Views on Treasury's Debt Management Framework

Brian Sack
The D. E. Shaw Group
November 2015

Any views expressed here are my own and do not represent those of the D. E. Shaw group.
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

Source: US Treasury
Have Decisions on Debt Structure Been Systematic?

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

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>53.4</td>
<td>(8.87)</td>
</tr>
<tr>
<td>Outstanding Debt / GDP</td>
<td>0.19</td>
<td>(2.36)</td>
</tr>
<tr>
<td>10y ACM Term Premium</td>
<td>-1.67</td>
<td>(-1.48)</td>
</tr>
</tbody>
</table>

**R²** 0.31  
HAC t-stats in parentheses

**Source:** US Treasury
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

ACM Decomposition of 10y Treasury Yield*

* 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

Treasury Yield Curve* Term Premium Estimates

* 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

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


<table>
<thead>
<tr>
<th></th>
<th>Real 3m Bill Rate</th>
<th>10y ACM Term Premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.44 (7.37)</td>
<td>1.92 (14.18)</td>
</tr>
<tr>
<td>Primary Surplus / GDP</td>
<td>0.37 (8.01)</td>
<td>-0.05 (-1.34)</td>
</tr>
<tr>
<td>( R^2 )</td>
<td>0.28</td>
<td>0.02</td>
</tr>
</tbody>
</table>

HAC t-stats in parentheses
Incorporating the Demand for Treasury Bills

Share of Bills in Outstanding Marketable Treasury Securities

Treasury-OIS Spreads

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