Introduction to macroeconomics

Chapter One

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Microeconomics & Macroeconomics

- **Microeconomics**: is the study of how individual, household and firms make decision and how they interact with one another in markets.

- **Macroeconomics**: the study of economy wide phenomena, including inflation, unemployment, and economic growth.

Importance of Macroeconomics

- It explains the working of the economy as a whole.
- It examines the aggregate behavior of macroeconomics entities like firms, households and the government.
- It is very useful to the planner for preparing economic plans for the country's development.
- It is helpful in international comparison.

Importance of Macroeconomics

- Its knowledge is indispensable for the policymakers for formulating macroeconomic policies such as; monetary policy, fiscal policy, income policy, etc.
- It explains economic dynamism and intricate interrelationship among macroeconomic variable such as price level, income, output and employment.

Scope of Macroeconomics

- Macroeconomics studies the concept of national income, its methods and measurement.
- Macroeconomics studies the problems related to employment and unemployment.
- Macroeconomics studies functions of money and theories relating to it. Banks and other financial institutions are also a part of its study.

Scope of Macroeconomics

- Study of problems relating to economic growth or increase in per capita real income forms part of macroeconomics.
- Macroeconomics also studies trade among different countries. Theory of international trade, tariff, protection etc. are subjects of great significance to macroeconomics.

Some Economic concepts

- Economic theory: It consists of economic rules and principles in making decisions under certain conditions
- Economic policies: are actions taken by government to influence economic actions.
- Economic Model: A set of economic relationships that are usually developed in mathematical formulas

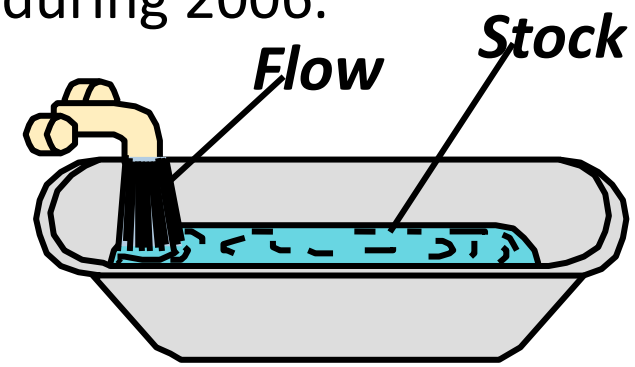
Some Economic concepts

- Stocks vs. Flows:
- A **stock** is a quantity measured at a point in time.

E.g.,
"The U.S. capital stock was $26 trillion on January 1, 2006."

- A **flow** is a quantity measured per unit of time.

E.g., "U.S. investment was $2.5 trillion during 2006."



Some Economic concepts

- **Interest rate:** is the price the borrowers must pay to lenders obtain the use of money for a period of time.
- **nominal interest rate:** the interest rate as usually reported without a correction for the effects of inflation.
- **real interest rate:** the interest rate corrected for the effects of inflation.

Some Economic concepts

- Nominal Exchange Rates:
- The nominal exchange rate is the rate at which a person can trade the currency of one country for the currency of another.
- The nominal exchange rate is expressed in two ways:
  - In units of foreign currency per one U.S. dollar.
  - And in units of U.S. dollars per one unit of the foreign currency.

Some Economic concepts

- Assume the exchange rate between the Japanese yen and U.S. dollar is 80 yen to one dollar.
  - One U.S. dollar trades for eighty yen.
  - One yen trades for 1/80 (=0.0125) of a dollar.

- If a dollar buys more foreign currency, there is an appreciation of the dollar.
- If it buys less there is a depreciation of the dollar.

Some Economic concepts

- National Income :

