Discussion: “Money and Banking in a New Keynesian Model,” by M. Piazzesi, C. Rogers, and M. Schneider

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August 2019
Baseline NK Models

- Neoclassical growth model.
- Dixit-Stiglitz monopolistic competition.
- Prices denominated in some stuff that is not held in equilibrium.
- Calvo pricing technology, in terms of prices denominated in stuff.
- "Monetary" policy is dictating the price of a bond that pays off in units of stuff next period.
- Can determine prices of limitless types of assets, as expected value of appropriately discounted streams of future payoffs.
- But those assets have nothing to do with the equilibrium allocation.
What are the features of a typical modern central bank?

- Monopoly on the supply of physical currency.
- Daylight interbank payments through transfer of balances in central bank reserve accounts.
- Central bank lending as normal operating procedure and/or as lender of last resort during idiosyncratic or aggregate crises.
- Restricted activities – secured lending and asset swaps.
- Operating procedure in short run:
  - Corridor or channel system: peg overnight interest rate through daily intervention, typically in a repo market.
  - Floor system: Large stock of reserves outstanding, interest rate on reserves should determine overnight interest rate.
- Important interaction with the financial intermediary sector – banks in particular.
Puzzle: Why do central bankers like NK models so much?

Seemingly, these models have none of the detail that would allow us to answer questions about monetary policy:

- No assets that matter.
- No central bank balance sheet.
- No financial intermediaries.
- No physical currency or other means of payment.

What questions might we want to answer?

- What does an open market operation do?
- Does it make a difference whether the central bank swaps reserves for short-maturity assets or long-maturity assets?
- How should a central bank maximize the efficiency of its operating system?
- What’s the role of central bank lending in a crisis?
- With advances in payments technologies, should central banks be issuing other types of liabilities?
Authors understand some of the deficiencies in baseline NK models, and build on basic NK model by adding role for assets and banking arrangements.

Part of motivation is from an asset pricing perspective – evidence of “convenience yields” on short safe bonds, and that quantities matter for pricing.

Models:

1. Two assets: Nominal bond (interpreted as CBDC) entering the utility function, and nominal bond that does not enter utility function.
2. Banking: Bank deposits enter the utility function; deposits backed by bonds (leverage constraint), interpreted as reserves.
   1. Abundant reserves (floor system).
   2. Scarce reserves (corridor), with interbank lending and borrowing driven by idiosyncratic shocks.

Questions: Implications of policy rule for determinacy in a linearized system; interest rate pass-through?
It’s certainly important that people be working on more explicit models of central banking, financial intermediation, and means of payment – step in the right direction.

Addresses important and interesting problems – effects of policy actions and rules, differences across operating procedures.

Assets in the utility function. Neil Wallace was very convincing on this, I think – leads to trouble. Results depend on degree of complementarity between money and consumption. What’s that mean?

- Assets valued for future payoffs and what we can do with the asset – use it in exchange, as collateral. So, why not model that?
More Complaints

- Where’s the currency?
  - In normal times, central banking is about transforming government debt into currency – central bank is indeed a bank (narrow). In Canada currently, outstanding currency is essentially financing the whole Bank of Canada asset portfolio.
  - Woodford left monetary exchange out of his model. Why? Because that made things easy, and permitted focus on sticky price frictions. But the argument for doing so is very weak – if you actually model currency as a means of payment in a useful way, the “cashless” economy will look quite different.

- Are we interested in pass-through? Maybe not.
  - Think in terms of: (i) central bank goals (.e.g. inflation target); (ii) policy rule mapping state of the world to setting for some asset price or quantity (e.g. overnight rate); (iii) operating strategy.
  - Argument in the model seems to be that what we care about is the leverage policy has over the “shadow” nominal interest rate. Not sure why.
More Complaints

- Local determinacy: Is it useful to analyze this? For example, in models where we know the global dynamics, Taylor rule gives local determinacy, but has poor global properties.

- To what extent are the models in the paper about monetary policy, rather than fiscal policy, or something else altogether?
  - Model 1: Asset looks like a government bond – enters the utility function, which in general gives a low real interest rate equilibrium, or safe asset shortage.
  - Model 2 (banking) with abundant reserves – reserves look like the bonds in Model 1. Balance sheet expansion isn’t an asset swap – key question is whether swapping reserves for Treasuries is a good thing.
  - Model 2 (banking) with scarce reserves – heterogeneous banks, interbank rate > interest rate on reserves (collateral). Better to model this as zero-reserve-balance world, I think.
Paper addresses important issues in monetary policy – how policy rules, banking, interbank lending, and floor/corridor matter.

Model an improvement over baseline NK models in including asset quantities, and some elements of banking and central banking.

Much more to do, though.

- Capture complete array of central bank assets and liabilities, with explicit roles for all that stuff.
- What is it about central bank financial intermediation that is better, or worse, than private financial intermediation?