

# The Role of Expectations in Monetary Policy

This lecture discusses the impact of rational expectations on the aggregate demand and aggregate supply model and then examines how rational expectations have impacted policymaking.

## Lucas Critique of Policy Evaluation

### A. Macroeconometric models

1. These models contain a number of equations that describe the relationships between economic variables.
2. Economists use these models to forecast economic activity and evaluate policy options.

## B. The Lucas Critique

1. Robert Lucas noted that when policies change, people adjust their expectations, which has real economic effects.
2. Robert Lucas argued that if macroeconomic models do not incorporate rational expectations then those models are unreliable for policy evaluation.

## Policy Conduct: Rules or Discretion?

- A. The Lucas critique impacts the long running debate about whether the central bank should follow binding rules or have flexibility to respond at its discretion.

## B. Discretion and the Time-Inconsistency Problem

1. Policymakers with discretion have no commitment to future policy actions and instead can select the right policy for the moment.
2. The time-inconsistency problem reveals that policymakers have short-run incentives (higher output) that are not compatible with their long-run objectives (low inflation).
3. Rational expectations theory says individuals know that discretionary monetary policy might lead to more inflation, so they expect inflation to be higher in the future.
4. Policymakers can avoid those negative expected inflation effects by following a policy rule and not administering one-time shocks to the economy.

## C. Types of Monetary Policy Rules

1. A constant money growth rate rule advocates keeping the money growth rate constant with some variants allowing money growth to adjust for shifts in money velocity.
  - a. These rules are considered nonactivist rules.
  - b. Economists advocating this type of rule are known as monetarists.
2. The Taylor rule advocates that monetary policy should respond to both output and inflation. This type of rule is an example of an activist rule.

## D. The Case for Rules

1. A commitment to a policy rule solves the time-inconsistency problem because policymakers are forced to follow a set plan.

2. Policymakers and politicians cannot be trusted to make good discretionary policy decisions because they have incentives to pursue expansionary policies right before elections.

#### E. The Case for Discretion

1. Monetary policy rules cannot account for every situation.
2. Monetary policy rules do not allow the policymaker to use his/her judgement.
3. Economists do not know the true model of the economy, so any policy rule could prove wrong if the model is flawed.
4. Any structural changes in the economy will necessitate a change in the model that the policy rule is derived from.

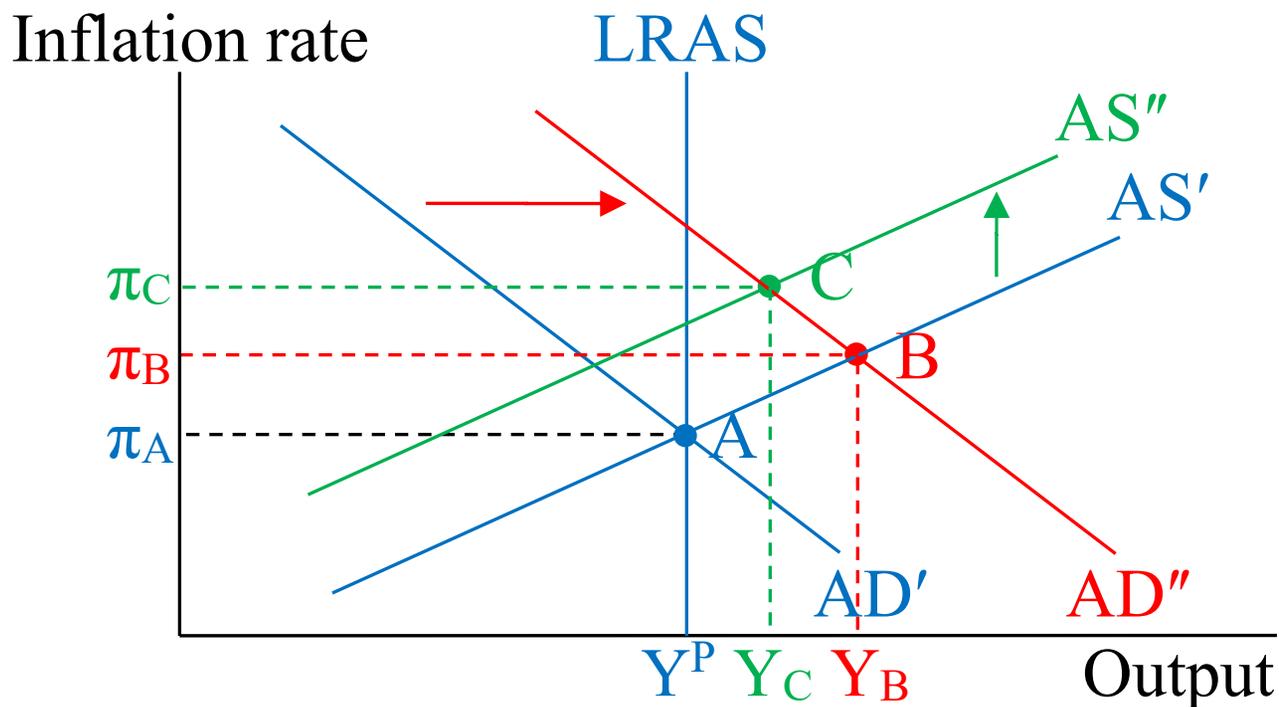
- F. Constrained discretion conveys the general objectives to policymakers but does not spell out their specific actions.

