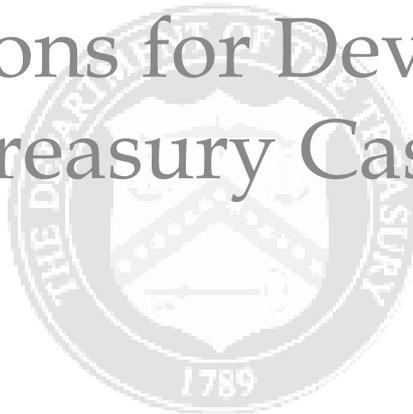
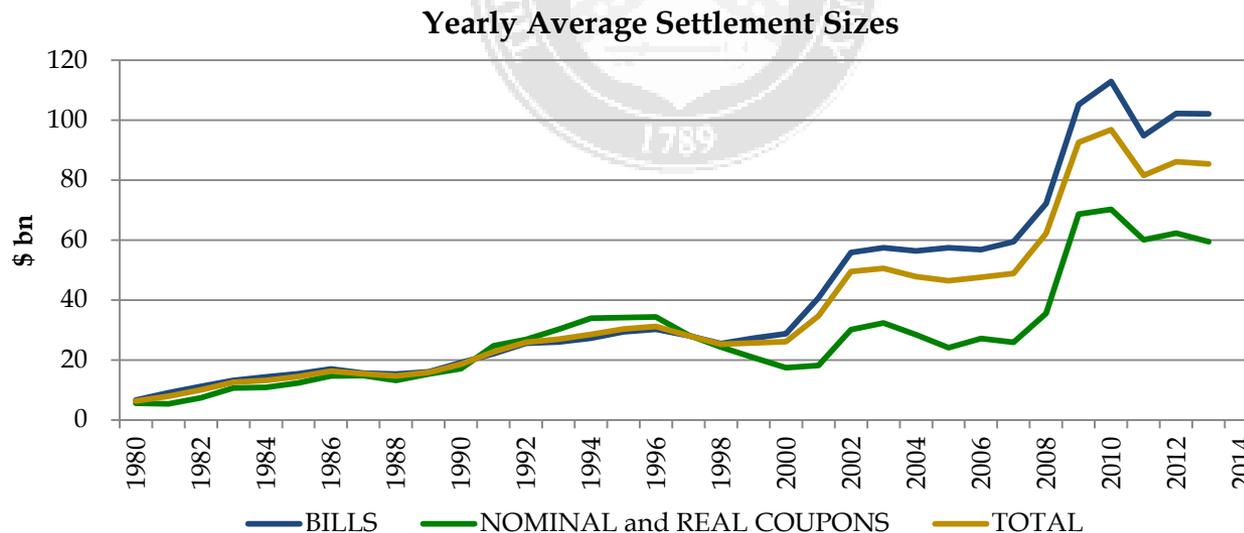


# Considerations for Developing the Optimal Treasury Cash Balance



# Treasury Cash Balance Buffer History

- ▶ Historically, Treasury has sought to minimize cash balances, with a cash balance floor set at \$5 billion.
- ▶ This floor was established in the 1980s when auction sizes were substantially smaller than current auction sizes and Treasury faced a “negative carry” on cash balances which made holding large cash balances costly. Auctions were also less frequent in the 1980s than today.
- ▶ Prudent risk management during the 2008-2009 financial crisis resulted in Treasury increasing cash balances, but no formal minimum cash balance was ever set.
  - ▶ From 2002 – 2008, the average daily cash balance was \$26 billion.
  - ▶ From 2009 – 2014, the average daily cash balance was \$63 billion.



