

Monetary Theory and Policy

Chapter 24: The Role of Expectations in Monetary Policy

Lucas Critique of Policy Evaluation

- Macro-econometric models: collections of equations that describe statistical relationships among economic variables. They are used by economists to forecast economic activity and to evaluate the potential effects of policy options.

Lucas Critique of Policy Evaluation

- In his famous paper "Econometric Policy Evaluation: A Critique," Robert Lucas argued that econometric models are unreliable for evaluation policy options if they do not incorporate rational expectations.
- According to Lucas, when policies change, public expectations will shift as well, and such changing expectations (as ignored by conventional econometric models) can have a real effect on economic behavior and outcomes.

Policy Conduct: Rules or Discretion?

- Policy rules are binding plans that specify how policy will respond (or not respond) to particular data such as unemployment and inflation.
- Policy discretion is applied when policymakers make no commitment to future actions, but instead make what they believe in that moment to be the right decision for the situation.

Policy Conduct: Rules or Discretion?

- Finn Kydland, Edward Prescott, and Guillermo Calvo argued that discretionary policy is subject to the time-inconsistency problem—the tendency to deviate from good long-run plans when making short-run decisions.
- Policymakers are always tempted to pursue expansionary policy to boost output in the short run, but the best policy is *not* to pursue it: Unexpected expansionary policy will raise workers and firms' expectations about inflation, thus driving up wages and prices, and the end results will be higher inflation but no increase in output.

Policy Conduct: Rules or Discretion?

- The time-inconsistency problem implies that a policy will have better inflation performance in the long run if it does not try to surprise people with an unexpectedly expansionary policy, but instead sticks to a certain rule.

Types of Rules

- Nonactivist rules, which do not react to economic activity, include:
 - Milton Friedman's constant-money-growth-rate rule, in which the money supply is kept growing at a constant rate regardless of the state of the economy.
 - Variants of the Friedman rule, as proposed by other monetarists such as Bennett McCallum and Alan Meltzer, allow the rate of money supply growth to be adjusted for shifts in velocity.

Types of Rules

- Activist rules, which specify that monetary policy reacts to changes in economic activity, such as the level of output and to inflation.

The Case for Rules

- One argument for rules is that they lead to desirable long-run outcomes because commitment to a policy rule solves the time-inconsistency problem because it does not allow policymakers to exercise discretion and try to exploit the short-run tradeoff between inflation and employment.
- Another argument for rules is that policymakers and politicians cannot be trusted: Politicians have strong incentives to pursue expansionary policy that help them win the next election, leading to the political business cycle.

The Case for Discretion

- Drawbacks of policy rules:
 - Rules can be too rigid because they cannot foresee every contingency
 - Rules do not easily incorporate the use of judgment because monetary policymakers need to look at a wide range of information and some of this information is not easily quantifiable
 - No one really knows what the true model of the economy is and so any policy rule that is based on a particular model will prove to be wrong if the model is not correct
 - Even if the model were correct, structural changes in the economy would lead to changes in the coefficients of the model (the Lucas critique)

Constrained Discretion

- Constrained discretion, developed by Ben Bernanke and Frederic Mishkin, imposes a conceptual structure and inherent discipline on policymakers, but without eliminating all flexibility.
- The idea is to combine some of the advantages ascribed to rules with those ascribed to discretion.

The Role of Credibility and a Nominal Anchor

- An important way to constrain discretion is by committing to a **nominal anchor**—a nominal variable that ties down the price level or inflation to achieve price stability.
- If the commitment to a nominal anchor has **credibility**—it is believed by the public—it will have the following benefits:
 - The nominal anchor can help overcome the time-inconsistency problem by providing an expected constraint on discretionary policy.
 - The nominal anchor will help to anchor inflation expectations, leading to smaller fluctuations in inflation and in aggregate output.