## The Role of Credibility and a Nominal Anchor

- A. A nominal anchor is a nominal variable such as the inflation rate, the money supply, or exchange rate that ties down the price level.
- B. If people believe the central bank will follow through on its commitments, then the central bank is said to have credibility.
- C. Benefits of a Credible Nominal Anchor
  1. A nominal anchor helps to avert the time-inconsistency problem by imposing an expected constraint on discretionary policy.
  2. A credible commitment to a nominal anchor helps control inflation expectations, which reduces inflation volatility.

## D. Credibility and Aggregate Demand Shocks

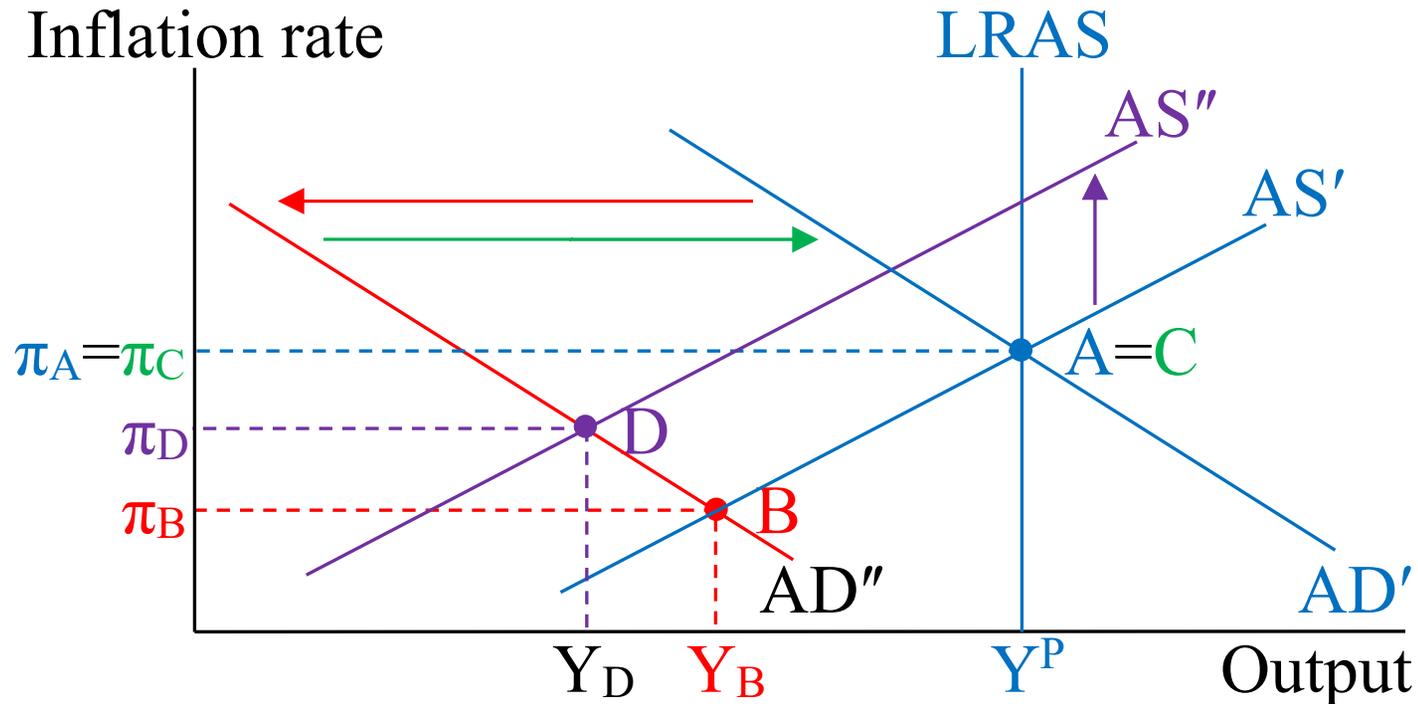
1. Suppose a positive aggregate demand shock shifts the AD curve to the right. [point B]



