SOVEREIGN DEFAULT AND MONETARY POLICY TRADEOFFS
BY BI, LEEPER AND LEITH

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THE IDEA

- Central bank chooses interest on reserves according to feedback policy rule

$$i_t = \rho_t + \mathbb{E}_t(\pi^*_{t+1}) + \phi(\pi_t - \pi^*_t)$$

- Reserves are risk-free, Fisher equation states:

$$i_t = r_t + \mathbb{E}_t(\pi_{t+1})$$

- Assuming neither real rate depend on inflation:

$$\pi_t = \pi^*_t + \sum_{j=0}^{\infty} \phi^{-(j+1)} \mathbb{E}_t(r_{t+j} - \rho_{t+j})$$

WHAT IS TARGET?

- Deviates from actual risk-free rate by: (i) measurement error, (ii) default risk, (iii) term premium mismatch, (iv) contractionary policy.

$$\rho_t = r_t + u_t + \delta_t + \mu_t + \epsilon_t$$

- Inflation then deviates from target by:

$$\pi_t = \pi_t^* - \sum_{j=0}^{\infty} \phi^{-(j+1)} \mathbb{E}_t (u_t + \delta_t + \mu_t + \epsilon_t)$$

- Overstating real rate, default risk, term premia are all *equivalent* to contractionary monetary policy

BACKWARDS FROM AUTHORS

- Higher expected default means *lower* inflation.

- **Why difference?** Authors have central bank setting a risky interest rate. As if reserves defaulted with government bonds. Then feedback rule tracking the safe rate. So, effect turned on its head.

- "Targeting a rate", but central banks *set* rate, confuses targeting and instrument rules.

- Less natural to me, but their main point remains.

QUANTITATIVE MODEL

- Default rate, risk free rate, and inflation co-move

- In economy near fiscal limit:
  - deviation in rule affects inflation and output,
  - both affect debt dynamics and future defaults,
  - this affects inflation today, and output via taxes.

- After contractionary monetary policy:
  - inflation may rise or fall,
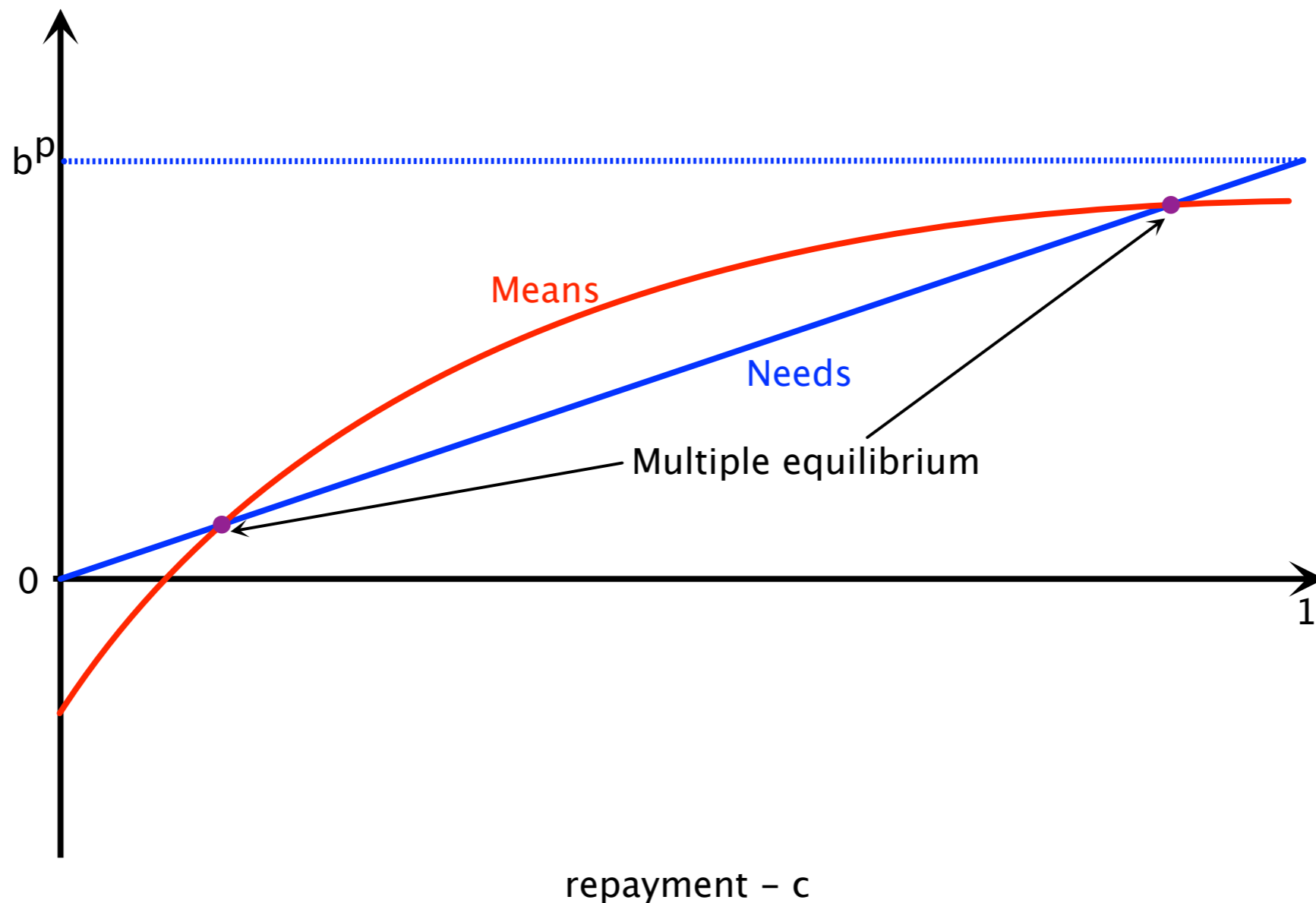 - prolonged recession, debt persistently higher.

