Discussion of

A Model of Monetary Policy and Risk Premia

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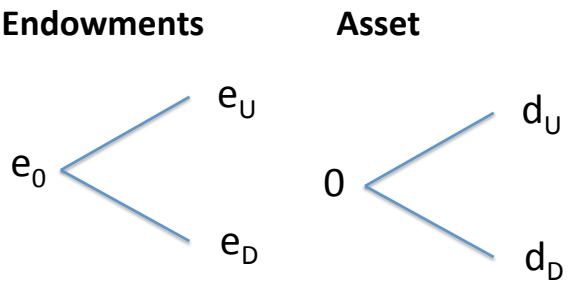
Overview

- Focus: Connection monetary policy – risk premia?
- This paper (revision in progress): To hold risky assets with deposit funding, banks require a liquidity reserve in the form of non-interest bearing reserves
  - Cost depends on level of nominal interest rate
  - Sort of like Bernanke and Blinder (1998) bank lending channel, but with regards to asset purchases and asset risk premia
- Main comments/questions: Is this a potentially important channel of how monetary policy affects asset risk premia?
- Main alternatives: CB policy affects path of future interest rates, which has follow on effects through
  - Intermediary balance-sheet channel: Expected real rates affect net worth (Bernanke and Gertler 1989, 1999). which in turn affects intermediary risk-taking (He and Krishnamurthy 2013, Brunnermeier and Sannikov 2014)
  - Risk-taking of asset managers subject to performance-flow relationhsip (Morris and Shin 2014)

Simple binomial model to illustrate key mechanism

- Equi-probable states U and D



- Two agents: A ("averse") and B ("brave")
  - Identical endowment stream
  - Additionally, A owns one unit of the asset initally
- Agent B can borrow (collateralized) from A to purchase asset
  - Only asset dividends can serve as collateral: Max. repayment promise $= d_D$ (similar to Fostel and Geanakoplos 2012)
  - Consider case in which collateral use maxed out

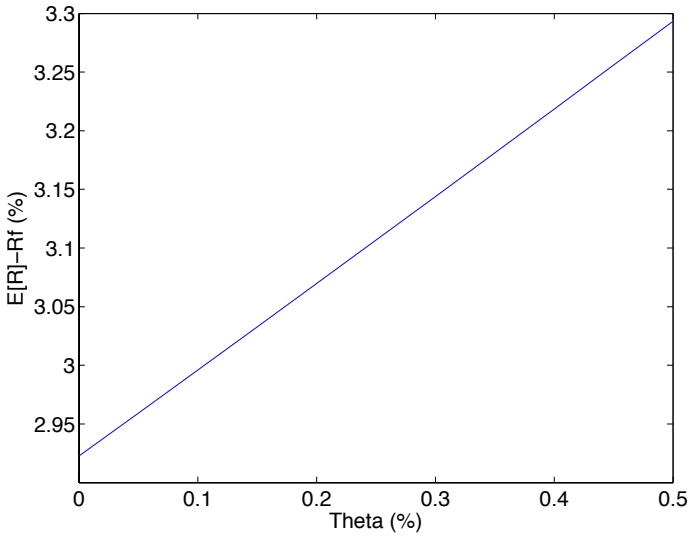
Simple binomial model to illustrate key mechanism

- Objective

$$\max \mathbb{E}_0 \left[\sum_{t=0}^{1} C_t - \frac{\alpha_h}{2} C_t^2 \right]$$

  with $\alpha_B > \alpha_A$,
- Tax on borrowing: $\theta\times$ Amount borrowed
  - Equivalent to reserve requirement w/ zero interest on reserves: $\theta =$ nominal interest rate $\times$ reserve requirement
- Consider case with max. leverage. Parameters: $\alpha_A = 0.7$, $\alpha_B = 0.1$, $e_0 = 1.4$, $e_U = e_D = 1$, $d_U = 2$, $d_D = 1$.
- Look at asset risk premium: $E[R] - R_f$, where $R_f =$ cost of debt paid by B to A

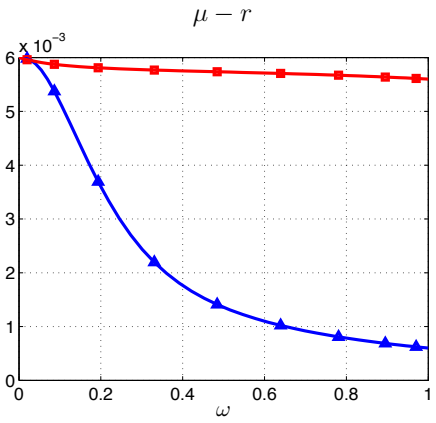
Opportunity cost of reserves and asset risk premium



Thus: change in $E[R] - R_f \approx$ change in reserves "tax"

Opportunity cost of reserves and asset risk premium: Full dynamic model

Figure 3 from the paper
(blue: no "tax"; red: reserves "tax" $= 0.10 \times 5\%$)



Thus: change in $E[R] - R_f \approx$ change in reserves "tax"

Comment 1: Magnitudes

- Changes in risk premia induced by changes in reserves "tax" seem small
  - 1 pct point change in nominal interest rate $\approx$ 0.1 pct point change in risk premium
  - Paper emphasizes that change looks big relative to *level* of risk premium, but that level is small ($< 0.10\%$) and the effect seems to be additive, not multiplicative, so relative comparison not useful
- Small effects even though the model is already an extreme case
  - banks are the *only* buyers of risky assets
  - banks have no access to non-deposit term funding
- Leaves me skeptical on the relevance of this channel compared with alternative ones (intermediary balance sheets, asset manager agency problems, ...)

Comment 2: Liability-side frictions

- Second key friction in the model (not emphasized): Risk-averse agents cannot bypass reserves "tax" when lending to risk tolerant agents, i.e., no bond market, no non-depository lending, ...
- Without this assumption: because $R_{Deposit} < R_{Lending} \Rightarrow$ incentive to raise illiquid term funding that does not require reserve holdings as liquidity buffer
- Sustaining $R_{Deposit} < R_{Lending}$ in equilibrium without hardwiring it would require that deposits offer a liquidity benefit that is commensurate with this wedge
- Liquidity benefits from holding deposits are therefore necessary, not just an "alternative" to get the results in the paper.
- Use model in Appendix C as baseline model?

Comment 3: Interest on reserves

- In many countries, CB have, for a while now, paid interest on reserves (IOR) at level close to interbank rates
  - $\Rightarrow$ Reserves "tax" to close to zero
  - $\Rightarrow$ Reserves "tax" de-linked it from level of nominal interest rate.
- Consequence in this model: monetary policy would not affect risk premia anymore
- Is this plausible? Is this empirically true (e.g., Canada, UK, NZ, ...)?
- Or is the reserves "tax" channel just not the important link between monetary policy and risk premia?
  - Alternative channel (balance sheet) still works even if IOR = interbank rates

Summary

- Link monetary policy - risk premia is an important question
- Elegant and clean model
- Not entirely convincing that the channel emphasized in the paper is an important channel of how monetary policy affects risk premia