Credibility and Aggregate Demand Shocks

- Positive aggregate demand shocks (the AD curve shifts to the right so that inflation rises above π^T).

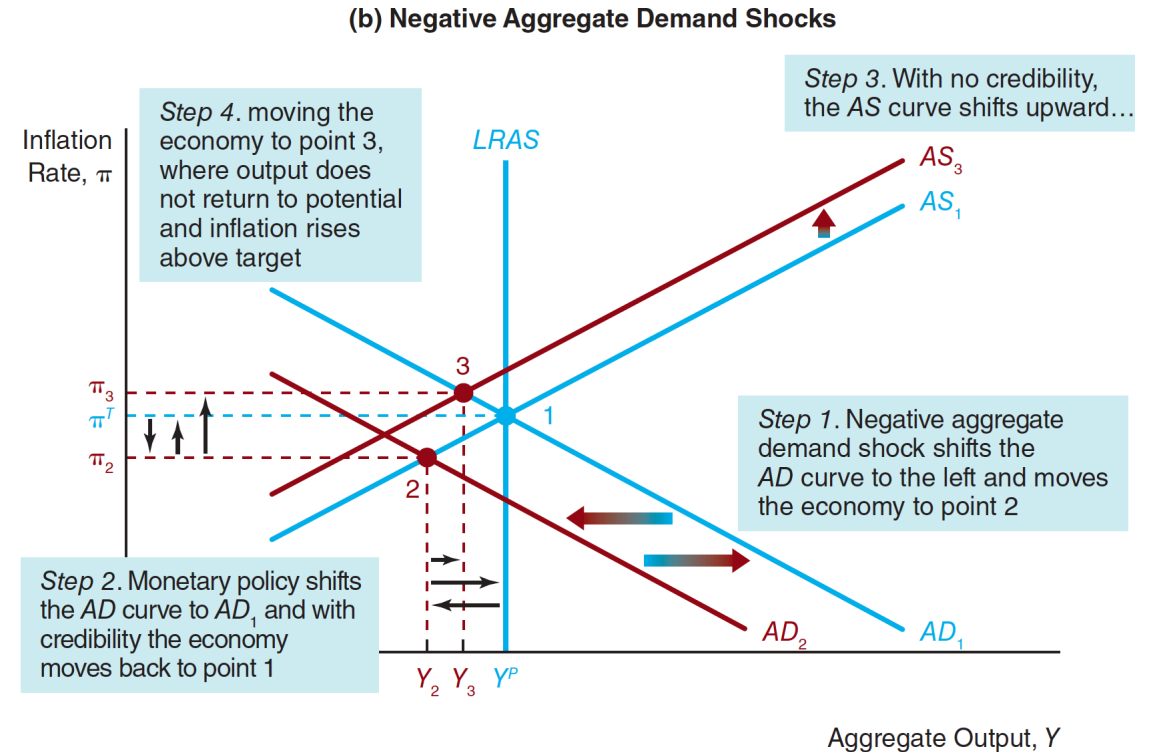
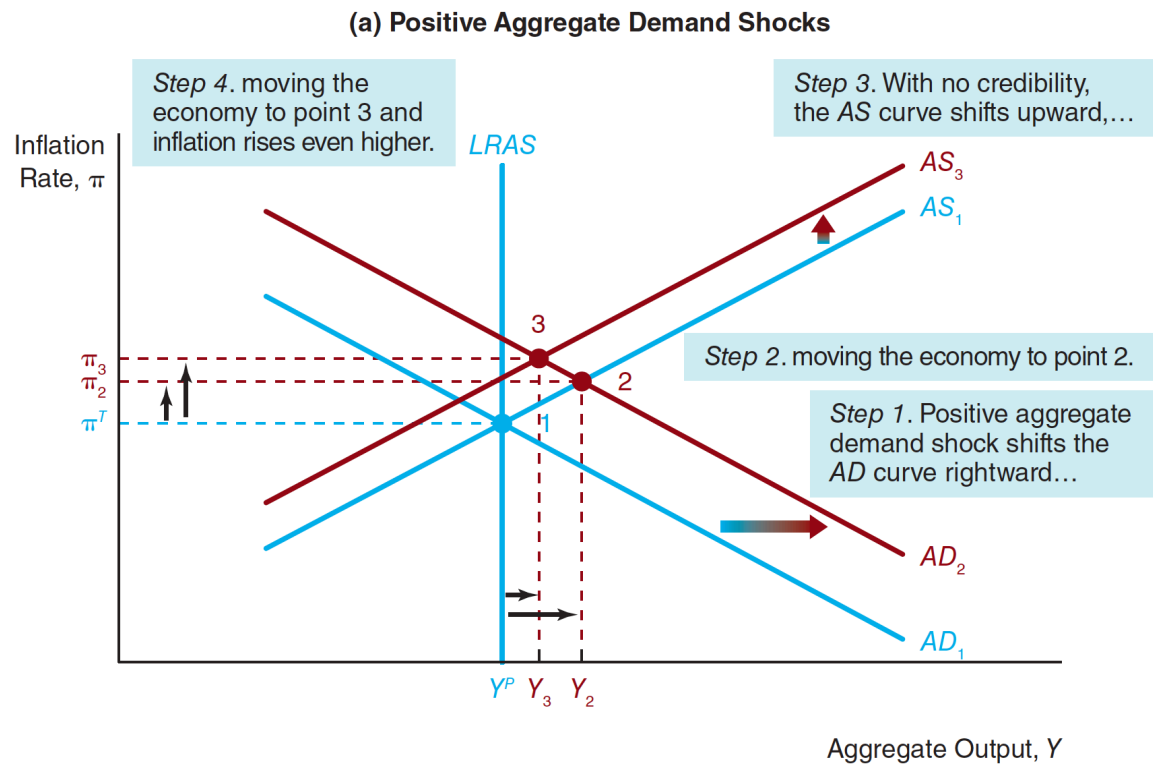
$$\begin{array}{rccccccc} \pi & = & \pi^e & + & \gamma(Y - Y^P) & + & \rho \\ \text{Inflation} & = & \text{Expected} & + & \gamma \times \text{Output} & + & \text{Price} \\ & & \text{Inflation} & & \text{Gap} & & \text{Shock} \end{array}$$

