U.S. DEPARTMENT OF THE TREASURY

Press Center

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12/6/2016

As Prepared for Delivery

NEW YORK - My thanks to OMFIF and SIPA for the opportunity to speak with you today about debt management at Treasury.

As Treasury Secretary in the 1920s and early 1930s, Andrew Mellon was said to manage the public debt at "minimum cost" to taxpayers. This phrase evolved over time to become our often stated core objective for debt management at Treasury: to fund the federal government at the least expected cost over time. Starting in the early 1970s, then-Under Secretary Volcker began what is now a second core principle of debt management at Treasury: regular and predictable issuance. By reducing the risk incurred by Treasury purchasers, regular and predictable issuance advances our least cost objective by lowering the compensation required to sell Treasury debt.

Minimizing cost and reducing risk often reinforce each other in the practice of debt management. Sometimes, however, we face more complex tradeoffs—and today I'd like to illustrate this point with a discussion of Treasury's use of quantitative modeling, especially in the context of our ongoing strategy to extend the weighted-average maturity of our debt portfolio.

Modeling Costs and Risks in Debt Management

Projecting Cost

The starting point for our modeling is to estimate the cost of servicing debt under the current issuance plan at projected interest rates. While the current issuance plan is taken as a given and can be adjusted as desired, interest rate projections come from a range of sources. Current projections from both the CBO and OMB, for example, assume an interest rate path that is substantially higher than what we observe in market-based forwards. We estimate interest expense under the CBO/OMB assumptions but also make projections from a number of other sources, including market surveys, historical and simulated scenarios, and term-structure models. The principle is that we can't be too confident in any single forecast and must prepare for a wide range of market environments.
A second key input to projected cost is the assumed fiscal path, which interacts with assumptions about interest rates and growth in forecasting the longer-term debt trajectory. Analysis of the correlation and sensitivity among these variables is key—for instance, while one might observe an historical association between higher deficits and lower interest rates in a lower growth environment, we must test how these relationships could shift and influence debt issuance, especially under stressed conditions.

This speaks to another critical element of projecting cost: path dependence. In seeking to minimize cost over time, we must avoid the mistake of counting only the cost we anticipate paying today, tomorrow, next month, or even the next 10 years. Today's issuance decisions have cumulative, knock-on effects when issues mature, and in our models we incorporate these effects.

A comprehensive assessment should also account for several other influences on cost that are more difficult to model than the factors described above, including market functioning, the breadth and diversity of our investor base and product types, liquidity conditions, the clarity and credibility of our communication, and operational policy. We take care to understand the interconnections and interdependencies of these factors with our model inputs.

Managing Risks

Turning now to risks, let me reiterate that our cost objective is constrained by a prudent tolerance for risk. For those risks that are more operational in nature, Treasury can seek to mitigate them by establishing policies that are largely independent of the portfolio strategy. At the May 2015 quarterly refunding, for example, Treasury announced an increase to its minimum cash balance. Under the previous framework, Treasury typically had enough cash to withstand a loss of market access for just two days, an insufficient buffer against unexpected shocks. Due to the revision of the cash balance policy, Treasury can now withstand a loss of market access for five business days in most projected scenarios.

Over the past couple of years, Treasury has also taken several other key steps to reduce the risk of disruption to the issuance process—e.g., adding a fourth physical auction site to diversify geographic risks, testing our capability to conduct a manual auction, and adjusting the issuance calendar to allow more time between auctions and their corresponding settlement.

Other risks that Treasury manages are associated more closely with Treasury's issuance strategy itself. Where modeling can add value is in making plain the tradeoffs involved. Consider the commonly expressed concern that interest rates might rise faster than expected. Hypothetically, a model might project that under the current issuance plan, a 50 basis point higher-than-expected sustained rate rise across the yield curve would add $500 billion to our debt service costs over 10 years. In this scenario, our model may project that an extension of debt maturities by a particular magnitude could reduce the potential increase in debt service costs by $25 billion (to $475 billion), but at the cost of adding $5 billion to our expected debt service cost under baseline interest rates.

Consider another adverse scenario in which deficits rise faster than forecast. The direct impact would be higher borrowing needs in the affected years. If the current issuance policy is maintained in the face of these higher borrowing needs—including the portion of total debt that is issued in the form of Treasury bills—the nominal amount of debt requiring yearly rollover would also become higher. As in the preceding example, one policy response might be to counteract higher rollover needs by extending maturities. Conversely, one might judge that unexpectedly high deficits were merely the byproduct of a slowing economy, and therefore short-dated debt issuance could be more cost efficient than previously assumed. Robust modeling helps us consider the merits of both options more clearly.

Treasury's Extension of Weighted Average Debt Maturity

Let me now apply some of these concepts to a topic of regular conversation in the market and constant analysis at Treasury: the weighted average maturity of our debt portfolio. Since the financial crisis, Treasury has executed one of its fastest extensions of the debt portfolio's weighted average in modern history, from a low of 48 months in 2008 to the current level of 69 months. About two-thirds of the total cash needed to finance the federal government in fiscal year 2016 was raised through Treasuries with a maturity longer than five years, up from a share of only a quarter for these securities in 2008. In fact, the current weighted average maturity of the portfolio is within two months of multi-decade highs and is well above the 59-month average since 1980.

