

CHAPTER

34

Inflation, Deflation, and Macro Policy

Chapter Goals

- Know the difference between goods inflation and asset inflation.
- List and discuss the costs and benefits of inflation.
- Summarize the inflation process and the quantity theory of money.
- Define the Phillips curve relationship between inflation and unemployment.

Defining and Measuring Inflation

Inflation is a continuous rise in the price level and is measured with price indexes.

There are two types of inflation:

- Goods price inflation
- Asset price inflation

Asset prices and goods prices don't always move in tandem because there are periods of asset price bubbles.

Defining and Measuring Inflation

Asset price inflation occurs when the prices of assets rise more than their “real” value.

Assets include: gold, houses, artwork, collectibles, land, stocks, bonds and many other items that people hold as a store of wealth.

There is no measure of asset price inflation since it's difficult to know when the real value of assets increase.

Does Asset Inflation Matter?

- The ratio of nominal wealth to nominal GDP can serve as a rough estimate whether asset price inflation exceeds goods price inflation.
- Asset price inflation can lead to serious misallocation of resources from conservative to risky investments.
- Asset deflation reverses many of the positive effects of asset inflation.
- The pain caused by the asset price deflation exceeds the pleasure caused by the asset price inflation.

The Distributional Costs of Inflation

Unexpected inflation redistributes income from lenders to borrowers.

- If lenders charge a nominal rate of 5% and expect inflation to be 2%, the expected real rate is 3%.
- If inflation is actually 4%, the real rate is only 1%.

People who do not expect inflation or who are tied to fixed nominal contracts will likely lose in an inflationary period.

The Distributional Costs of Asset Price Inflation

People who bet on rising asset prices are helped and those did not are hurt.

Cautious borrowers are hurt because they see the asset prices as being too high, and choose not to borrow.

Less cautious borrowers are helped because they borrow at low interest rates and receive high returns when their assets increase in value.

The Benefits of (Low) Inflation

Inflation can facilitate relative price changes.

Allowing more expansionary monetary policy.

Zero interest rate lower bound – a limit on how much interest rates can fall.

Inflation as a placebo – inflation pushes up the value of assets which encourages people to invest.

The Danger of Accelerating Inflation

Asset price inflation redistributes wealth from cautious individuals to less cautious individuals.

Goods price inflation redistributes income, and reduces the amount of information prices are supposed to convey.

Inflation is a very serious problem if it increases to **hyperinflation**, when inflation hits triple digits, 100 percent or more a year.

Hyperinflation breaks down confidence in the monetary system, the economy, and the government.

The Inflation Process and The Quantity Theory of Money

Expectations play a key role in the inflationary process.

Rational expectations are the expectations that the economists' models predict.

Adaptive expectations are expectations based in some way on the past.

Extrapolative expectations are expectations that a trend will continue.