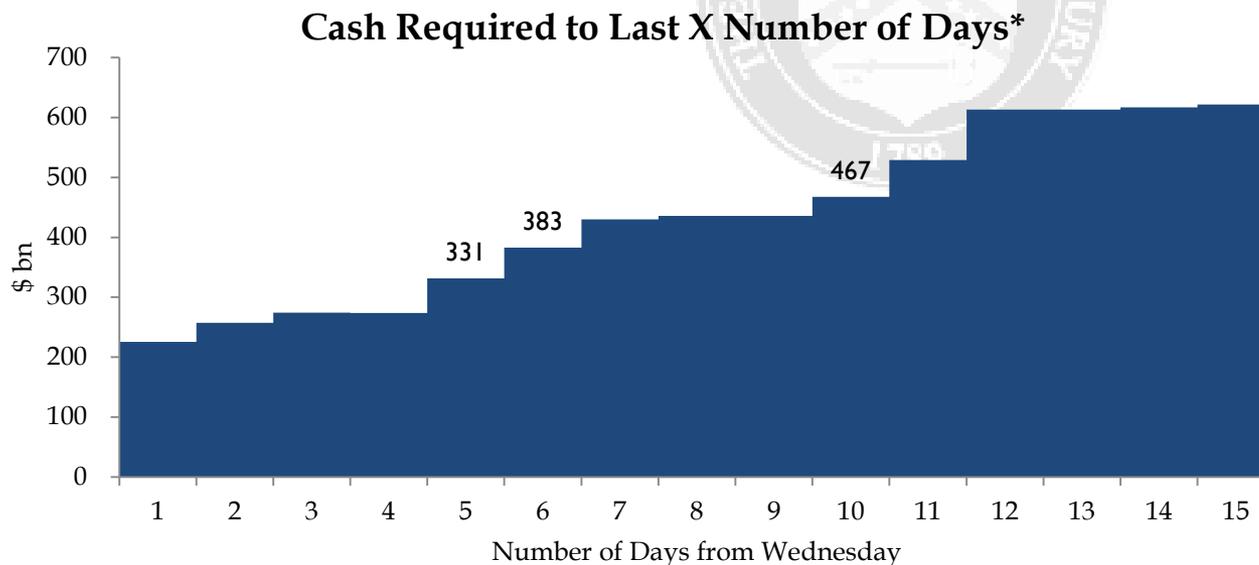
# Treasury's Cash Balance Risks

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- ▶ Projections of Treasury's two main sources of cash are subject to risk:
  - ▶ Revenue (60 percent of total cash): Revenue projections are subject to fiscal forecast risk.
  - ▶ Auction Proceeds (40 percent of total cash): Auction proceed projections are subject to auction settlement and market access risk.
- ▶ Historically, Treasury has focused only on risks associated with fiscal projection forecast errors.
  - ▶ There is a large amount of data available for analysis and "proceeds risk" has historically been deemed to be very low.
- ▶ However, several events made it clear that other risks, including settlement and market access risks, are real and could have a significant impact.
  - ▶ December 2, 2013 delay of a 4-week bill auction due to IT issues
  - ▶ Super Storm Sandy in October 2012
  - ▶ September 11, 2001

# Loss of market access – estimating how long

- ▶ Historical experience suggests that it is possible for financial markets to be disrupted for several business days.
  - ▶ Hurricane Sandy: 1.5 days
  - ▶ September 11<sup>th</sup>: 2-3 days
- ▶ Cash required to cover the worst 1-5 days since FY2009 is relatively constant at approximately \$331 billion

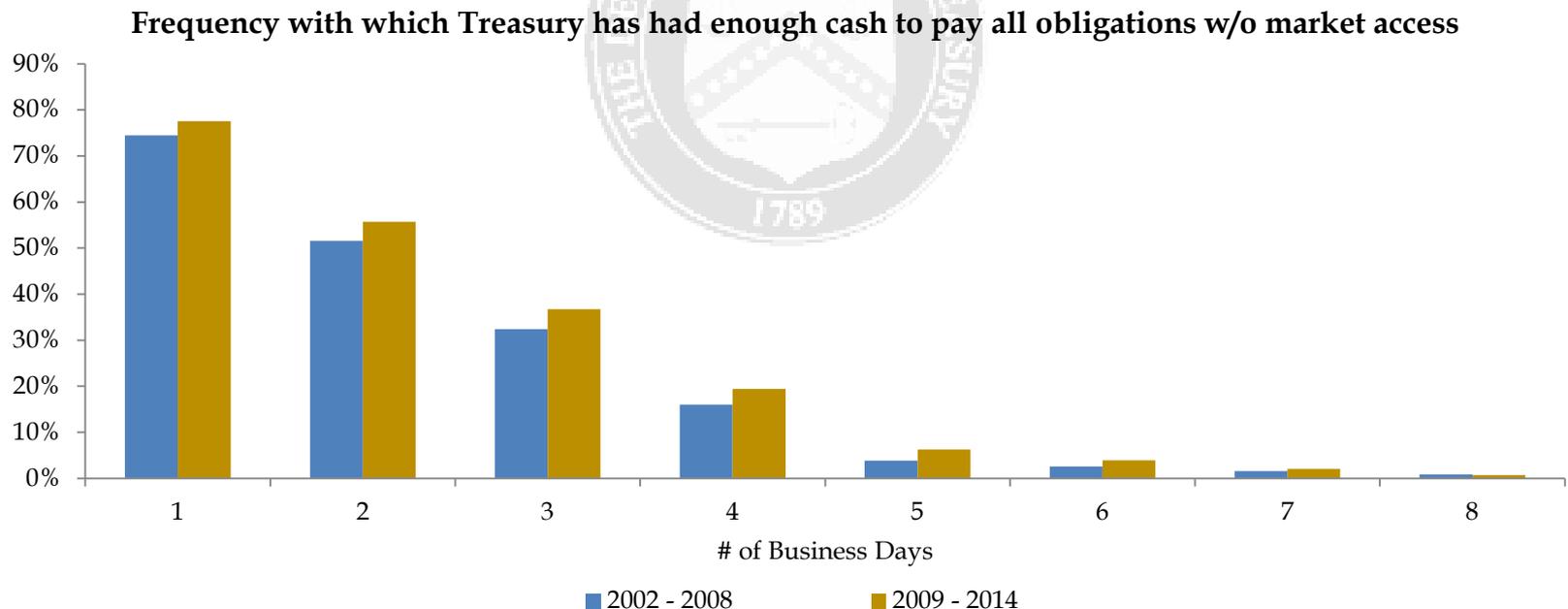


\* Worst case scenario since FY2009

- Includes bills, notes, bonds maturing
- Fiscal flow includes interest payments on marketable debt, Medicare/Medicaid and social security payments, etc.

