

# Debt Management Modeling: Update

U.S. Department of the Treasury  
Office of Debt Management  
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UNITED STATES  
DEPARTMENT OF  
THE TREASURY



# Debt Management Model: Update

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- ◆ Key Inputs:
  - Macro Variables: GDP, CPI, Deficits
  - Yields: Nominal and Real Yield Curves, Volatilities
  - Auction Calendar
  
- ◆ Key Policy Instrument
  - Issuance Strategy
  
- ◆ Key Outputs: Steady State Portfolio Characteristics
  - Mean and Variance of Interest Costs
  - Debt Turnover
  - Other portfolio characteristics
  
- ◆ Have developed a “beta test version” of the model



# Outputs: Scenario Analysis

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- ◆ Develop a baseline scenario
- ◆ Use baseline as a benchmark in consideration of alternatives
- ◆ Key parameters set to roughly match current portfolio
  - Debt/GDP ratio
  - Portfolio Composition
    - Maturity
    - Nominal versus inflation-indexed



# A Few Sample Outputs from the Baseline

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- ◆ Debt to GDP Ratio
- ◆ Mean Interest Cost
- ◆ Interest Cost “Smoothness”
- ◆ Interest Cost Uncertainty
- ◆ Deficit Uncertainty
- ◆ Cash Balance Uncertainty



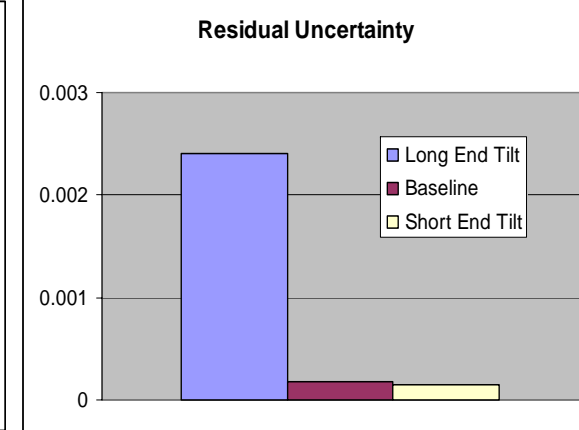
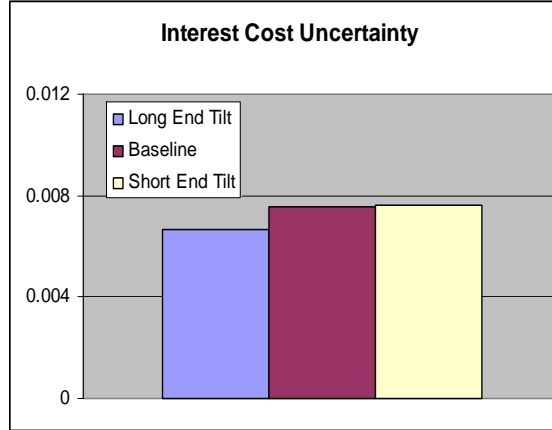
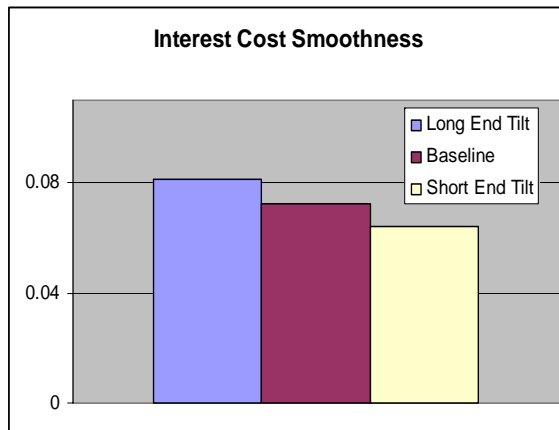
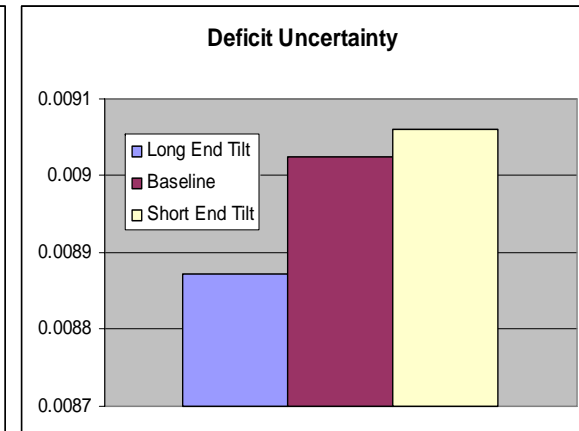
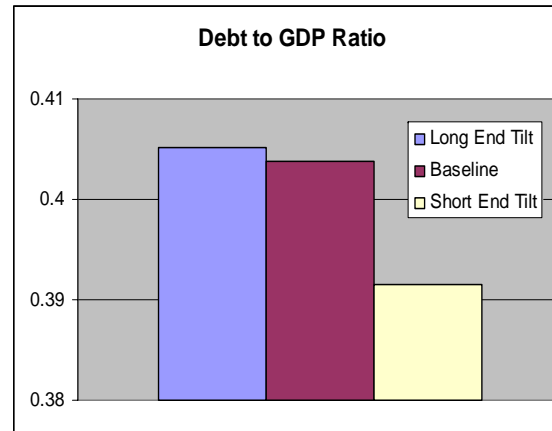
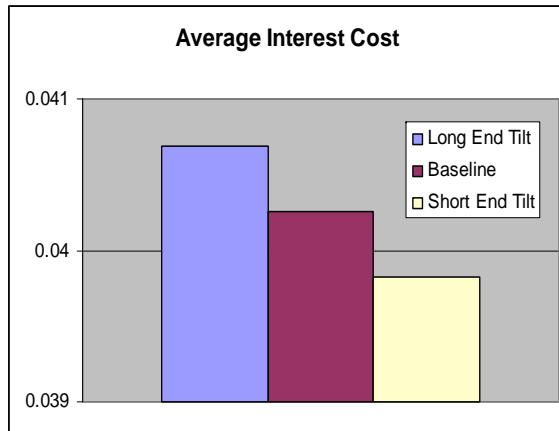
# Evaluation of Alternatives