- If the commitment to the nominal anchor is credible, then expected inflation π^e will remain unchanged so that the short-run AS curve (as represented by the above equation) will not shift.
- The appropriate policy response is to tighten monetary policy so that the short-run AD curve shifts back while inflation falls back down to the inflation target of π^T .

Credibility and Aggregate Demand Shocks

- Positive aggregate demand shocks (the AD curve shifts to the right so that inflation rises above π^T).
 - If monetary policy is not credible, the public would worry that the central bank would drive the AD curve back down quickly, then expected inflation π^e will rise and so the short-run AS curve will shift up to the left, driving up inflation.
 - Even if the central bank tightens monetary policy by shifting the AD curve back, inflation would have risen more than it would have if the central bank had credibility.
 - Monetary policy credibility has the benefit of stabilizing inflation in the short run when faced with positive demand shocks.

Figure 1 Credibility and Aggregate Demand Shocks



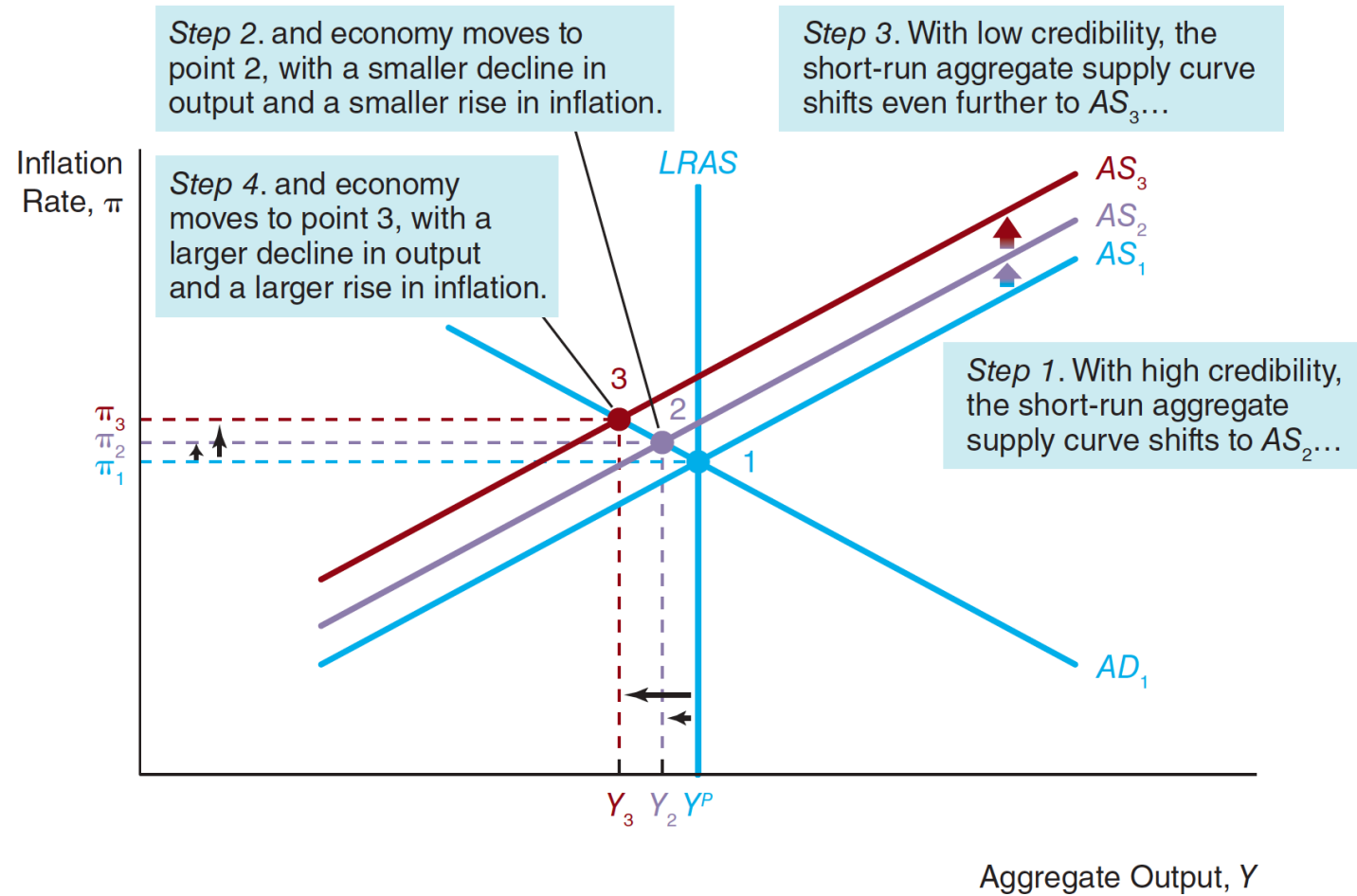
Credibility and Aggregate Supply Shocks

- Negative aggregate demand shocks (the AD curve shifts to the left so that aggregate output falls below Y^P).
 - If the central bank's credibility is weak, the public will see an easing of monetary policy as the central bank's losing its commitment to the nominal anchor and so it will pursue inflationary policy in the future.
 - The result is rising inflation expectations, so that the short-run AS curve will shift up to the left, so that aggregate output falls even further
 - Monetary policy credibility has the benefit of stabilizing economic activity in the short run when faced with negative demand shocks.