Productivity, Inflation, and Wages

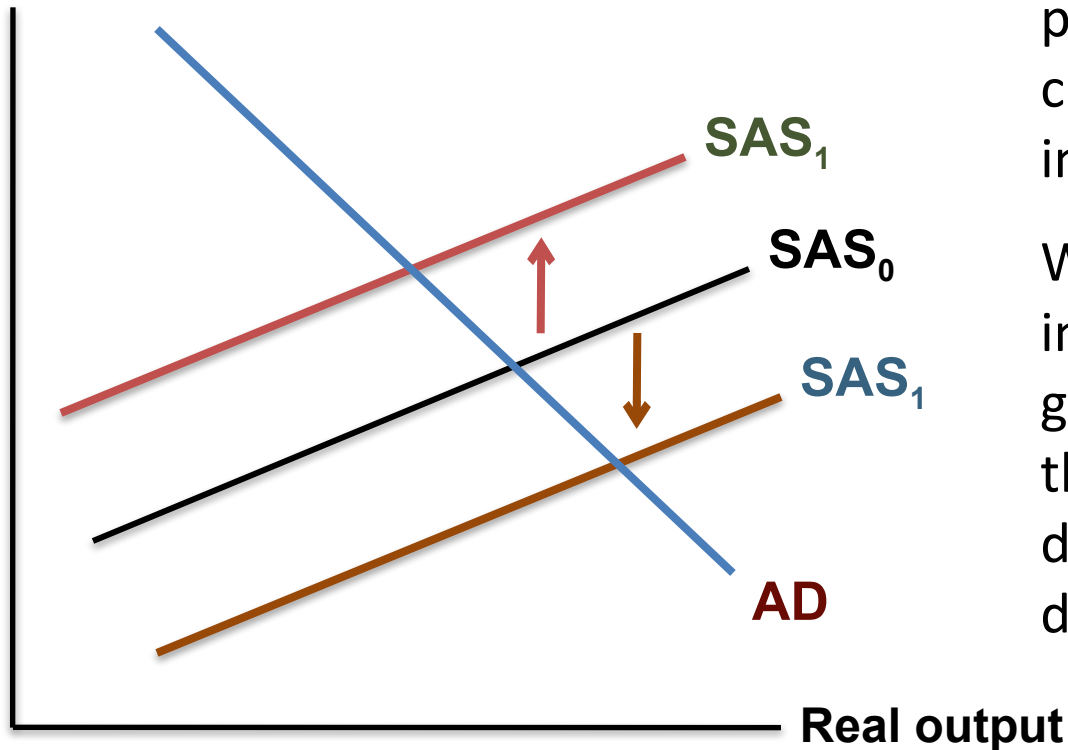
Changes in productivity and changes in wages determine whether inflation may be coming.

There will be no inflationary pressures if wages and productivity increase at the same rate.

**Inflation = Nominal wage increases –
Productivity growth**

Nominal Wages, Productivity, and Inflation

Price level



When nominal wages increase by more than the growth of productivity, the SAS curve shifts up, resulting in inflation.

When nominal wages increase by less than the growth of productivity, the *SAS curve shifts* down, resulting in deflation.

The Quantity Theory of Money and Inflation

The **quantity theory** emphasizes the connection between money and inflation.

The **equation of exchange** is: **$MV = PQ$**

M = Quantity of money

Q = Real output

V = Velocity of money

P = Price level

Velocity of money is the number of times per year, on average, a dollar gets spent on goods and services.

$$\text{Velocity} = \frac{\text{Nominal GDP}}{\text{Money Supply}}$$

Three Assumptions of Quantity Theory

1. Velocity is constant.
2. Real output (Q) is independent of money supply.
 - Q is autonomous, determined by forces outside those in the quantity theory.
3. Causation goes from money to prices.
 - The quantity theory says that the price level varies in response to changes in the quantity of money.
 - $\% \Delta M \longrightarrow \% \Delta P$
 - $MV \longrightarrow PQ$

The Declining Influence of the Quantity Theory

Velocity is not constant: Since 2008 velocity has decreased enormously.

Breakdown in the connection between money and inflation: In 2008, the money supply fell significantly, but goods inflation hardly fell at all.

Even though the quantity theory is no longer directly applicable, its general point remains relevant.

Inflation and the Phillips Curve Trade-Off

The **short-run Phillips curve** is a downward-sloping curve showing the relationship between inflation and unemployment when expectations of inflation are constant.

In the 1970s, there was **stagflation**, the combination of high and accelerating inflation and high unemployment.

The Long-Run and Short-Run Phillips Curves

Actual inflation depends both on supply and demand forces and on how much inflation people expect.