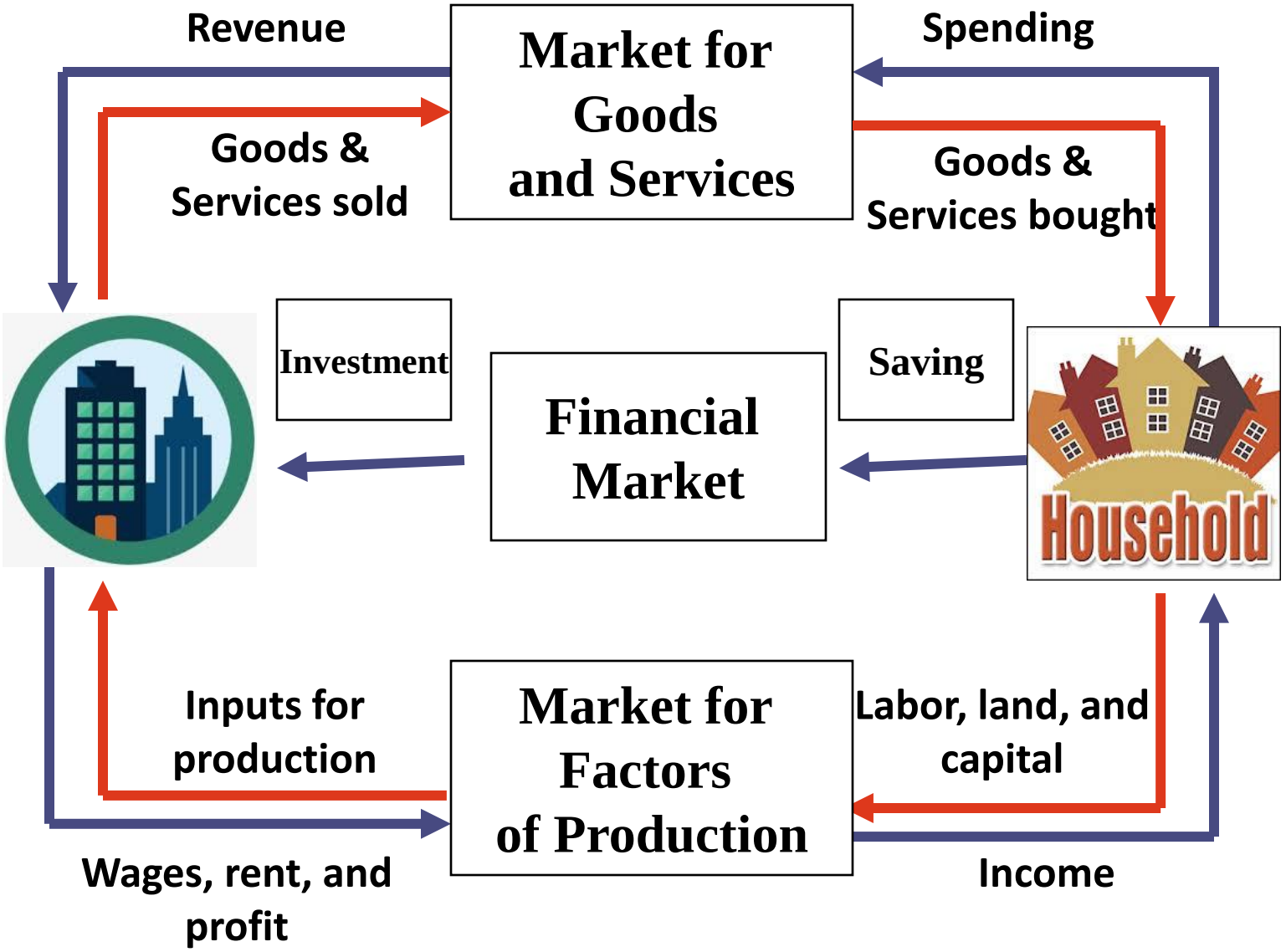
National income is defined as the money value of all the final goods and services produced in an economy during an accounting period of time, generally one year.

E.g., Accounting Year =1st April – 31st March

Circular Flow of Income

- Firms:
- Produce and supply the goods and services.
- Require various factors of production to produce these goods and services.
- Households:
- Include a set of individuals living in the same house.
- Take joint decision about the consumption of goods and services.
- Provide services in the terms of factor inputs to the firms.
- Get paid for these services by firms which households spend on consumption.
- Money flows from firms to households as factor payments and from households to firms as expenditure on goods and services.