- a. To stabilize output, the central bank tightens monetary policy, but lags in the policy process mean it will take time for the AD curve to shift back to the left. [point A]

- b. If the central bank has credibility, expected inflation remains unchanged (AS curve does not shift), so output and inflation are higher in the short run. [point B]
- c. If the central bank does not have credibility, people believe the central bank might accept higher inflation, so they raise their expected inflation (AS curve shifts up), which further increases inflation. [point C]
- d. Thus, central bank credibility helps stabilize inflation after a positive aggregate demand shock.

2. Suppose a negative aggregate demand shock shifts the AD curve to the left. [point B].

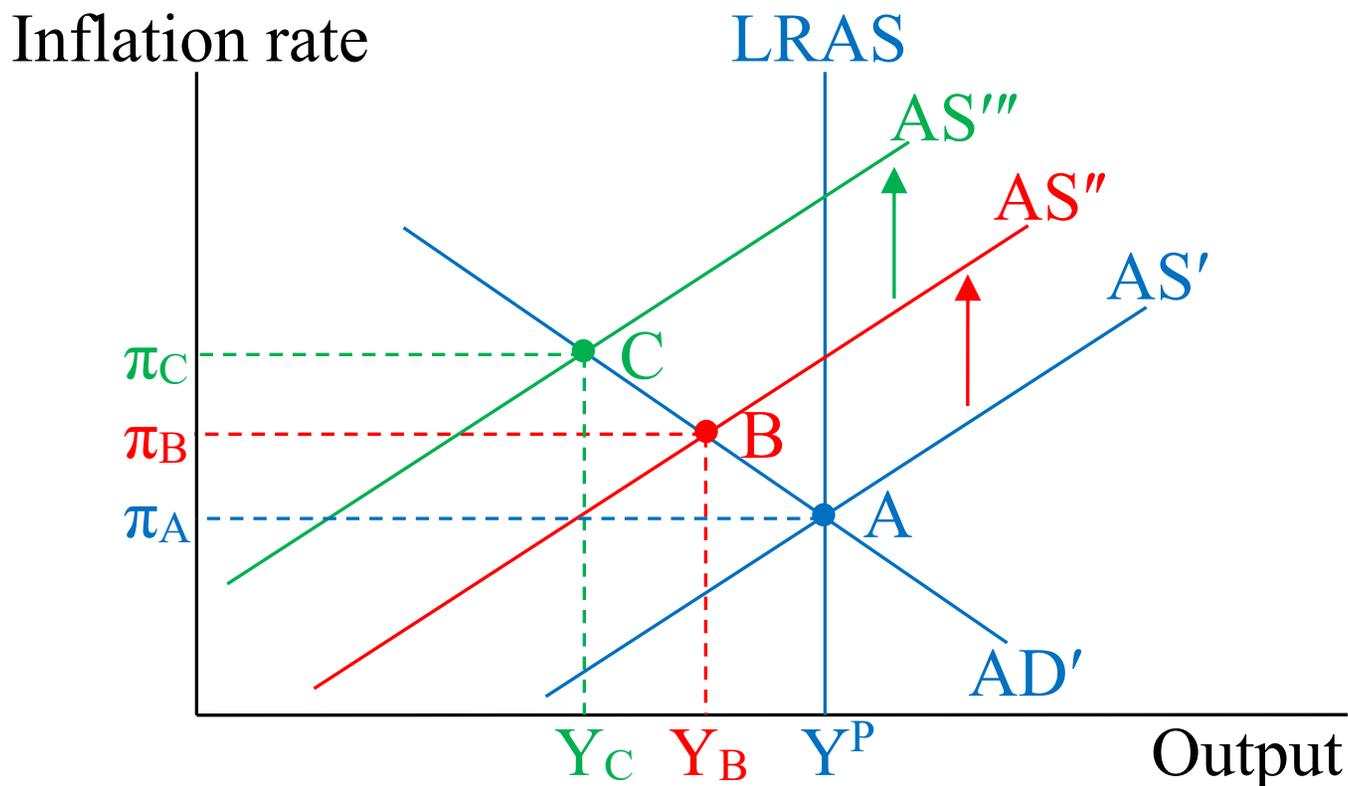


- a. To stabilize output, the central bank will ease monetary policy, which will shift the AD curve to the right over time. [point A]

- b. If the central bank has credibility, expected inflation remains unchanged (AS curve does not shift), so output and inflation fall in the short run [point B], but return to their original levels in the long run. [point C]
- c. If the central bank does not have credibility, people may view the monetary easing as inflationary, so they raise inflation expectations rise in the short run (AS curve shifts up), which moderates the decline in inflation but causes output to fall further. [point D]
- d. Thus, central bank credibility helps to stabilize output in the short run after a negative aggregate demand shock.

## E. Credibility and Aggregate Supply Shocks

1. Suppose a negative aggregate supply shock shifts the AS curve up.



- a. If the central bank has credibility, expected inflation remains unchanged (AS curve shifts up to **point B**), so the rise in inflation and the drop in output are moderate.