# Treasury's Current Level of Coverage

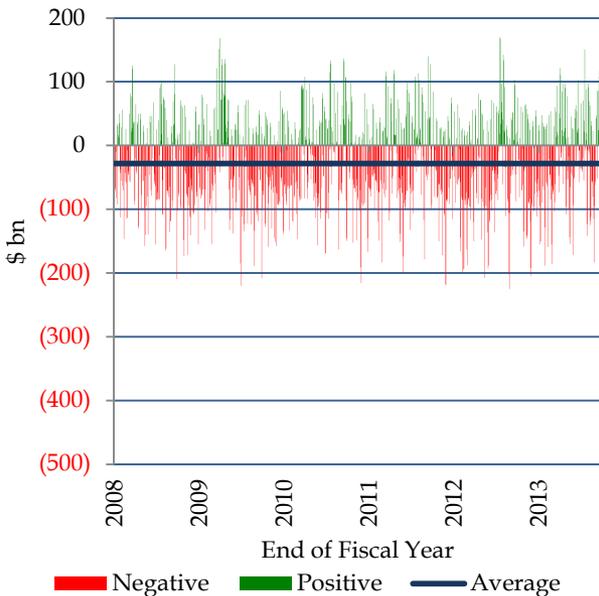
- ▶ Historically, Treasury has only had enough cash to withstand a loss of market access for approximately 2 days.
  - ▶ Treasury would have been protected against losing market access for 1 day roughly 80 percent of the time.
  - ▶ Treasury would have been protected against losing market access for 5 days less than 10 percent of the time.
- ▶ Treasury's current level of protection against losing market access is roughly the same as it was prior to the financial crisis.



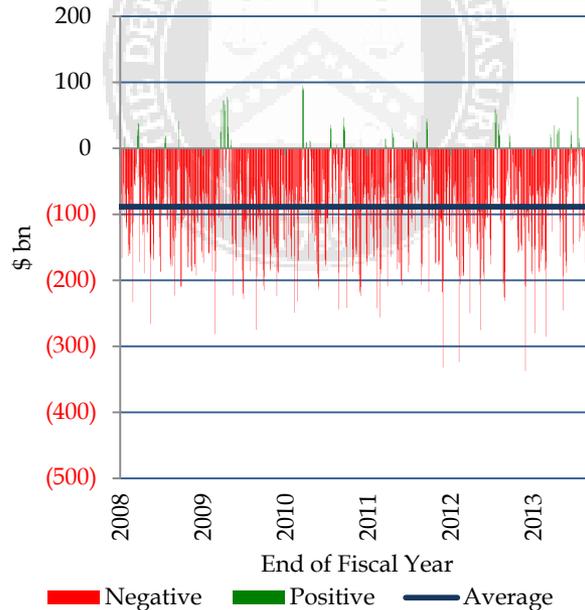
# Cash Shortfall from Loss of Market Access

- ▶ If Treasury lost market access for a short period of time, the U.S. government would face a substantial cash shortfall.
  - ▶ Since the beginning of the financial crisis, on average, Treasury would have faced an \$28 billion cash shortfall if market access had been lost for 3 days.
  - ▶ This shortfall increases to \$89 billion if market access had been lost for 5 days and \$239 billion if market access had been lost for 10 days.

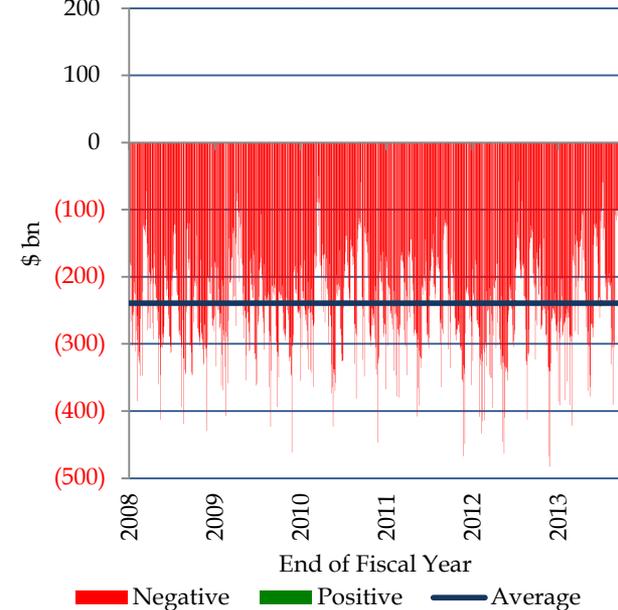
Cash balance after 3 days w/o market access



Cash balance after 5 days w/o market access



Cash balance after 10 days w/o market access



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# Framework Discussion