Credibility and Aggregate Supply Shocks

- Negative aggregate supply shocks (the short-run *AS* curve shifts to the left).
 - If the credibility of the nominal anchor is credible, inflation expectations will not rise, so the short-run *AS* curve will not shift further.
 - If the credibility of the nominal anchor is weak, then inflation expectations will rise, so the short-run *AS* curve will shift further up and to the left, causing even higher inflation and lower output.
 - Monetary policy credibility has the benefit of producing better outcomes on both inflation and output in the short run when faced with negative supply shocks.

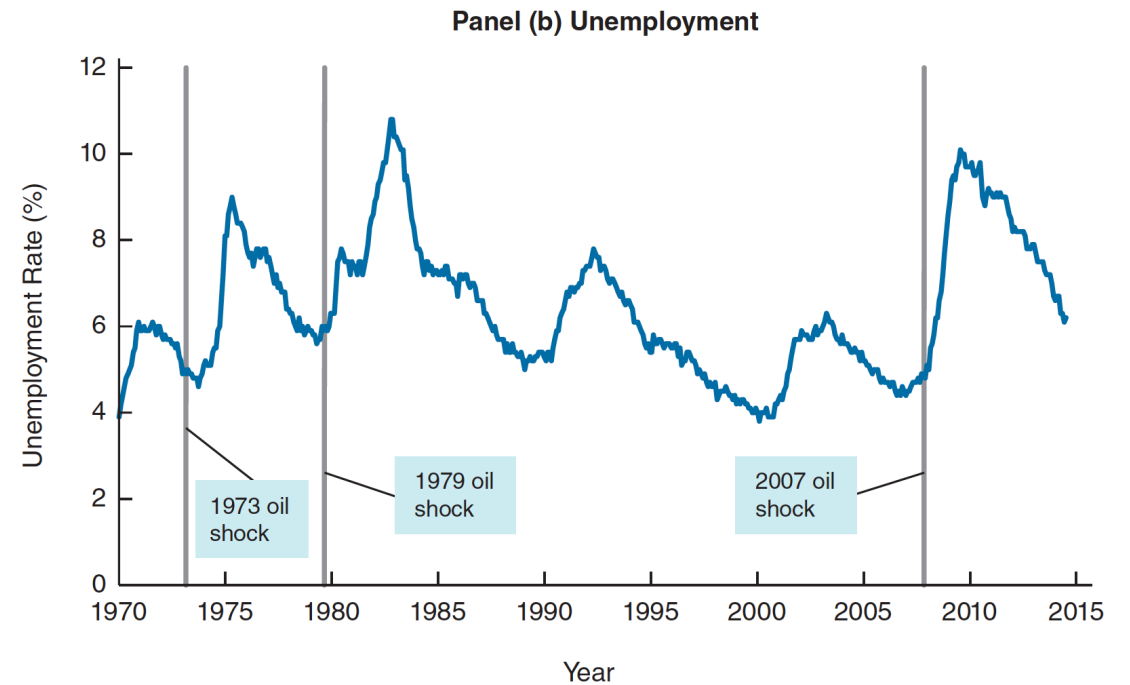
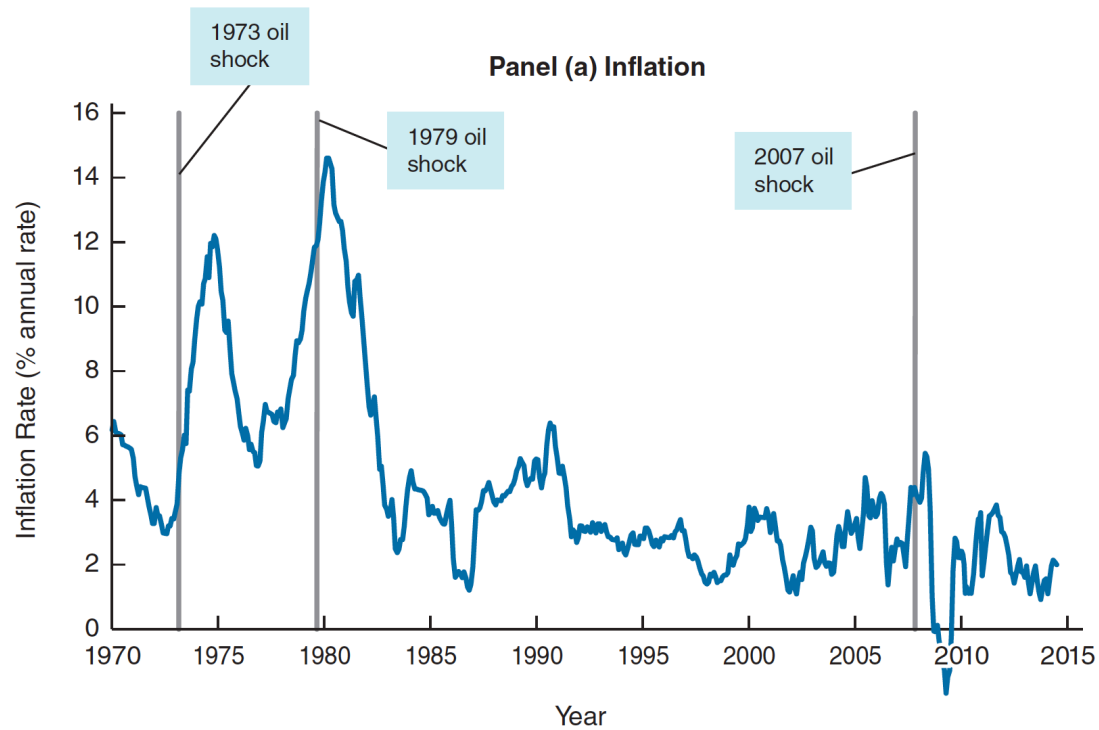
Figure 2 Credibility and Aggregate Supply Shocks