Circular Flow of Production



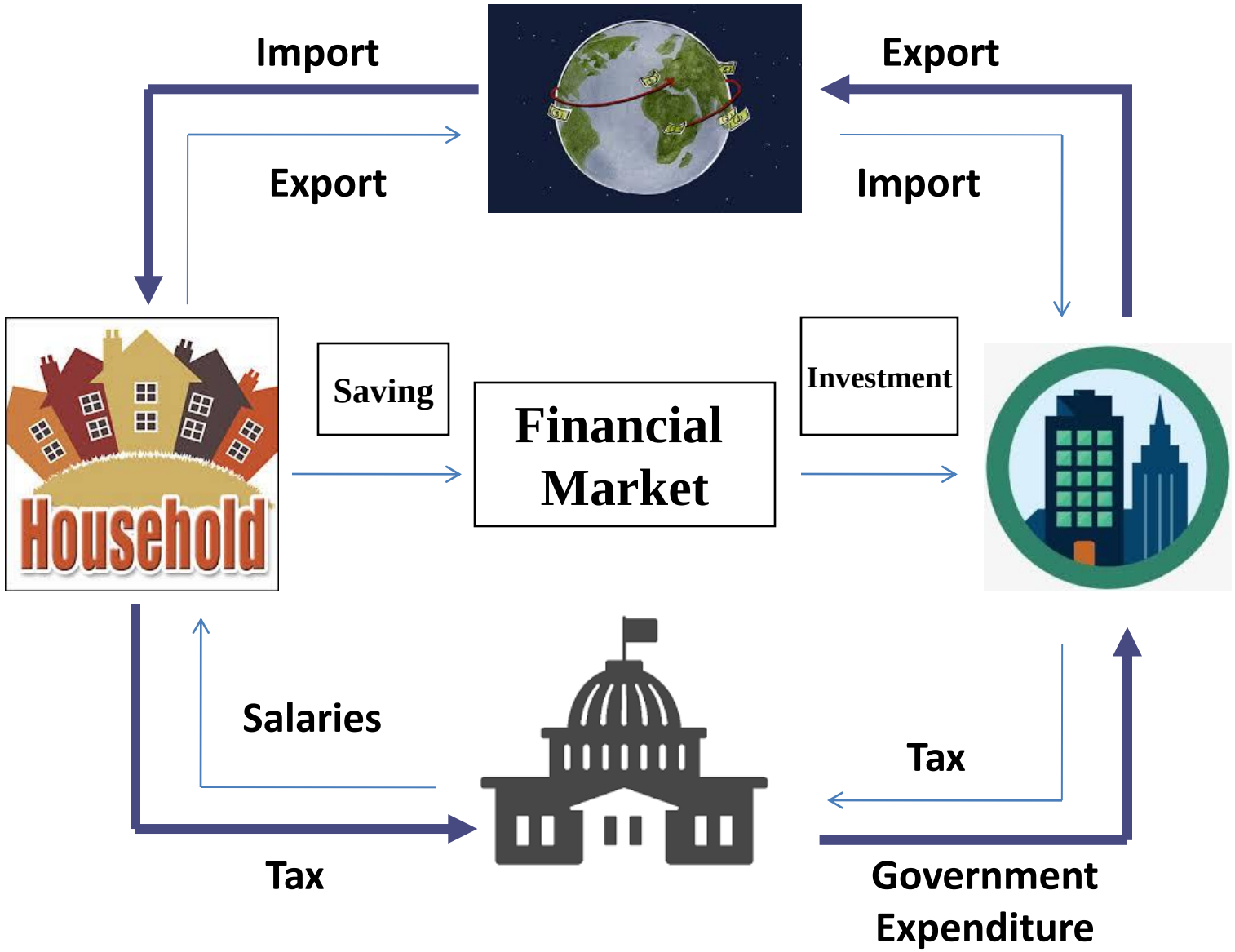
Circular Flow of Income

- Government (G):
- Government Spending:
- Provides salaries to the households.
- Pays to firms for purchases of goods and services.
- Government Revenue:
- Households and firms pay various taxes and other payments and provide factor inputs to the government.
- Government borrows from the financial market to fill revenue gab.

Circular Flow of Income

- External sector:
- Imports (M): Outflow of income occurs when the domestic firms buy goods and services from foreign ones.
- Exports (E): Inflow of income takes place when foreign firms buy goods and services from domestic ones.

Circular Flow of Income



Model of Aggregate Demand and Aggregate Supply

- the model that most economists use to explain short-run fluctuations in economic activity around its long-run trend.
- According to this model, the price level and the quantity of output adjust to bring aggregate demand and aggregate supply into balance.

Aggregate Demand & Aggregate Supply

- Aggregate Demand:
- In economics aggregate demand is the total demand for final goods and services in the economy at a given time and price level.
- Aggregate demand is the gross domestic product of a country when inventory levels are static.

Aggregate Demand

- The sum of all expenditure in the economy over a period of time.
- Macro concept – WHOLE economy
- Formula:

$$AD=C+I+G+(X-M)$$

  - C=Consumption Spending
  - I=Investment Spending
  - G=Government Spending
  - (X-M)=difference between spending on imports and receipts from export (Balance of Payment)

Aggregate Demand-Key Variables

- Consumption Expenditure
- Investment Expenditure
- Government Expenditure
- Import Spending
- Export Earning

Consumption Expenditure

- Exogenous factors affecting consumption:
- Tax rates
- Income-short term and expected income over lifetime
- Wage increases
- Credit
- Interest rates
- Wealth
  - Property
  - Shares
  - Saving
  - Bonds

Investment Expenditure

- Spending on:
  - Machinery
  - Equipment
  - Buildings
  - Infrastructure
- Influenced by:
  - Expected rates of return
  - Interest rates
  - Expectations of future sales
  - Expectations of future inflation rates

Government Spending

- Defense
- Health
- Social Welfare
- Education
- Foreign Aid
- Regions
- Industry
- Law and Order

