Monetary Economics

Inflation Targeting

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Reading

- Current reading
  - Svennson 2010, "Inflation Targeting"
  - Morozum et al., 2020, "Inflation Targeting in Low-income Countries: Does IT Work?"
  - Both papers in "Readings" directory on Canvas with LastName as first element of filename
- Next class
  - Diamond and Dybvig, JPE, Filename is Authorsname1983JPE...
  - Gerald P. Dwyer and Margarita Samartín, "Theoretical Explanations of Why Banks Promise to Pay Par on Demand" (with Margarita Samartín), Filename is AuthorsnamesBook

Outline

Monetary Policy before Rational Expectations: Policymakers' common view

- Monetary policy every period should optimize over the possible outcomes for the economy
- One version:
- Policymakers look at everything and use their judgment to decide what is the best policy each period
- Will come back next meeting and see what to do next
- Monetary policy was conducted with a lot of secrecy
  - Secrecy was the name of the game
  - Minutes of meetings would be released years later
  - Forecasts by staff at FOMC and other relevant information would be released years later
  - The policy decision was not released
  - When policy was choice of Federal Funds rates, market participants would attempt to infer the rate choice from the NY Fed's behavior the next day
    - Financial firms hired former Fed staffers to help them sort it out a role as "Fed watchers"

Monetary Policy before Rational Expectations: The Keynesian view

- Monetary policy every period should optimize over the possible outcomes for the economy
- Another version:
- Policymakers should use formal econometric models to pick the best policy each period
  - Generally linear-quadratic setup with a quadratic objective function and linear equations characterizing the economy
- These models were entirely in terms of current and past variables
  - For example, anticipated inflation often was generated by something like adaptive expectations

$$\pi_t^a = \lambda \pi_{t-1}^a + (1 - \lambda) \left(\pi_{t-1} - \pi_{t-1}^a \right)$$

  - Somewhat ironically, Cagan in his dissertation under Friedman discovered this scheme

Monetary Policy before Rational Expectations: The Monetarist View

- Monetary policy should follow a good general rule
- Much of this was due to Friedman but also others such as Henry Simons, Clark Warburton, Karl Brunner and Alan Meltzer, Anna Schwartz and ...
- Policymakers and economists
  - have enormous gaps in their knowledge about how policy affects the economy
  - often have a seriously wrong view of the current state of the economy
  - produce forecasts that are not accurate enough to be helpful and can be harmful
- Monetary policymakers had made things worse in the past by doing what seemed best
- Can call it "monetarist" although Friedman did not like the term

Monetary Policy after Rational Expectations

- Monetary policy should follow a good general rule
- Even if policymakers do not intend to follow a rule, people will estimate the predictable part of policy and take account of that predictable part
- We could even call the predictable part a "rule" in the loose sense that it is the set of principles that characterize their behavior
  - Not a constraint of course
- That makes policy's role quite different than prior perceptions in which monetary policy was treated in effect as if it were entirely unpredictable
- Monetary policymarkers seemed to think that unpredictability was a desirable characteristic
- One need take the strict version of "rational expectations" but can simply see it as "people doing the best they can given what they know"
  - This might be a lot less than the equations and parameters that characterize the economy
  - Still, monetary policymakers are not confronting a passive public that can be manipulated as if people were inanimate objects
- As Lucas emphasized, a "policy" is a "plan"

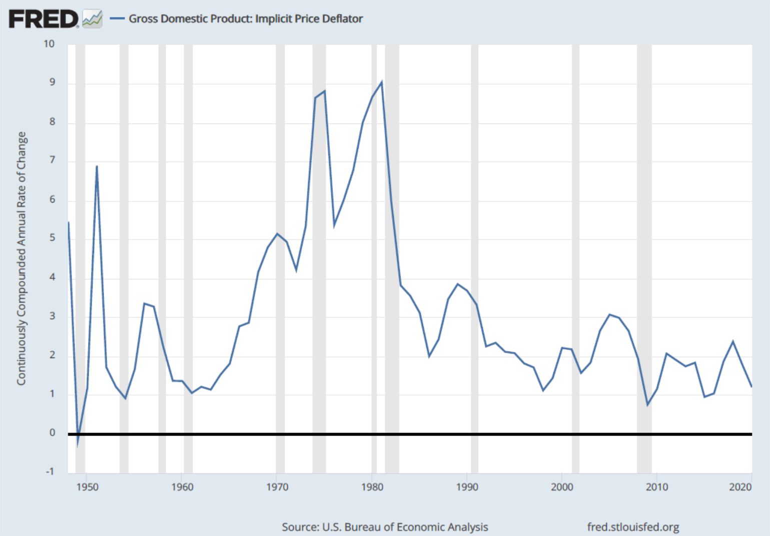
What is a Good Policy?