Application: A Tale of Three Oil Price Shocks

- As indicated by Figure 3, in 1973, 1979, and 2007, the U.S. economy was hit by three major negative supply shocks when the price of oil rose sharply; and yet in the first two episodes inflation rose sharply, while in the most recent episode it rose much less.

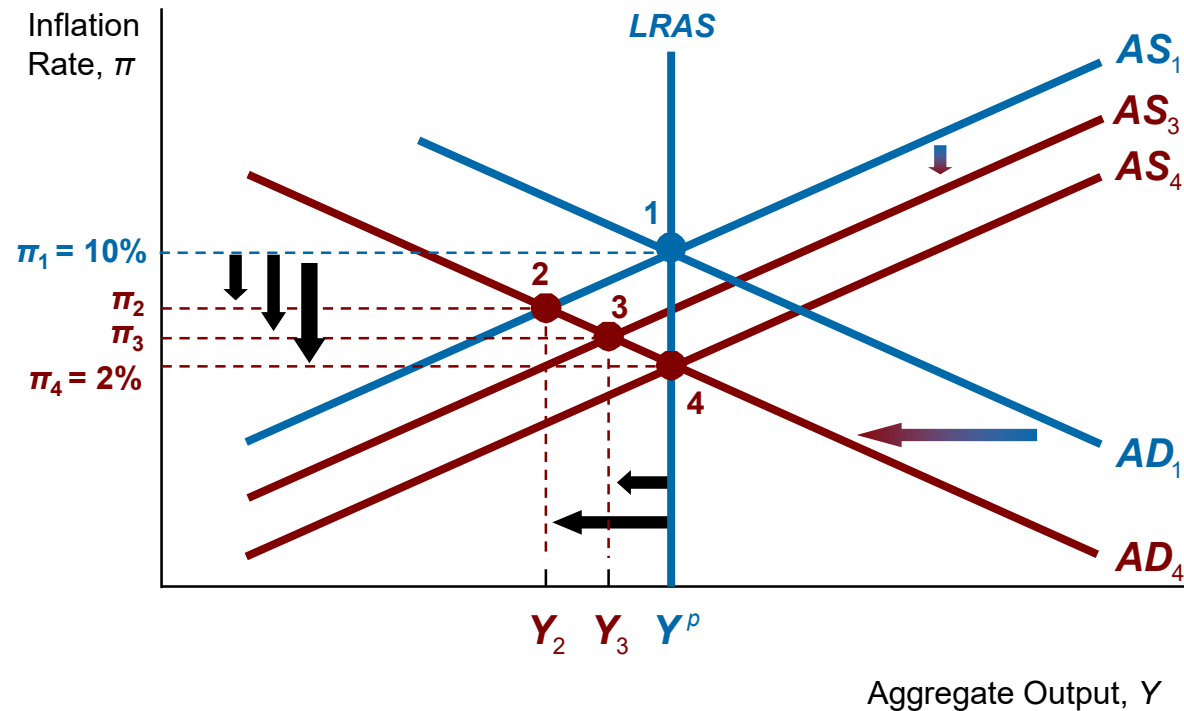
Figure 3 Inflation and Unemployment 1970–2014