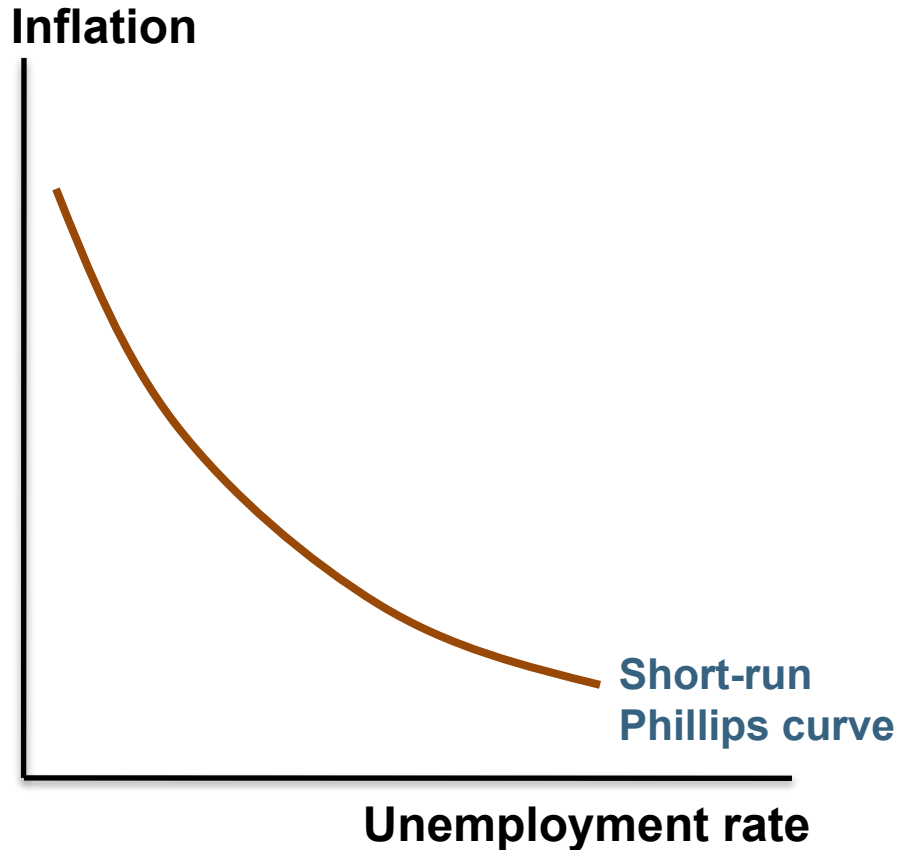
At all points on the **short-run Phillips curve**, expectations of inflation (the rise in the price level that the average person expects) are fixed.

At all points on the **long-run Phillips curve**, expectations of inflation are equal to actual inflation.

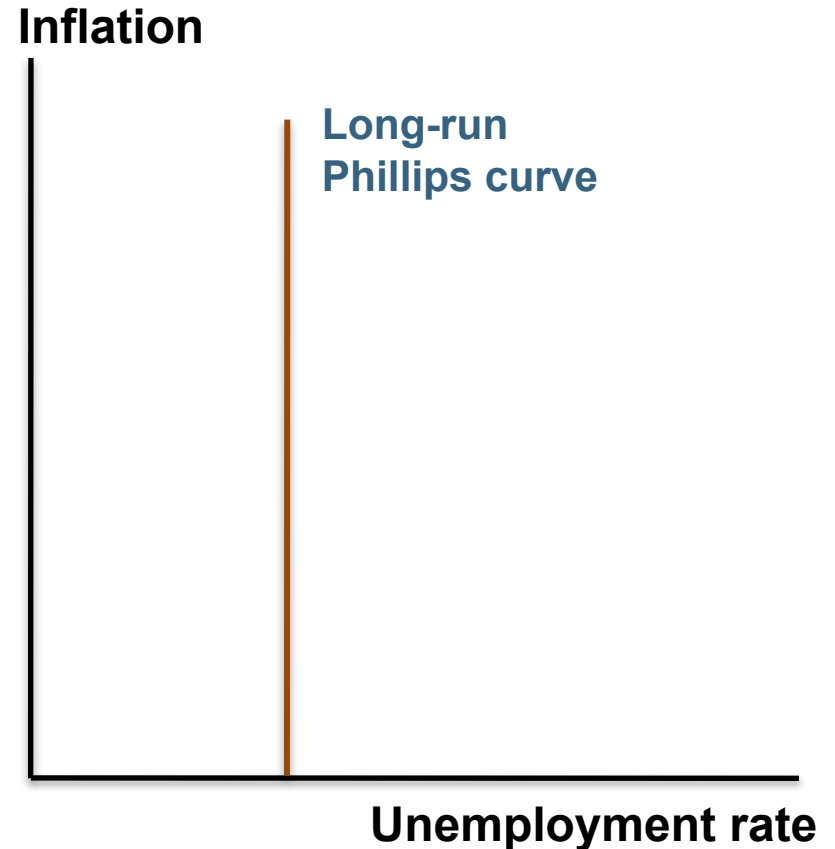
The ***long-run Phillips curve*** is a vertical curve at the unemployment rate consistent with potential output.