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- ◆ Consider implications of alternative maturity composition of portfolio
- ◆ Hypothetical Alternative 1: Short End Tilt
- ◆ Hypothetical Alternative 2: Long End Tilt



# Examples of Possible Evaluation Criteria



# Other Types of Analysis

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- ◆ New securities
- ◆ Changes in auction schedule
- ◆ Changes in economic parameters
- ◆ Tail Risks



# Comments/Next Steps

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- ◆ Continue to develop model
  - Still very preliminary
  - Consult with Board and FRBNY
  - Consult with Other Debt Issuers
- ◆ Develop standard charts for Committee's consideration





# Proposal for 30-year Bond Issuance

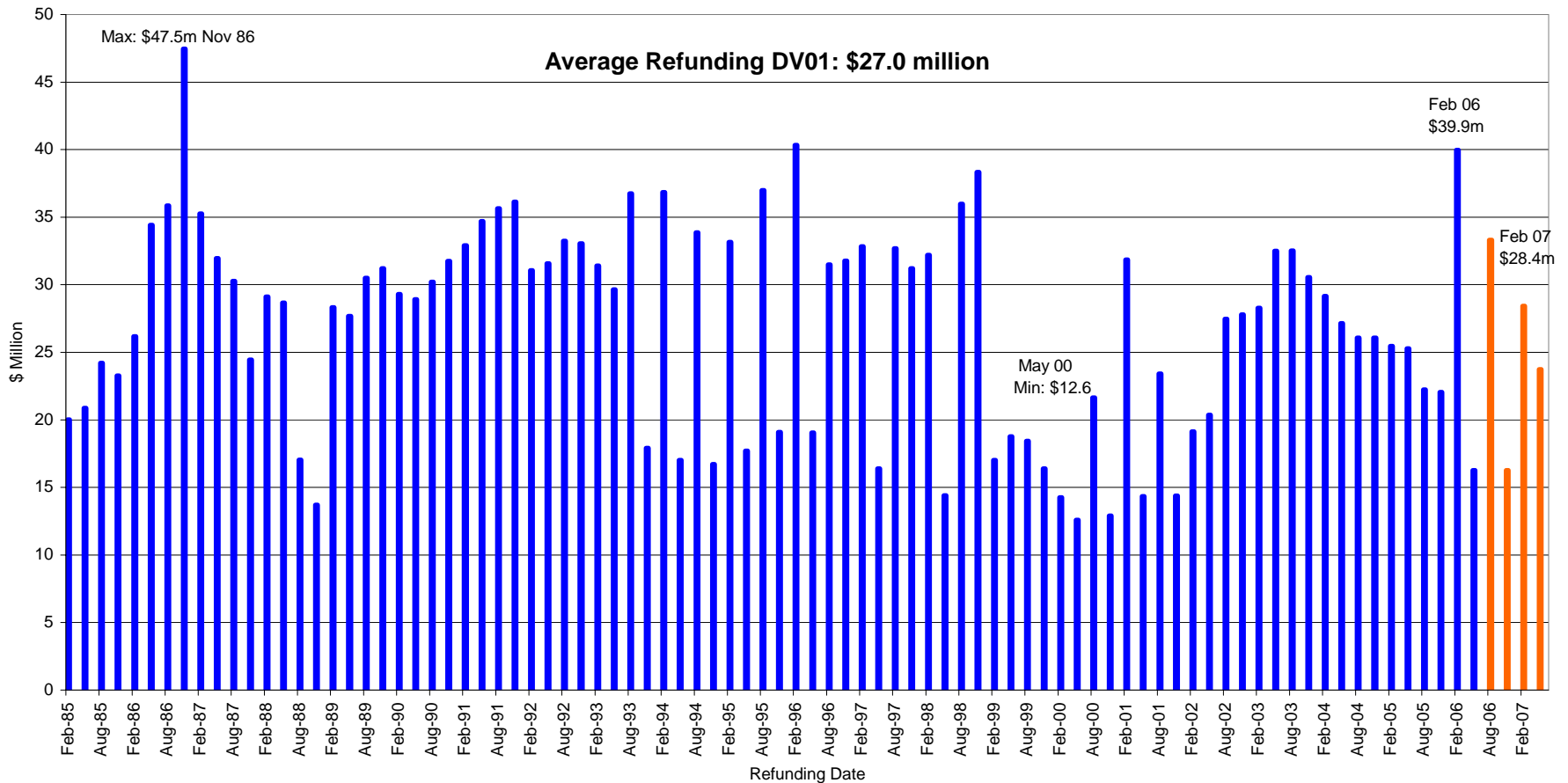
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# Interest Rate Risk (DV01 Risk) Adjusted for Inflation



# Average Maturity of Issuance and Average Maturity of Treasury Outstanding Debt Assuming Quarterly 30-year Bond Issuance

