Issues on stabilization policy

Lecture 14

Readings

- G. Mankiw, *Macroeconomics*, 7th edition, Chapter 15
- S. Potter, The Failure to Forecast the Great Recession, Liberty Street Economics, November 25th 2011

Plan

- Should policy be active or passive?
- Luca's critique
- Should policy be conducted by rule or by discretion?
- Time inconsistency in monetary policy

Should policy be active or passive?

Two views

- Advocates of active policy
  - view the economy as subject to frequent shocks that lead to unnecessary fluctuations in output/employment unless monetary or fiscal policies respond
  - believe that economic policy has been successful in stabilizing the economy

- Advocates of passive policy
  - argue that monetary and fiscal policies work with long and variable lags, thus attempts to stabilize the economy often end up being destabilizing
  - argue that our understanding of the economy is too limited to be useful in formulating successful stabilization policy
  - believe that incompetent policy is a frequent source of economic fluctuations

Lags in implementation and effects of policies

- Long and variable lags greatly complicate conduct of fiscal and monetary policy
- Two lags are relevant for the conduct of stabilization policy:
  - Inside lag: time between a shock to the economy and the policy action responding to the shock (it takes time for policy makers first to recognize that a shock has occurred and then put appropriate policies into effect)
  - Outside lag: time between a policy action and its influence on the economy (policies do not immediately influence spending, income, employment)

Difficult job of economic forecasting

- Policy influences economy only with a lag, thus a successful stabilization policy requires ability to predict accurately future economic conditions

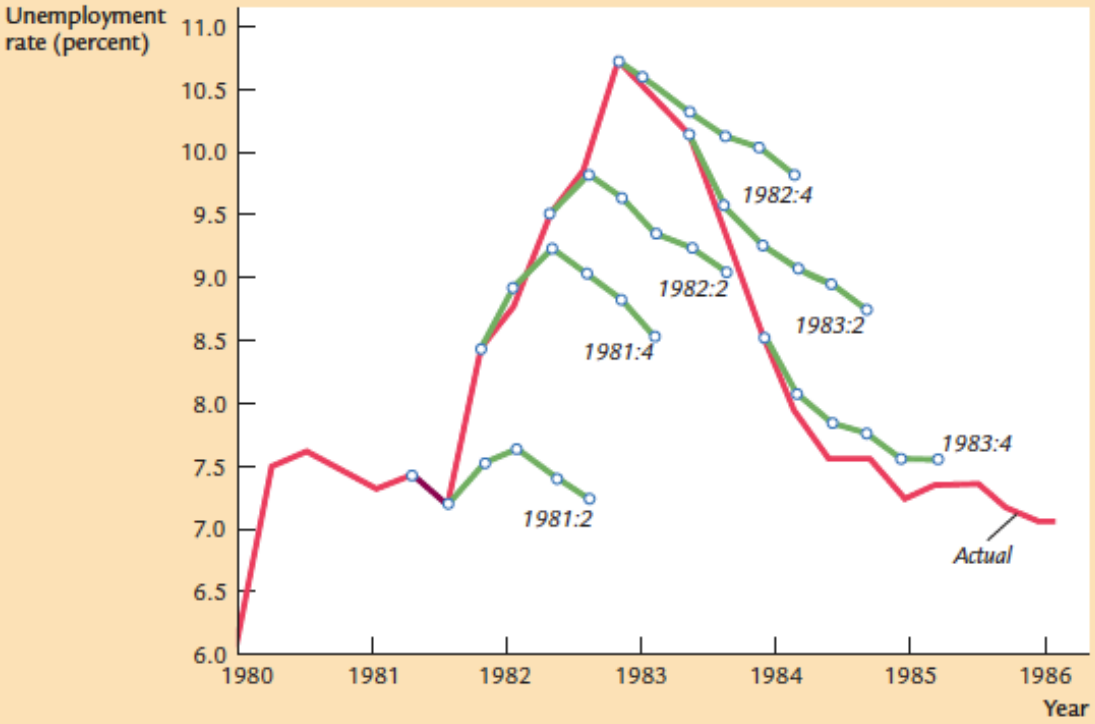
- Example: to assess whether current monetary and fiscal policies should be expansionary or contractionary, need to predict whether in six months or a year the economy will be in a boom or in a recession

- How do economist forecast?

