Monetary Policy, 1982-present

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Overview

• This is an immense assignment!

• Three periods:
  – Early period: concern with time inconsistency and how to control ‘inflation bias’ in central banks.
  – Recent period: accelerate integration of sophisticated financial sector into New Keynesian DSGE models.
Perspective in early 1980’s….  

- Sense that the Great Inflation of the 1970s was a terrible blunder by the Fed  
  - Size of the blunder measured by the huge cost that had to be paid to end the inflation.

- Kydland and Prescott/Calvo/Barro-Gordon provided one coherent interpretation of that episode.
  
  - Expectation trap.
Two predictions:
1. Only way to get inflation down was to have institutional reform
2. Periods of high unemployment should have high inflation
Problems for the Theory

- US inflation ended abruptly without institutional reform
- Unemployment soared at the same time that inflation dropped.
Alternative Explanation for Great Inflation

• Great Inflation was a stumble on the path to learning how to do discretionary monetary policy.

• Orphanides’ idea that monetary authority mis-estimated potential GDP in early 1970s.

• Learning policymakers made mistakes because they were uncertain about the structure and/or parameters of the economy (Sargent).
  – In early 1970s, thought inflation more temporary than it actually was, thought output gap was larger than it was.
Current Position on Time Inconsistency: Eclectic

• Policy makers more optimistic that serious inflation bias can be avoided.
  – Good outcomes after 1980s suggests good policy is feasible without institutional reform.

• Still, wary of falling into expectation trap.
  – Example: in principle the easy way out of zero bound problem is to promise inflation.
  – Fear is that if public comes to think of inflation as a stabilization tool, public may push Fed into another expectation trap.
Developments in 1990s and Early 2000s

• John Taylor
  – using simple rules as a focal point for policy discussion among central bankers and for communication.

• Lars Svensson
  – Optimal monetary policy in real time with a specific model.

• New Keynesian DSGE models.
New Keynesian DSGE Models (Background)

• Idea of having a computer model of an economy had been around for a long time.
  – Laboratory for policy analysis.
  –

• Decline in confidence in academic community in 1970s in then-existing models.
  – New, prototype models were built (Sargent).
  – Econometric methods for their analysis was developed (Hansen-Sargent)

• Remained under development for many years.
  – Growing university/fed partnership.
Problem with initial models: inconsistent with a widespread belief about monetary transmission mechanism

• David Hume’s essay, ‘Of Money’, 1752
  
  – “...we find, that, in every kingdom, into which money begins to flow in greater abundance than formerly....the merchant becomes more enterprising, the manufacturer more diligent and skilful, and even the farmer follows his plough with greater alacrity and attention..... [money] must first quicken the diligence of every individual, before it increases the price of labour.”

• Friedman makes a similar statement in his AEA Presidential Address.

• But, how to measure this?? Not a simple correlation.
Vector Autoregressions

• Sims’ VAR methods made it possible to develop quantitative empirical estimates in 1990s
  – Sims, Bernanke, Blinder, Watson,…

• But, developing an economic model consistent with Friedman/Hume observation still seemed far away (Mankiw, 2000).
New Keynesian DSGE Models

• Models seemed to be able to account for Friedman/Hume observation.

• Appeared to forecast as well or better than a-theoretical statistical models (Smets-Wouters).

• New Keynesian models no longer seemed just like ‘toy models’
Connection to Taylor and Svensson

• I want to use this connection to argue that the New Keynesian model has played an important role in policy discussions.
Connection to Taylor....

• John Taylor emphasized stabilizing benefits of Taylor principle

\[ R_t - \pi^e_t = \alpha + 0.5(\pi^e_t + y_t) \]

• Many studies, based on simulations of the New Keynesian model, confirmed the wisdom of the Taylor principle.

  – Failure to abide by Taylor principle could produce 1970s-style Great Inflations.
Taylor rule...possible pitfalls

• Taylor principle does not necessarily rule out instability (Benhabib/Schmidt-Grohe/Uribe).
  – Further model simulations suggested that an appropriately amended Taylor rule, in conjunction with appropriate fiscal policy could restore stability.

• If working capital is sufficiently important, Taylor rule could be destabilizing.

• Taylor rule implicitly assumes the natural rate of interest is constant.
  – Initial model simulations supported this assumption, not so with news shocks.
  – Easy to think of scenarios in which natural rate of interest increases (so policy should raise the interest rate), yet inflation goes down (so the Taylor rule does the wrong thing).
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\[ R_t = \alpha + 1.5\pi_t^e + 0.5y_t \]
Svensson

• Conducts policy at Riksbank by using New Keynesian model to compute policy that is optimal, given monetary policy committee’s preferences over inflation/output.

• Must confront time inconsistency problem head on.
  – Woodford’s ‘Timeless Perspective’

• Lots of other potential problems with the approach, that Riksbank experiment will shed light on.

• Svensson’s approach would not be possible without a model that can be taken seriously from an empirical standpoint.
Recent Uses of New Keynesian Model for Policy

• There is a widespread fear of deflation now that short term interest rates are zero.
  – Intellectual foundation for this fear provided by NK model.

• NK model used to articulate a range of solutions.
  – Increase government spending,
  – Promise to keep interest rates low long, etc.

• It has been argued that the model led us astray, ‘keeping rates low long’ was what got us into the recent trouble.
  – Real lesson may be that when you ‘keep rates low long’ regulators should be especially vigilant.
Then, came 2007-....

• Interest rate spreads rose sharply.

• Fed engaged in Large Scale Asset Purchases (LSAP’s)

• Interest costs of banks sharply reduced.

• These things seemed to help.
Spreads, 3-month commercial paper (CP) over Tbills and BAA versus AAA corporate bonds

- CP, financial firms
- October, 2007
- March, 2009
- August, 2008
- CP, nonfinancial firms
- BAA-AAA

Log industrial production
- S&P 500
- October, 2007
- March, 2009
- August, 2008

Log, industrial production
Challenge: make sense of these observations with our models

• This work is under way, but needs to move further.

• In my paper for the conference Daisuke Ikeda and I describe four simple banking models in general equilibrium:
  – Two models of moral hazard in banking (G-K ‘running away’ model and hidden effort model)
  – One model of adverse selection (‘lemons’).
  – One model of asymmetric information and costly monitoring
Model Analysis

• In ‘normal’ times, when net worth is adequate, the financial system supports efficient level of economic activity.

• Drop in net worth causes financial system to become ‘dysfunctional’:
  – Excessive credit contraction.
  – Interest rate spreads jump.

• We examine government policies:
  – Purchases of bank assets, nonfinancial firm assets
  – Interest rate subsidies and other policies

• The policies work in different ways in the models.
  – Which model you choose matters.
How can DSGE Model Analysis Help?

• Which financial friction model you think about matters.

• There are many, many models of financial frictions (see the fascinating, but huge, literature on banking).

• Selecting a model of financial frictions:
  – Use micro data and informal regression analysis to make selection.
  – Complementary strategy: integrate model into a macro DSGE model and evaluate implications for broad set of macro data, including financial variables.

• Questions that can be addressed by integrating financial frictions into macro DSGE model:
  – Do ‘normal’ business cycle data (e.g., outside of crisis periods) have information about the nature of financial frictions?
  – How should policy be designed to accommodate financial frictions in normal time?
  – Do frictions affect the assessment of the source of business cycle shocks?
Conclusion

- There has been an enormous evolution in thinking about monetary policy since the 1980s.

- An important challenge: modify macro DSGE models so they can be used to address the policy questions of the past few years.