UNBC

Money, Banking, and Financial Institutions

Chapter 7 : AD-AS and Policies Transmissions

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Learning Objectives

1. **Understand the concept of exchange rates and how they are determined in the foreign exchange market.

2. **Explain the different types of exchange rate regimes, including floating, fixed, and pegged regimes.

3. **Analyze the advantages and disadvantages of various exchange rate regimes for different economies.

4. **Understand how exchange rate fluctuations affect the competitiveness of a country's goods and services in the global market.

Introduction

▶ In 1936, **John Keynes** wrote *The General Theory of Employment, Interest, and Money*, a foundational book in macroeconomic analysis.

▶ However, the theory developed in this book is not formalized, which sometimes complicates its understanding. In *Mr. Keynes and the Classics*, **John Hicks** proposed a modeling of the key ideas from Keynes' book: the IS-LM model.

▶ The novelty of this model lies in its attempt to account for general equilibrium effects: considering the interactions between the goods market, the money market, and **international trade**.

The Goods Market (IS)

The IS (Investment-Saving) curve reflects a central mechanism of Keynes' thought:

▶ An increase in demand leads to a rise in production: in the 1930s (under the classical model) this relationship was not conceivable because:
Increase in demand ⟹ Increase in prices

▶ In the context of the 1929 crisis, this was a revolutionary idea. An increase in the interest rate r reduces firms' desire to invest. This leads to a decrease in the expected demand $C + I + G + X - M$ and ultimately induces a reduction in output Y.

▶ According to classical theory, a decrease in demand does not necessarily result in a reduction in firms' production but rather an adjustment through a decrease in prices.
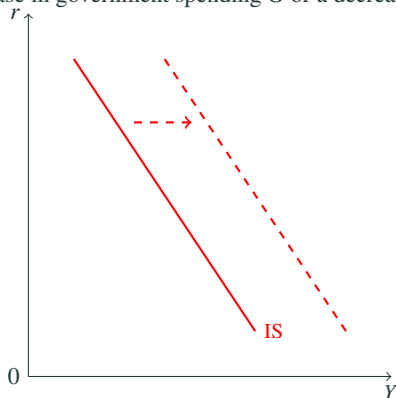
The IS curve represents a decreasing relationship between the interest rate r and output Y: an increase in the interest rate r reduces investment I and therefore demand, leading to a decrease in output Y.
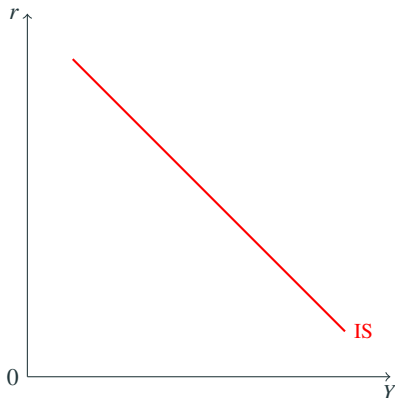
▶ Effects of an increase in government spending G or a decrease in taxes T:

▶ In fact, the demand equation is written as:

$$Y = C + I + G + X - M$$

The LM Money Market

The LM (Liquidity Money) curve refers to monetary liquidity.

▶ The curve represents all combinations of interest rates and national income that balance the money market, i.e., where money demand equals money supply.

▶ The money supply is exogenous and determined by the central bank. However, money demand is an increasing function of income Y:
Higher income $\implies$ More (+) consumption and more (+) demand for money.

▶ Money demand is also a decreasing function of the interest rate because holding money has an opportunity cost (the interest rate r).
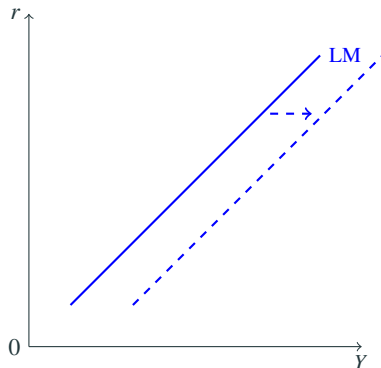
The **LM** curve is a positive relationship between the level of output Y and the interest rate r: an increase in Y leads to an increase in money demand. With a fixed money supply, the price of money (the interest rate r) increases.
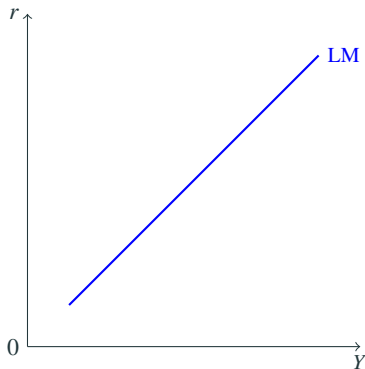
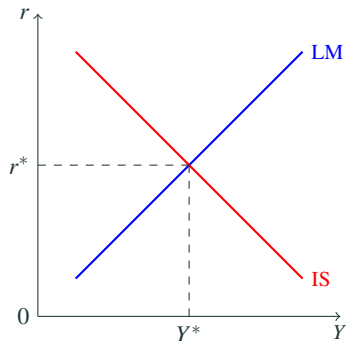► Effect of an increase in the money supply (monetary base)

► When the money supply increases ($\uparrow M_0$), the price of money (the interest rate) decreases. This is true at any level of output.

- • Thus, the LM curve shifts to the right.
- • Conversely, $\downarrow M_0 \Rightarrow$ shift of LM to the left.