  - using leading indicators (number of applications for unemployment insurance, consumer sentiment, amount of new orders for capital goods unrelated to defense, S&P 500 stock index,…)

  - using large macro econometric models

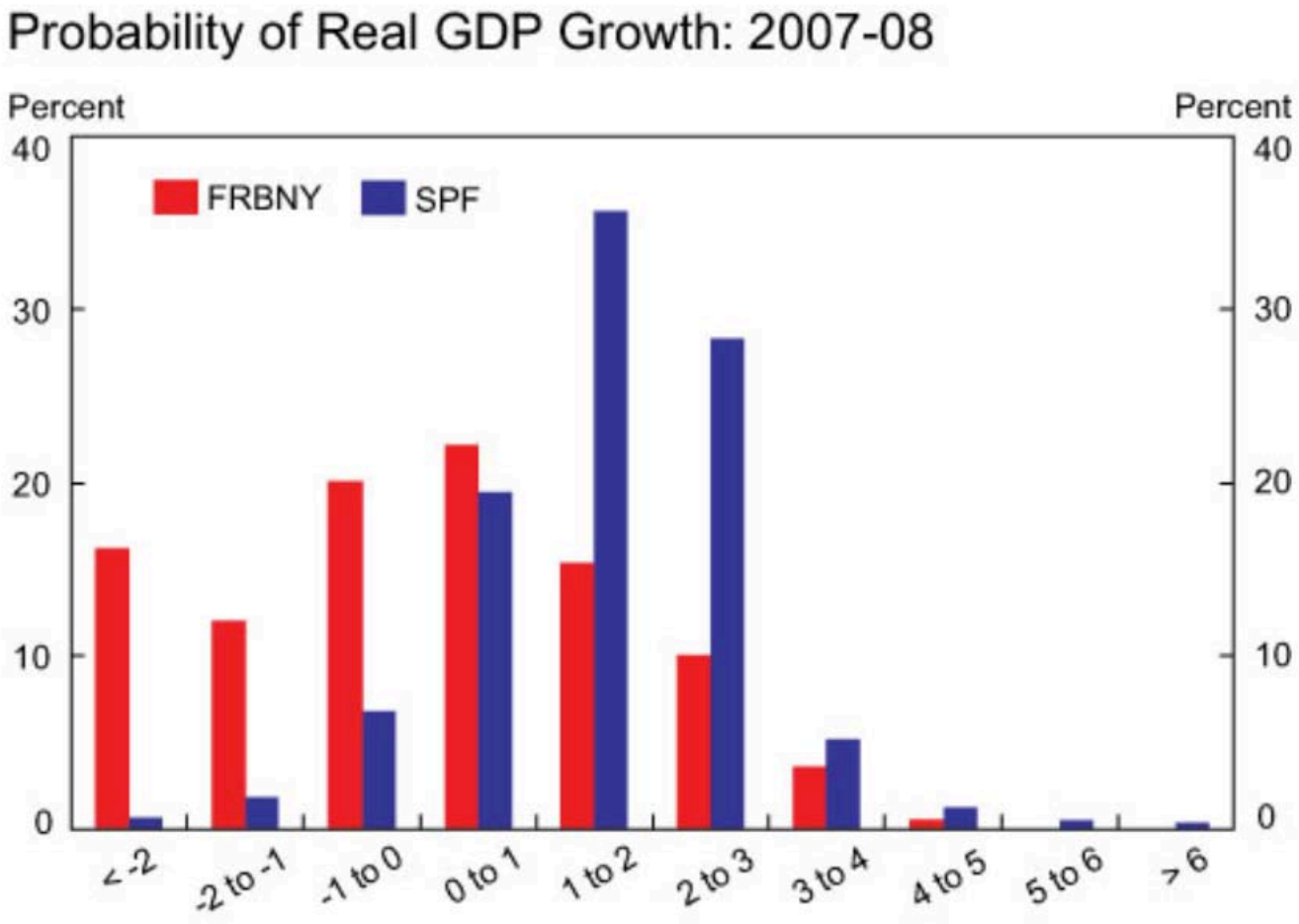
Difficult job of economic forecasting, cont.



Forecasting the Recession of 1982 The red line shows the actual unemployment rate from the first quarter of 1980 to the first quarter of 1986. The green lines show the unemployment rate predicted at six points in time: the second quarter of 1981, the fourth quarter of 1981, the second quarter of 1982, and so on. For each forecast, the symbols mark the current unemployment rate and the forecast for the subsequent five quarters. Notice that the forecasters failed to predict both the rapid rise in the unemployment rate and the subsequent rapid decline.

Source: The unemployment rate is from the Department of Labor. The predicted unemployment rate is the median forecast of about 20 forecasters surveyed by the American Statistical Association and the National Bureau of Economic Research.

