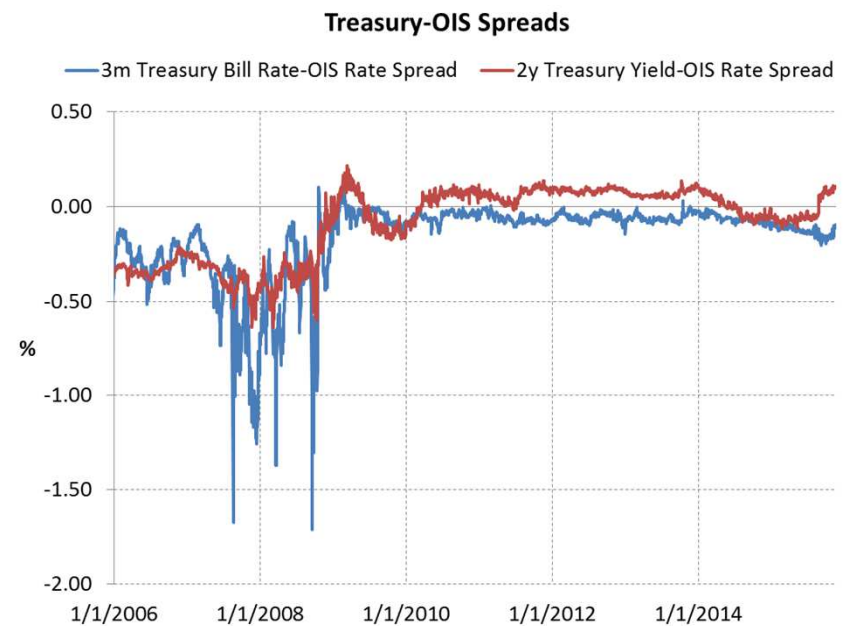
HAC t-stats in parentheses

Sources: Bloomberg; Federal Reserve Bank of St. Louis; Federal Reserve Bank of New York; Adrian, Crump, and Moench (2013)

Incorporating the Demand for Treasury Bills



Source: US Treasury



Source: US Treasury; Bloomberg

Conclusions

- Debt management has established many sound practices
 - Regular and predictable issuance, large benchmark issue sizes, wide range of maturity points, efficient auction procedures, primary dealer relationships
- Recent debt management decisions seem productive
 - Extension of the WAM in recent years, maintaining a larger cash balance, potential increase in bill issuance
- Efforts to specify the overall framework should continue
 - Would be useful to define the objective function more explicitly
 - Allow Treasury to make debt maturity decisions in more systematic manner
 - Address issue of whether WAM should be extended further