We view the benefits of this maturity extension as two-fold: first, it reduces the potential volatility in debt service costs that Treasury pays over time; and, second, it lowers Treasury's exposure to higher interest rate environments as it refinances its debt portfolio. Let me expand on both of these channels.

The former effect—smoothing the debt service cost over time—can perhaps best be explained through example. If Treasury projects its debt service cost to be two in year one, five in the following year, and eight in the year after that, we can smooth those payments —at some cost— so that they become four, five, and six. The benefit is lower variability in fiscal costs and the supply of Treasury securities, both of which can help investors to manage risks and potentially increase their demand for Treasuries. Assuming all else is equal in our forecasts, the near-term projected debt servicing cost volatility in our portfolio is now about 20 percent lower than it was prior to the start of our maturity extension in 2008.

Relatedly, but distinctly, maturity extension has insulated the Treasury from unexpected spikes in interest rates. With smaller amounts to rollover with longer maturities, Treasury is less exposed to surprise (higher) interest rate environments. For example, after our maturity extension, the sensitivity of our average coupon costs over the near-term to a rate surprise of +100 basis points across the curve is now more than 10 percent lower than it was in 2008.

Naturally, both of these insurance benefits should be weighed against the "premium" of higher expected interest rates for longer maturities in a positively sloped yield curve environment, discounted by probability of this shape being sustained in the future.

At the same time that we have extended maturities, Treasury has also taken action to support market functioning by balancing the recent growth in demand for short-dated government assets with greater supply of short-term Treasury bills. Since the May 2015 quarterly refunding, the supply of Treasury bills outstanding has increased by $440 billion, lifting its share of total issuance from a multi-decade low of about 10 percent in 2009. We will continue to evaluate incremental needs for bills supply, particularly as the lasting impact of recently implemented money market reform becomes more clear.

Within the context of our strategy of extending maturities while safeguarding market functioning, we've been evaluating the potential tactical merits of ultra-long bond issuance since before the financial crisis. As you may know, a number of advanced economies have recently issued bonds with a maturity of 50 years, including Mexico ($5 billion), France ($16.5 billion), Spain ($4.4 billion), UK ($43.6 billion), Canada ($3.5 billion) and South Korea ($0.9 billion). Several countries have also privately placed 100-year debt.

To be clear, the question of ultra-long issuance by Treasury relates more to tactics than strategy. Our strategy to extend the weighted average maturity of our debt has been in place since 2008, and it will continue under the current issuance plan. The relevant analysis is whether the incremental benefits of accelerating our maturity extension through ultra-long issuance outweighs the incremental costs and risks of doing so, especially compared to the alternatives. This frames a number of issues that are worthy of further consideration:

First, recognizing that the risk-mitigating properties of ultra-long issuance aren't unique to bonds with maturities of 50 years or more, to what extent do the marginal net benefits from issuing ultra-long securities exceed those provided by Treasury's 30-year issuance, and are they expected to persist over time?

Second, considering the supply of ultra-long issuance that would be needed to materially impact the average maturity of Treasury's almost $14 trillion portfolio, is there enough persistent demand for ultra-long bonds from investors? Treasury currently issues about $175 billion in 30-year securities on a yearly basis, roughly three times the aggregate amount of 50-year sovereign issuance across the globe last year. Relatedly, what would be the effects of an abrupt cancellation of a 50-year bond issuance, or the program itself, on the credibility of Treasury as a regular and predictable issuer?

Third, while ultra-long nominal bonds appear to provide a yield discount for the issuer due to these bonds' more option-like price sensitivity—an attractive feature for investors who actively manage their duration exposures—to what extent do they also benefit from structural or regulatory factors that are not present in the United States?

Fourth, while many estimate that current term premia are low, should they be anticipated to remain as such over time, and for how long? Treasury does not face a one-time issuance decision; under our practice of regular and predictable issuance, to issue an ultra-long bond means to pay the term premium that the market implies now, in addition to the term premium at each future issuance date.

A final factor to consider is market functioning and the associated impact on expected cost. How well would a 50-year bond be priced, distributed, and traded by comparison to existing long-end issuance, and in what size? To what extent would a 50-year bond reduce the demand for the 30-year bond or its liquidity, and what would be the residual net impact on issuance cost across the yield curve?

Conclusion

Our hope is that today's discussion facilitates ongoing study of these and other analytic challenges for debt managers in the years ahead. Let me close with an observation that across political cycles, Treasury's debt managers have acted as careful stewards of the Treasury market, in part for reasons that go well beyond debt management: protecting the indispensable role of Treasuries as the world's risk-free financial benchmark and primary reserve currency, offering a reliable store of value for savers around the world, helping businesses to manage risk, and facilitating the implementation of monetary policy. This is the essential work of debt management at Treasury, and we are confident that it will continue with great care and necessary prudence.

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