The IS-LM Model

► The IS-LM model is the combination of the IS and LM curves.

► The IS-LM model is used to understand the effects of economic policies on GDP:

- Fiscal or budgetary policies: changes in tax levels or government spending.
- Monetary policies: changes in the money supply by the central bank.

Fiscal and Monetary Policies Effects

Fiscal Policy

▶ An increase in government spending G

- Does it affect IS?

Fiscal Policy

► An increase in government spending G

- Does it affect IS? **YES** through $Y = c(Y - T) + I + G$
- Does it affect LM?

Fiscal Policy

▶ An increase in government spending G

- Does it affect IS? **YES** through $Y = c(Y - T) + I + G$
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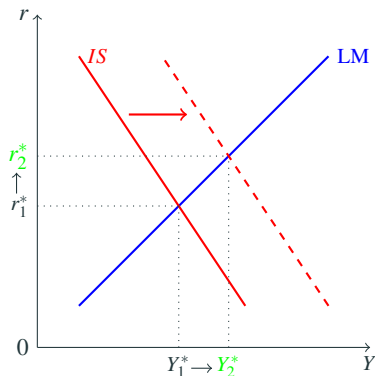- Expansionary?

Fiscal Policy

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- Does it affect IS? **YES** through $Y = c(Y - T) + I + G$
- Does it affect LM? No, because there is no effect on the money market.
- Expansionary? **YES**, because it increases demand.
- Contractionary?

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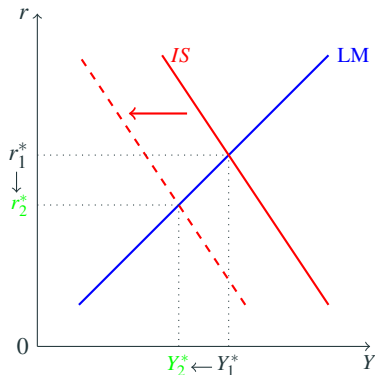- Expansionary?

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▶ An increase in taxes T

- Does it affect IS? **YES**, through $Y = c(Y - T) + I + G$
- Does it affect LM? No, because there is no effect on the money market.
- Expansionary? No
- Contractionary? **YES**, because it reduces demand.

Monetary Policy

► An increase in the money supply M_0

▶ An increase in the money supply M_0

- Does it affect IS? No, because it does not enter into $Y = c(Y - T) + I + G$
- Does it affect LM? **YES**, because it affects the money market.
- Contractionary? No
- Expansionary? **YES**, because it increases demand (more liquidity available for consumption and investment).
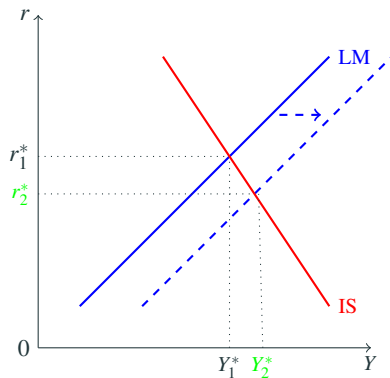
Monetary Policy

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Suppose the government adopts an expansionary combination of monetary and fiscal policies aimed at achieving full employment in the economy: "policy mix"
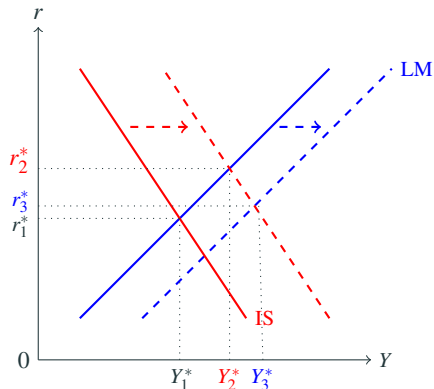
Policies in an Open Economy

Fiscal Policy in an Open Economy

► We focus here on economies with a flexible exchange rate regime: the real or nominal exchange rate e, exports X, and imports M adjust when the economy is affected by shocks or economic policies.

► Y is **"stabilized"** automatically by exchange rate fluctuations:

- Increases in Y are contained by appreciation: $\uparrow e => \downarrow X - M$
- Decreases in Y are limited by depreciation: $\downarrow e => \uparrow X - M$

How?

Fiscal Policy in an Open Economy

► We focus here on economies with a flexible exchange rate regime: the real or nominal exchange rate e, exports X, and imports M adjust when the economy is affected by shocks or economic policies.

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How?

► Following an expansionary fiscal policy, for example, the IS curve shifts to the right, Y increases and the interest rate r increases. A higher r encourages capital inflows, leading to an appreciation of the currency e, which reduces $X - M$, and thus decreases Y.

► Ultimately, fiscal policy is less effective (the increase in Y is smaller) due to exchange rate adjustments.

▶ Following an expansionary monetary policy, the LM curve shifts to the right, Y increases and the interest rate r decreases.

- A lower interest rate r encourages capital outflows.
- Capital outflows decrease demand for the currency and increase supply.
- Increased supply coupled with decreased demand leads to a depreciation of the currency e.
- When the currency depreciates, exports increase and imports decrease.
- Thus, $X - M$ decreases, and consequently, $C + I + G + X - M$, i.e., Y increases as well.

▶ Ultimately, monetary policy is more effective (the increase in Y is higher) due to exchange rate adjustments.