The Phillips Curve Trade-Off

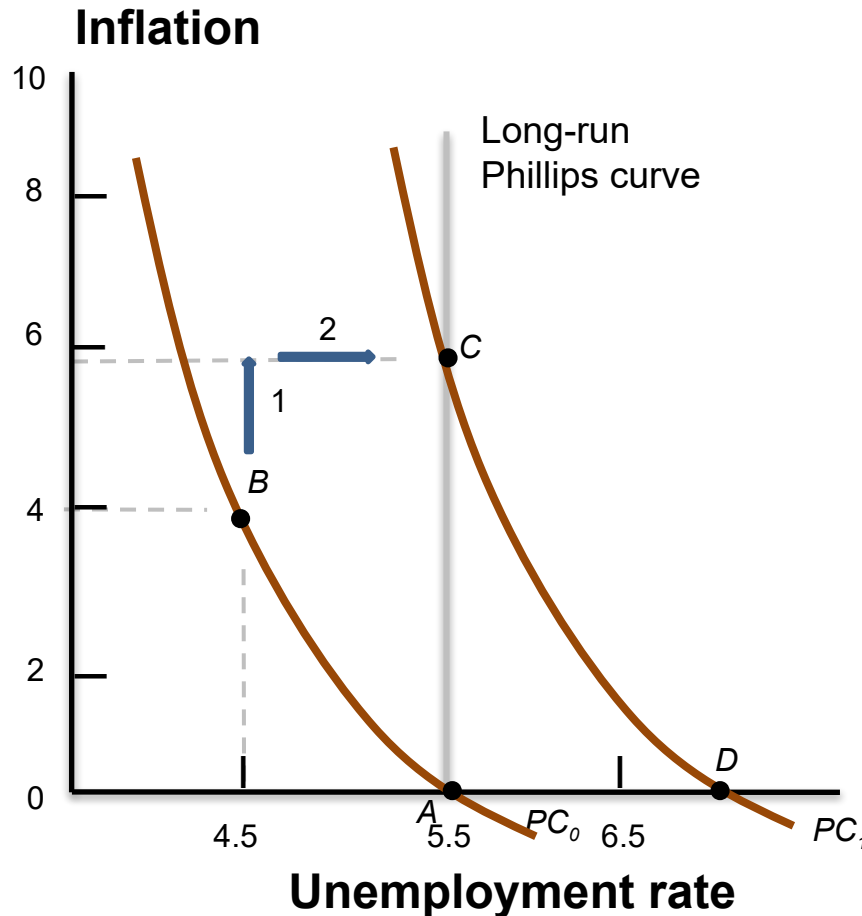
In the short-run Phillips curve, there is a trade-off between inflation and unemployment.



In the long-run Phillips curve, there is no trade-off; curve is vertical.



Moving Off the Long-Run Phillips Curve



Economy is initially at point A when the government runs expansionary policy to reduce unemployment below 5.5 percent.