Credibility and Anti-Inflation Policy

- The greater the credibility of the central bank as an inflation fighter, the more rapid the decline in inflation and the lower the loss of output to achieve the inflation objective.
- If the central bank has very little credibility, then the public will not be convinced that the central bank will stay the course to reduce inflation, and they will not revise their inflation expectations.

Figure 4 Credibility and Anti-Inflation Policy



Step 1. Autonomous monetary tightening shifts the AD curve to the left . . .

Step 2. moving the economy to point 2 if the central bank does not have credibility, where both output and inflation falls.

Step 3. moving the economy to point 3 if the central bank has credibility, where output falls by less and inflation by more.

Step 4. Eventually economy moves to point 4 where inflation falls to 2%.

Application: Credibility and the Reagan Budget Deficits

- The Reagan administration was strongly criticized for creating huge budget deficits by cutting taxes in the early 1980s.
- Although many economists agree that the Fed's anti-inflation program lacked credibility, not all agree that the Reagan budget deficits were the cause of that lack of credibility.
- The conclusion that the Reagan budget deficits helped create a more severe recession in 1981–1982 is controversial.

Approaches to Establishing Central Bank Credibility

- **Inflation Targeting** is a strategy that involves:
 - Public announcement of medium-term numerical targets for inflation
 - An institutional commitment to price stability as the primary, long-run goal of monetary policy
 - An information-inclusive approach in which policymakers use many variables in making decisions about monetary policy
 - Increased transparency of the monetary policy strategy through communication with the public and the markets
 - Increased accountability of the central bank for attaining its inflation objectives
- Adopted by many countries, beginning with New Zealand, Australia, Canada and the United Kingdom

Appoint “Conservative” Central Bankers

- Kenneth Rogoff of Harvard University suggested that another way to establish policy credibility is for the government to appoint central bankers who have a strong aversion to inflation.
- The public will then expect that the “conservative” central banker will be less tempted to pursue expansionary monetary policy and will try to keep inflation under control.
- The problem with this approach is that it is not clear what it will work over time.

Inside the Fed: The Appointment of Paul Volcker, Anti-Inflation Hawk

- Paul Volcker is known as an inflation hawk and thus his appointment as the chairman of the Fed in October 1979 is good example of the appointment of a “conservative” central banker.
- Shortly after he took the helm of the Fed, the federal funds rate rose by 8 percentage points to nearly 20% by April 1980.
- Despite the unemployment rate rose to nearly 10% in 1982, the federal funds rate remained at around 15% until the inflation rate began to fall in July 1982.