Figure 1: Equilibrium Debt Repudiation

Comment I: "risky"

$$\rho_t = r_t + u_t + \delta_t + \mu_t + \epsilon_t$$

OTHER FACTORS

- Authors emphasize default premium in rates.

- In normal times have: u_t as a result of measuring real rate using output gaps and others.

- Phillips curve with nominal rigidities.

- Curdia, Ferrero, Ng, Tambalotti (2015, JME)

$$i_t = \rho i_{t-1} + (1-\rho)(r_t^e + \phi_\pi \pi_t) + \varepsilon_t^i.$$

Beats Taylor rule as description of U.S. data.

TERM PREMIUM

- Authors emphasize default premium in rates.

- But reserves are overnight, overnight default probably negligible.

- Disconnect model/practice: i_t overnight, π_t is 3-month or 12-month.

- More common: *term premium*. Measure real rates using 3-month rates at best.

- Argument for 3-month reserves?

HARDER

- In currency union, each country has a different sovereign interest rate.

- Theory clear: use safe rate to guide inflation control.

- Practice is harder, especially as inflation in different areas related to output gap in different areas.

- Greece application better with 2-country world.

Comment II: sovereign default and monetary policy tradeoffs

QUANTITATIVE EASING

- Government bonds default, reserves do not (Reis, 2017, IMFER).

- *QE increases supply of default-safe assets.*

- But at the same time putting solvency of the central bank at risk if uncertain fiscal backing.

- If central bank solvency at risk, expected inflation rises, more seignorage necessary, permanently higher nominal interest rates.

BANKS

- Banks in Europe hold many sovereign bonds (diabolic loop) and are key primary dealers

- Contractionary monetary policy:
  - hurts bank's profitability,
  - lower demand for government bonds, liquidity premium and fire sales,
  - raise default risk.

- Demand for government bonds is not horizontal

CHOICES

- In a fiscal problem can choose to:
  - default
  - inflate away the nominal debt

- Latter may well be less costly.

- Tradeoff for monetary policy:
  - strict inflation mandate or
  - ultimate goal of social welfare.
  - Which goal?

INDEPENDENCE

- Central bank is a fiscal agent: its actions have fiscal consequences on, at least, the stream of remittances to the government.

- In a crisis, all revenues are needed.

- Unpleasant monetarist arithmetic.

- Maastricht Treaty.

CONCLUSION

- Public debt is at enormously high levels in developed world **+** Central banks have issued large amounts of public liabilities **=>** fiscal role of monetary policy is central.

- This paper: when default is at play, standard Taylor rule intuition can reverse.

- Comments: (i) targets and instruments, (ii) multiple equilibrium, (iii) term premia and efficient rates, (iv) more tradeoffs to study.