Failure to Forecast the Great Recession: Comparison across Forecasts



Sources: Federal Reserve Bank of New York (FRBNY); Survey of Professional Forecasters (SPF).

Three main failures in NYFed real-time forecast

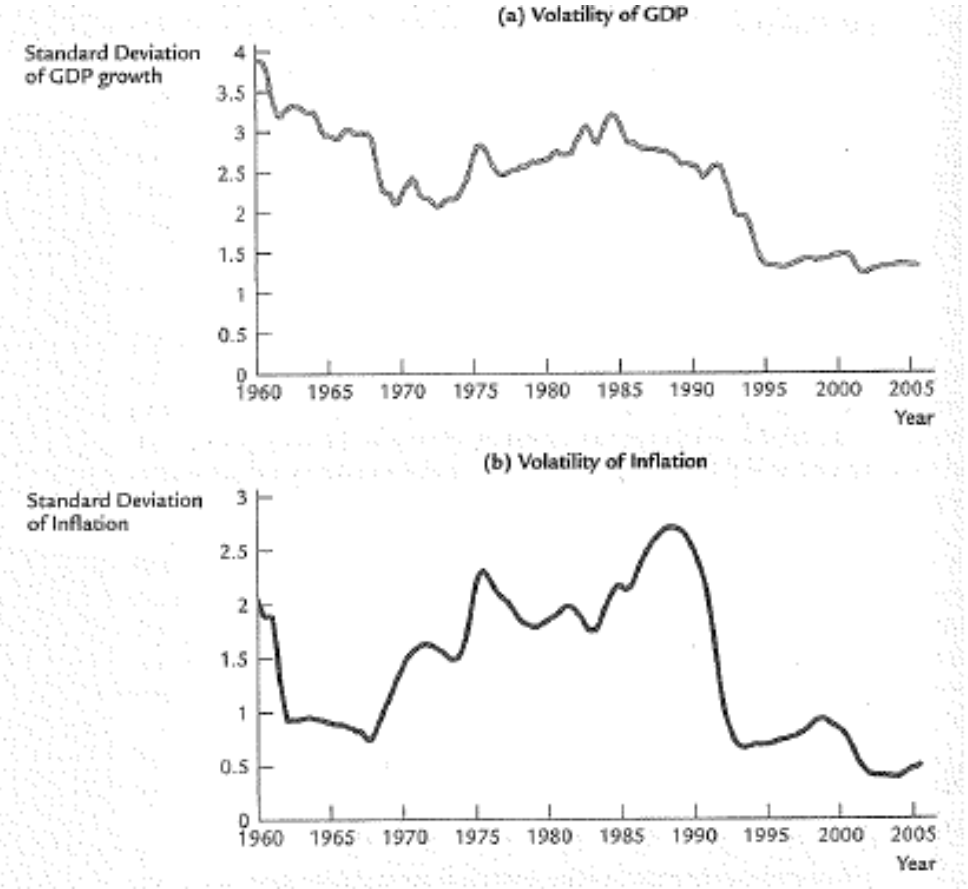
- Misunderstanding of the housing boom
- Lack of analysis of the rapid growth of new forms of mortgage finance
- Insufficient weight given to the powerful adverse feedback loops between the financial system and the real economy

Average price of houses divided by the CPI

Three main failures in NYFed real-time forecast, cont.

Long stretches of economic growth, **Great Moderation**, imply greater leverage and complacency and thus, greater problems when recessions do occur.

Great moderation



- 1990s and early 2000s stands out as a period of remarkable stability (of course up to the current crisis)
- Possible reasons:
  1. Structural change
  2. Good luck
  3. Good policy

Expectations and the Lucas critique

• The ‘Lucas critique’ is a criticism of econometric policy evaluation procedures that fail to recognize that optimal decision rules of economic agents vary systematically with changes in policy.

• In particular, it criticizes using estimated statistical relationships from past data to forecast the effects of adopting a new policy, because the estimated regression coefficients are not invariant but will change along with agents’ decision rules in response to a new policy.

Expectations and the Lucas critique: an example

Cost of disinflations

- Historical estimates of the cost of disinflations in terms of output are very large
- These estimates are unreliable because they are subject to the Lucas critique
- Traditional estimates based on assumption of adaptive expectations
- A policy change may change the way agents form expectations (rational expectations)
- Credible policy change may induce agents to change expected inflation rapidly
- A reduction in expected inflation may improve considerably the output-inflation tradeoff

Should policy be conducted by rule or by discretion?