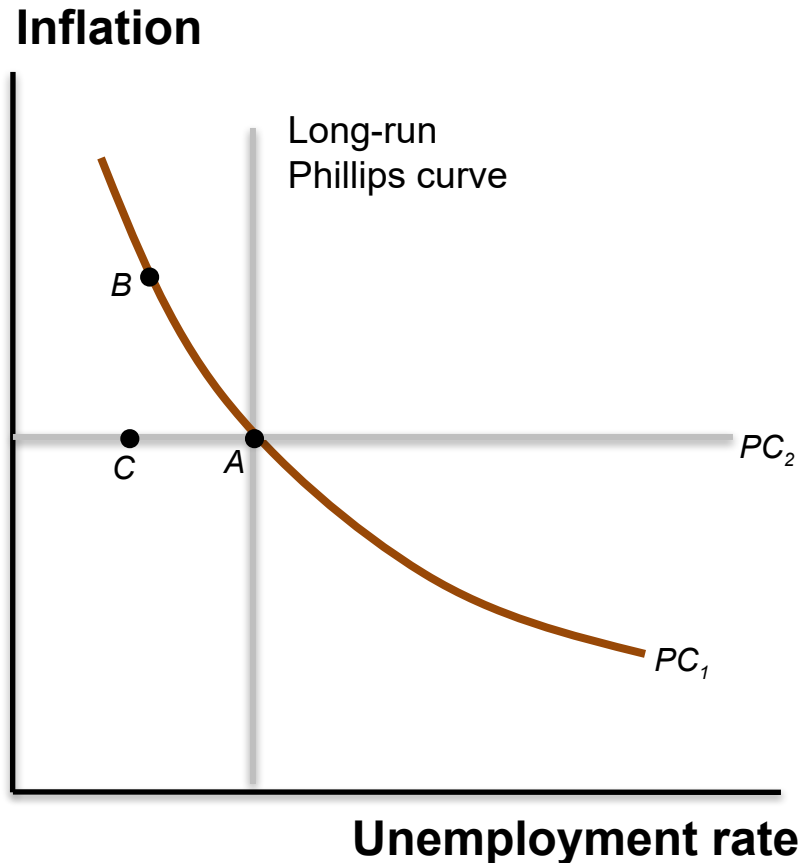
Economy moves from point A to point B.

Expectations of inflation increase, and the short-run Phillips curve begins shifting up (arrow 1).

Upward pressure will stop only when rate of unemployment moves back to target rate (arrow 2).

Economy returns to equilibrium at point C.

Global Competition and the Phillips Curve



When the world price level is below the domestic price level, inflation is held down by globalization.

A decline in the unemployment rate will not lead to inflation.

The standard short-run Phillips curve (PC_1) changes to a flat short-run Phillips curve (PC_2).

Chapter Summary (1 of 3)

At one time, inflation was measured as an increase in the money supply.

Inflation can occur for both goods and assets.

The standard goods market price indexes for judging policies are limited as they do not include the prices of assets.

The winners in inflation are people who can raise their wages or prices and still keep their jobs or sell their goods.

The losers in inflation are people who can't raise their wages or prices.

Chapter Summary (2 of 3)

Asset inflation hurts people who save with safe assets and helps those who save in risky assets.

Inflation has both costs and benefits. Conventional monetary policy emphasizes informational, institutional and distributional costs.

Inflation equals nominal wage increases minus productivity growth.

Expectations of inflation can accelerate inflation and in some cases lead to hyperinflation.

Chapter Summary (3 of 3)

According to the quantity theory of money, policy analysis about the real economy is based on the supply side of the economy.

The lack of a clear relationship between money growth and inflation undermines the quantity theory of money.

The short-run Phillips curve holds expectations constant; The long-run Phillips curve allows expectations of inflation to change; globalization can lead to a flat short-run Phillips curve.