# Discussion: Pre-Refunding Announcement Gains in U.S. Treasurys

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# Summary of the Paper

- Examines Treasury return patterns around Treasury Refunding Announcements (TRAs).
- Finds significant positive returns on Treasurys one day before TRAs.
- This effect is stronger for longer-term Treasurys and is mainly driven by term premium.
- Pre-TRA drifts are higher following an FOMC announcement.
- Mechanism: Reduction in market uncertainty before TRAs.
  - No evidence of information leakage.
  - Measures of fiscal policy uncertainty are positively associated with pre-TRA returns.

# Main Comments – Outline

- Extremely interesting set of empirical evidence.
- Speaks to fundamental questions about role of fiscal policy uncertainty in asset pricing.
- Comment 1: Empirical facts are consistent with the theory of announcement premium.
- Comment 2: Potential broader message about fiscal and monetary policy coordination.
  - I propose a dynamic Stackelberg game between monetary and fiscal authorities to explain why the later announcement resolves most uncertainty so that earn higher risk premium.

# Summary of Empirical Evidence I

- Treasury bonds experience significant positive returns on pre-TRA days.
  - Realized volatility is lower on pre-TRA days compared to other days $\rightarrow$ Sharpe ratio $> 4$.
  - Attention starts to increase 3 days before TRA.
- This paper: investors face uncertainty about Treasury issuance and fiscal policy.
  - On pre-TRA days, Treasury implied volatility drops significantly.
  - Term premium declines before TRAs.
- Comment 1: How does uncertainty resolve on TRA Days? Why most of the uncertainty reduction happens one day before the TRA?

# Literature Review – Theory of Announcement Premium

- Why uncertainty resolution is associated with *positive* announcement premium?
- To price any asset, we need to specify a SDF. Consider a rep agent with the utility

$$V_t = u(C_t) + \beta \mathcal{I}[V_{t+\Delta}], \tag{1}$$

where Certainty Equivalent:

$$\mathcal{I}[V] = \phi^{-1}(\mathbb{E}[\phi(V)]) \tag{2}$$

- Ai and Bansal (2018): The existence of an announcement premium implies generalized risk sensitivity (GRS) in preferences $\rightarrow \phi$ is strictly increasing and concave.
  - Intuition: Although consumption does not jump at high frequency, the arrival of information resolves uncertainty and increases vol(SDF) through $\phi$ so that requires risk compensation.

# Comment 1: Empirical Implications of Announcement Premium Theory

- Ai, Han, and Bansal (2022wp): A fraction of investors with GRS preferences optimally acquire publicly available (historical) information days *before* FOMC announcements.
- This explains in the stock mkt:
  - Uncertainty drops before FOMC.
  - High pre-FOMC drift.
  - Low realized volatility during the drift period.
  - Increased investor attention.
  - A risk-premium-based explanation does not rely on information leakage.
- Suggestion 1: If long-term bonds are risky assets, then the empirical evidence in this paper is consistent with this theoretical framework.

# Summary of Empirical Evidence II

- **Later announcements** are associated with higher returns on Treasurys.
  - Pre-TRA returns are higher when the TRA follows an FOMC shortly.
  - Treasury returns on FOMC days are higher when the FOMC follows a TRA shortly.
- Comment 2: It is not clear why uncertainty resolution *alone* explains these findings.
  1. Suppose total mkt uncertainty is fixed, then the first announcement (leader) should resolve most of it and earn *higher* returns.
  2. When a TRA has no preceding FOMC announcement, then the accumulated uncertainty should be higher, leading to *higher* returns.
  - Valuable to examine uncertainty dynamics around the leader and follower announcements.
- Suggestion 2: I propose a dynamic Stackelberg game between the monetary and fiscal authorities to explain why the follower resolves more uncertainty.

# Suggestion 2: Monetary-Fiscal Coordination in a Stackelberg Framework

- Suppose there is a dynamic game between the fiscal and monetary authorities where the Treasury yield depends on the Debt-to-GDP ratio, $d_t$.
  - which determines default risk, including both explicit default and implicit default (inflation).
- By definition,

$$d_t = \frac{B_t}{P_t Y_t} = \frac{B_t}{\Pi_t} \frac{1}{P_{t-1} Y_t}, \tag{3}$$

  where $B_t$ is the nominal debt set by the fiscal authority,
  $\Pi_t$ is the inflation set by the monetary authority,
  $Y_t$ is real GDP, $P_{t-1}$ is the last period's price level.
- Key insight: Once $B_t$ and $\Pi_t$ are set, $d_t$ is pinned down.

# Suggestion 2: Monetary-Fiscal Coordination in a Stackelberg Framework

$$d_t = \frac{B_t}{P_t Y_t} = \frac{B_t}{\Pi_t} \frac{1}{P_{t-1} Y_t}.$$

- Both fiscal and monetary authorities have their desired debt-to-GDP ratio $d_t^*$.
- Whoever moves second (follower) has the advantage, since they can adjust their policy to offset the leader's choice to achieve their preferred $d_t^*$:
  - If TRA (fiscal decision) happens before FOMC, then the Fed can choose $\Pi_t$ to offset the previous fiscal choice and achieve its desired $d_t^*$.
  - If FOMC (monetary decision) happens before TRA, then the Department of Treasury can set $B_t$ to counteract the Fed's previous inflation decision.

# Suggestion 2: Uncertainty Resolution in Leader-Follower Dynamic

Intuition:

- The leader (first mover) does not resolve uncertainty because the follower can fully offset their action.
- The follower resolves most uncertainty, as their decision ultimately determines the debt-to-GDP outcome.

Consistent with this paper's empirical findings.

# Conclusion

- The paper presents novel empirical findings on bond return patterns around TRAs.
- Suggests that fiscal policy announcements influence Treasury risk premia systematically.
- Theoretical consistency with existing announcement premium models.
- Potential broader implications for fiscal-monetary policy interaction.
  - Treasury returns depend on the sequencing of TRA and FOMC due to a leader-follower structure in policy decisions.