- Policy conducted by rule: policymakers announce in advance how policy will respond to the state of the economy and commit to this announcement

- Policy conducted by discretion: policymakers are free to evaluate the state of the economy at each time and choose policy considered appropriate at that time

- Debate over rules versus discretion is different from the debate over passive versus active policy: policy can be conducted by rule, and yet be either passive or active

Passive rule: Money growth = 3%

Active rule: Money growth = 3% - output gap

Why policy might be improved by commitment to a rule?

Two reasons:

- Distrust of policymakers and political process
- Time inconsistency of discretionary policy

Distrust of policymakers and political process

- Political process cannot be trusted. Why?
- Politicians make frequent mistakes in conducting economic policy (incompetence)
- Politicians sometime use economic policy for their own political ends (opportunism)
- Thus, deny policymakers discretion to use powerful tools of fiscal and monetary policy

Time inconsistency of discretionary monetary policy

- Assume we can trust policymakers
- Then, discretion appears superior to a fixed policy rule
- In fact, discretion gives more flexibility in responding to various unforeseen situations
- Yet, commitment to a fixed policy rule necessary to solve problem of time inconsistency

A political example: negotiating with terrorists

- Policy about negotiating with terrorists about release of hostages
- Announced policy of many nations is that they will not negotiate with terrorists
- Announcement intended to deter terrorists: if there is nothing to gain from kidnapping hostages, rational terrorists will not kidnap any
- Purpose of announcement is influence terrorists expectations and thus their behavior

A political example: negotiating with terrorists, cont.

- Problem: terrorists know that once hostages are taken, policymakers will be very tempted to negotiate and renege on their announcement
- Policy is inconsistent over time: policymakers have the incentive to do ex-post something that does not appear to be optimal ex-ante
- Thus, announcement has little effect unless policymakers are truly committed to a rule of never negotiating, that is, unless they do not have the discretion to make concessions
- Only in this case the incentive for terrorist to take hostages will be eliminated

A monetary policy example

- CB cares about inflation and output
- According to the Phillips curve, the trade off between stabilizing inflation and output depends on expected inflation
- Ex ante it is optimal to announce low future inflation to lower expected inflation in order to improve the trade off
- Ex post after agents have formed their expectations and set prices and wages accordingly, CB has an incentive to renege on its announcement and implement expansionary monetary policy to raise output

A monetary policy example, cont.

- Agents understand CB incentives and thus do not believe announcement in first place, unless the CB commits to a fixed policy rule of low inflation
- Outcome: easier to achieve goals under commitment than under discretion
  - Fewer hostages will be taken if policymakers commit to a rule of no negotiation
  - Lower inflation without lower output if CBs commit to a policy of low inflation

Rules versus discretion in the model of IT: discretion

- Consider our model of inflation targeting under discretion
- Assume $x^* > 0$, that is CB aims at achieving a level of output higher than natural level
- CB chooses x and π to minimize the loss L

$$L = \frac{1}{2}\left[(\pi - \pi^*)^2 + \omega (x - x^*)^2\right]$$

subject to the PC

$$\pi = \pi^e + \lambda x$$

Rules versus discretion in the model of IT: discretion, cont.

- The first order condition is

$$\pi = \pi^* - \delta(x - x^*)$$

- For simplicity assume $\pi^* = 0$ (just to keep things simple)

- We then have a system PC-MPR given by

$$\text{(PC)} \quad \pi = \pi^e + \lambda x$$

$$\text{(MPR)} \quad \pi = -\delta\,(x - x^*)$$

Rules versus discretion in the model of IT: discretion, cont.

- Solving the system for inflation

$$\pi = \frac{\delta}{\lambda + \delta} (\pi^e + \lambda x^*)$$

In the long run, it must be that $\pi = \pi^e$, which implies

$$\pi = \delta x^*$$

- Substituting the equilibrium inflation into the MPR we obtain

$$x = 0$$

Note the same result is obtained from the PC simply by noting that as long as inflation expectations are correct, $\pi = \pi^e$, the output gap cannot deviate from zero, that is, x = 0

Rules versus discretion in the model of IT: commitment to a rule

Suppose instead that the CB could commit to a fixed rule of setting inflation equal to the target zero, then

$$\pi = \pi^e = \pi^* = 0$$

and, consequently, from the PC we have

$$x = 0$$

Rules versus discretion in the model of IT, cont.

- To sum up, under discretion we have

$$x = 0 \quad \text{and} \quad \pi = \delta x^* > 0$$

  while under a rule we would have

$$x = 0 \quad \text{and} \quad \pi = 0$$

- Thus, under discretion higher inflation than under a rule but no gain in terms of output
- Rules help solving the time inconsistency problem