

Introduction

- How should government policymakers respond to the business cycles?
- 1. Should policy be active or passive?
- Some economists view the economy as inherently unstable. The economy experiences frequent shocks to aggregate demand and aggregate supply. According to the popular saying, macroeconomic policy should "lean against the wind," stimulating the economy when it is depressed and slowing the economy when it is overheated.
- Other economist, such as Milton Friedman, view the economy as naturally stable. They blame bad economic policies for the large and inefficient fluctuations we have sometimes experienced.

Introduction

- 2. Should Policy be conducted by rule or by discretion?
- Policy is conducted by rule if policymakers announce in advance how policy will respond to various situations and commit themselves to following through on this announcement.
- Policy is conducted by discretion if policymakers are free to size up events as they occur and choose whatever policy seems appropriate at the time.

Rules for Monetary Policy

- If the central bank were to commit to a rule for monetary policy, what rule should it choose? There are three policy rules that various economists advocate.
- Monetarists advocate that the central bank keep the money supply growing at a steady rate. Monetarists believe that fluctuations in the money supply are responsible for most large fluctuation in the economy. They argue that slow and steady growth in the money supply would yield stable output, employment, and prices.

- Most economists believe that it is not the best possible rule. Steady growth in the money supply stabilizes aggregate demand only if the velocity of money is stable. They believe that a policy rule needs to allow the money supply to adjust to various shocks to the economy.
- 2. A second policy rule that economists widely advocate is nominal GDP targeting. Under this rule, the central bank announces a planned path for nominal GDP. If nominal GDP rises above the target, the bank of Canada reduces money growth to dampen aggregate demand. If it falls below the target, the Bank raises money growth to stimulate aggregate demand.
- 3. A third policy rule that is often advocated is inflation targeting. Under this rule, the bank of Canada would announce a target for the inflation rate and then adjust the money supply when the actual inflation deviates from the target.
- An inflation target has the political advantage that it is easy to explain to the public.
- Notice that all these rules are expressed in terms of some nominal variable, the money supply, the nominal GDP, or the price level. One can also imagine policy rules expressed in terms or real variables, for example target the unemployment rate.

• The problem with such a rule is that no one knows exactly what the natural rate of unemployment is. If the Bank of Canada chose a target for the unemployment rate below the natural rate, the result would be accelerating inflation. Conversely, if the target is above the natural rate, the result would be accelerating deflation. For this reason, economists rarely advocate rules for monetary policy expressed in terms of real variables, even though real variables are the most measure of economic performance.



Interest rate rule

Traditional proposals for monetary policy rules were phrased in terms of the money stock. But central banks for most part conduct policy by adjusting the short-term nominal interest rate in response to various disturbances, using the money stock as just one indicator. Further, in many countries the relationship between the money stock and aggregate demand has broken down in recent years, greatly weakening the case for specifying policy rules in terms of the money stock. These facts have led researchers to consider interest-rate rules.

Interest-rate rule

- In contrast to money stock rules, interest-rate rules must be active for the economy to be stable.
- Suppose, for example, the central bank keeps the nominal interest rate constant. A disturbance to aggregate demand that pushes output above its natural rate causes inflation to rise. With the nominal rate fixed, this reduces the real interest rate, which raises output further, which causes inflation to rise even faster, and so on .

Real interest rate

- It is the real, rather than the nominal rate of interest that the central banks are most concerned with
- The real interest rate is the nominal interest rate adjusted for inflation

$$1 + r = \frac{(1 + i)P}{P_{+1}^{e}} = \frac{1 + i}{1 + \pi^{e}}$$

For reasonably low rates of inflation, we can approximate this expression by fisher equation

 $r = 1 - \pi^{e}$

The IS-RF Model We assume that given an unemployment rate and an inflation rate

The slope is $\frac{\partial r}{\partial u} = \frac{L}{a_0} > 0$



The AD curve
RF:
$$r = h_0 + h_1 \pi - h_2 u$$

IS: $u = (l - \frac{a_0}{L}) + \frac{a_1}{L} r \Rightarrow \frac{L}{a_1} u - (l - \frac{a_0}{L}) = r$
AD: $h_0 + h_1 \pi - h_2 u = \frac{L}{a_1} u - (l - \frac{a_0}{L})$
 $\Rightarrow \pi = \frac{a_0 - L - a_1 h_0}{a_1 h_1} + \frac{L + a_1 h_2}{a_1 h_1} u$
 $\Rightarrow \pi = a_6 + a_7 u$
 $\frac{\partial \pi}{\partial u} = a_7 > 0$





















Social costs of inflation

- Inflation reduces the purchasing power of individuals, especially for persons who have a constant income (retirement...).
- High inflation induces firms to change their posted prices more often. This induce menu costs (print new menu for restaurant, or printing and distributing new catalog.)
- High inflation erode the money value.
- The inconvenience of making inflation corrections.
- Unexpected inflation causes arbitrary redistributions of wealth between debtors and creditors.