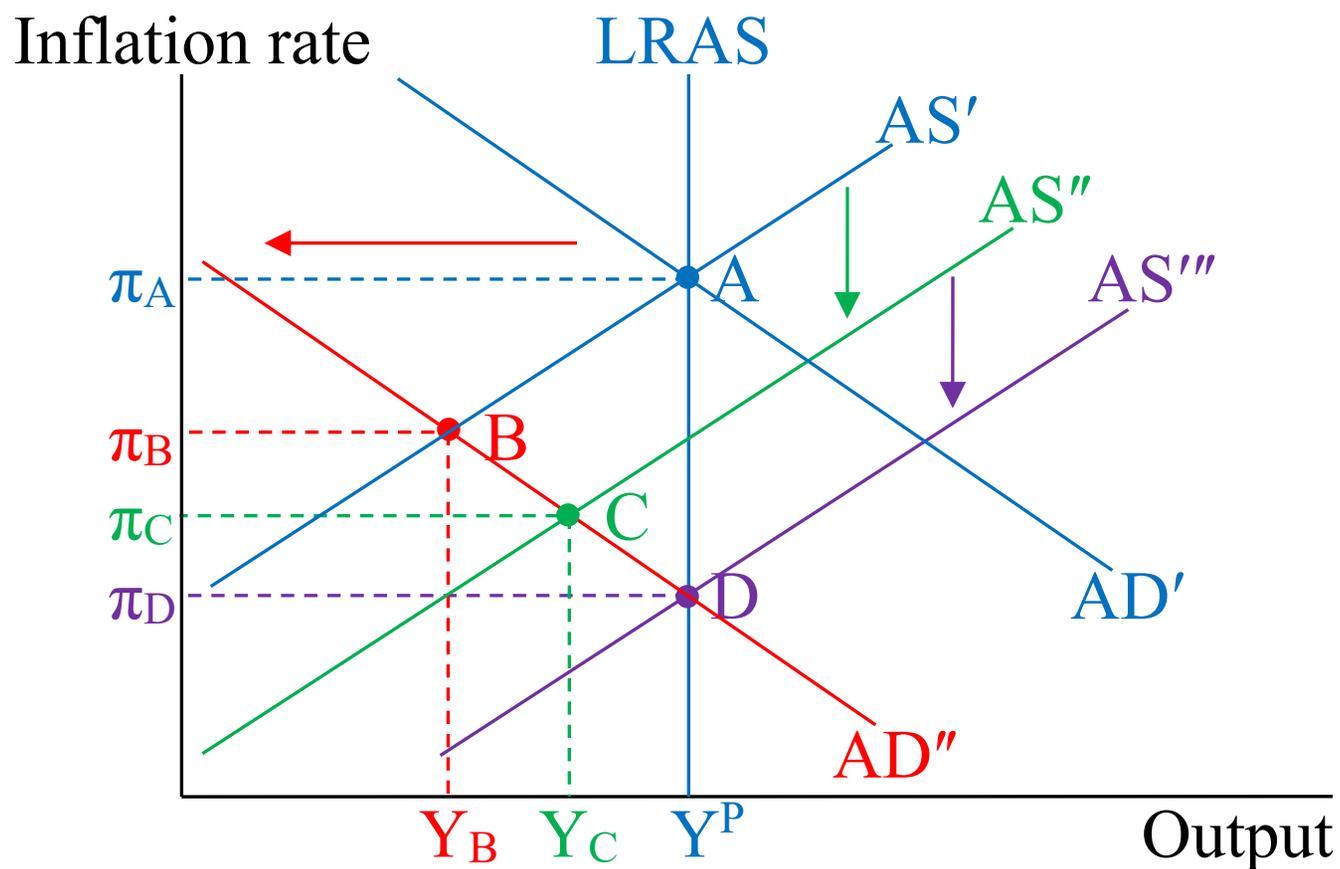
- b. If the central bank does not have credibility, people raise their inflation expectations (AS curve shifts up to **point C**), which further reduces output and enhances the increase in inflation.
- c. Thus, central bank credibility helps stabilize output and inflation after a negative aggregate supply shock.

## 2. Examples of aggregate supply shocks in the U.S.

- a. The large rise in inflation and large decline in output after the 1973 and 1979 oil price shocks are examples of how the economy responds to an AS curve shock when the central bank has little credibility.
- b. The smaller increase in inflation and the smaller decline in output after the 2007 oil price shock is an example of how the economy responds to an AS curve shock when the central bank has credibility.

## F. Credibility and Disinflation

1. Suppose the central bank announces and implements its plan to lower the inflation rate by tightening policy, which shifts the AD curve to the left. [point B]



- a. If the central bank has little credibility, people will not change their inflation expectations (AS curve does not move), so output falls by a sizable amount. [point B]
- b. If the central bank has credibility, people will reduce their inflation expectations as policy is tightened (AS curve shifts down), which limits the decline in output. [point C]
- c. In the extreme case where the central bank has perfect credibility, inflation expectations will fall one-for-one with the decline in inflation, so that output remains unchanged. [point D]

## G. Nominal GDP as a Nominal Anchor

1. Nominal GDP targeting involves the central bank setting a nominal GDP growth target as its policy objective. [Note:  $\text{Nominal GDP growth rate} = \text{Real GDP growth rate} + \text{Inflation rate}$  as measured by the GDP price deflator.]
2. Advantages of nominal GDP targeting
  - a. It focuses simultaneously on controlling inflation and stabilizing output.
  - b. Expansionary monetary policy automatically occurs whenever GDP or inflation falls below its objective.
3. Disadvantages of nominal GDP targeting
  - a. Nominal GDP targeting requires an accurate estimate of the potential GDP growth rate; otherwise, inflation will fail to meet its objective.
  - b. This policy rule is complicated to explain to the public.