- While the predictable part of policy may well affect the real part of the economy, as in a New Keynesian model, the unpredictable part more generally can affect the real part of the economy
  - Has to be unpredictable though and likely to have unpredictable effects
- Predictable policy is better than unpredictable
- Kydland and Prescott discovered that a policymarker optimizing every period will not follow his own policy for the future
- Barro and Gordon showed that discretion to do this can indeed produce worse outcomes than a rule
- Created an emphasis on rules of one sort or another
- What should the target be?
- Widespread general belief:
  - Low inflation is better than high inflation
  - Two percent annual inflation seems like a reasonable goal
  - Ameliorating recessions seems like a reasonable goal
    - ★ Caveat: if this can be achieved

How Achieve these Goals?

- There are various ways to achieve these goals
- All have to consider that we know less than we would like
- Commonly emphasized: something like the Taylor rule
- Alternatives are discussed
- Target nominal GDP, since $Y = Py$
- Have a non-state-contingent policy
  - Doing something can be worse than doing nothing
- Just target price level or inflation rate
  - Inflation has been a serious problem under fiat-money regimes

Annual Inflation Measured by the GDP Deflator 1848 to 2020



Inflation Targeting

- Inflation targeting has been adopted by many central banks
- Has it been effective at lowering inflation?
- The Federal Reserve is not a strict “inflation targeter”
- The Federal Reserve has announced a target for inflation: 2 percent per year

> The Federal Open Market Committee (FOMC) judges that inflation of 2 percent over the longer run, as measured by the annual change in the price index for personal consumption expenditures, is most consistent with the Federal Reserve?s mandate for maximum employment and price stability. When households and businesses can reasonably expect inflation to remain low and stable, they are able to make sound decisions regarding saving, borrowing, and investment, which contributes to a well-functioning economy.

Inflation Targeting

- Inflation targeting has been adopted by many central banks
- Has it been effective at lowering inflation?
- Have to decide what is meant by inflation targeting and how it is different

Inflation Targeting's Characteristics

- Svennson 2010
- Inflation targeting includes:
  - An announced inflation target
  - Monetary policy gives a large role to the inflation forecast
  - A high degree of transparency and accountability
- The institutional framework
  - A mandate for price stability
  - Institutional independence of the central bank
  - The central bank is accountable if it does not hit the target
    - Accountability generally means that missing the target is subect to scrutiny by the administration and legislature

Inflation Targeting paper by Morozumi, Bleaney and Mumuni

- Cross section of as many as 185 countries
- Some have formally adopted inflation targeting, some not
- Has inflation targeting been effective at lowering inflation?
- Does it matter if the country is high, medium or low income
- They divide inflation-targeting countries into three groups for 1980 to 2016
  - High income – generally in top 25 percent by real GDP based PPP
  - Emerging markets – generally in the second quartile
  - Low income – generally in the bottom half

Classification of Inflation Targeters

- Look at Table 1 on page 1531
  - Will use pdf of paper as a handout

Basic Regressions Estimated

- Equations (1), (2) and (3) on pages 1532 and 1533

Data Sources

- There is a good discussion of the sources on pages 1533 and 1534

Descriptive Statistics

- Table 2 on page 1534
- Couple of things to notice
  - Lowest inflation rate is -130 percent per year?
  - World price inflation rates in what currencies?

Initial Panel Regressions

- Table 3: Panel regressions on page 1536
- Leave out countries with average annual inflation rate greater than 50 percent
- Couple of things to notice
  - Adjusted R^2 falls when controls added – number of countries changes
  - Lagged dependent variable and interpretation

Lagged Dependent Variable and Interpretation

- Effect of IT, and other variables

$$\pi_{i,t} = \alpha\pi_{i,t-1} + \beta IT_{i,t} + ...$$

- The eventual effect of $IT_{i,t}$ on inflation when it converges to its steady-state value is given by

$$\frac{\beta}{1-\alpha}$$

not by β alone

- You can see this from

$$\pi^s = \alpha\pi^s + \beta IT$$
$$\pi^s = \frac{\beta}{1-\alpha} IT$$

or by iterating the equation forward

Why is Inflation Targeting Ineffective in Low-income countries?

- Regressions on page 1540
  - New variables are restrictions on lending to the central government and democracy
- Table 7: Panel regressions for IT adopters, page 1542
- Table 8: Panel regressions for IT adopters, page 1544
- Worth noticing
  - Adjusted R^2 falls when controls added

Summary

- Inflation targeting is one result of changes in monetary policy due to an improved understanding of how it works
- Still does not resolve rules versus discretion debate
- Does point out that having a firm target can be consistent with having discretion about the use of instruments to hit the target