Import Spending (negative)

- Goods and services bought from abroad- represents an outflow of funds from the country (reduces AD)

Export Earnings (Positive)

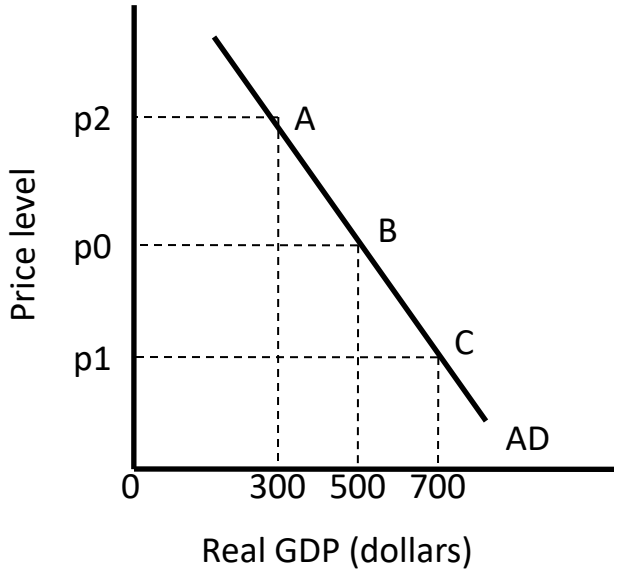
- Goods and services sold abroad- represents a flow of funds into the country (raises AD)

Aggregate Demand Curve

- A curve that shows the quantity of goods and services that households ,firms , the government, and customers abroad want to buy at each price level

Aggregate Demand Curve

- The aggregate demand (AD) curve: is a curve that shows the negative relationship between aggregate output (income) and the price level.



Aggregate Demand Curve

- Aggregate demand falls when the price level increases because the higher price level causes the demand for money to rise, which causes the interest rate to rise.
- It is the higher interest rate that causes aggregate output to fall.
- At all points along the AD curve, both the goods market and the monetary market are in equilibrium.

Why Does the Aggregate-Demand Curve Slope Downward?

- 1. The Wealth Effect: A lower price level increases real wealth, which stimulates spending on consumption.
- 2. The Interest-Rate Effect: A lower price level reduces the interest rate, which stimulates spending on investment.
- 3. The Exchange-Rate Effect: A lower price level causes the real exchange rate to depreciate, which stimulates spending on net exports.

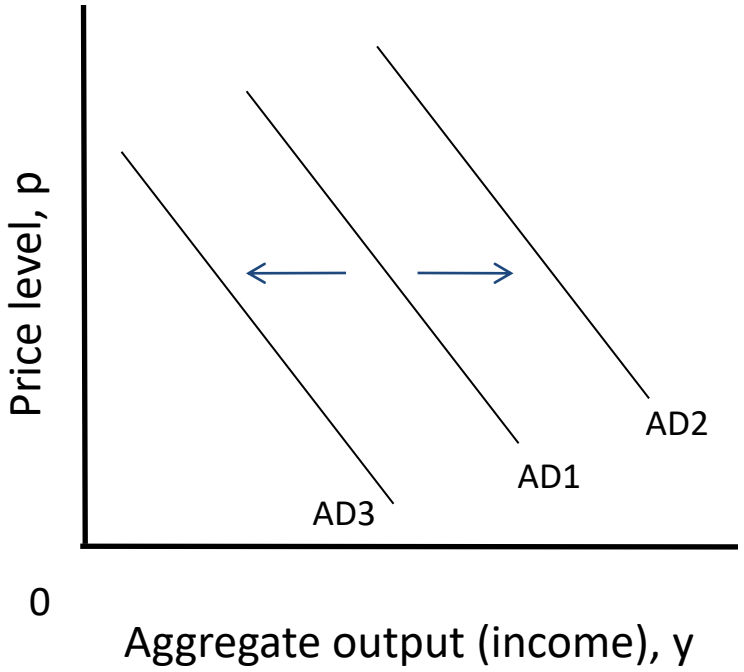
Why Might the Aggregate-Demand Curve Shift?

- 1. Shifts Arising from Changes in Consumption: An event that makes consumers spend more at a given price level, shifts the aggregate-demand curve to the right. An event that makes consumers spend less at a given price level, shifts the aggregate-demand curve to the left.
- 2. Shifts Arising from Changes in Investment: An event that makes firms invest more at a given price level, shifts the aggregate-demand curve to the right. An event that makes firms invest less at a given price level, shifts the aggregate-demand curve to the left.

Why Might the Aggregate-Demand Curve Shift?

- 3. Shifts Arising from Changes in Government Purchases: An increase in government purchases of goods and services, shifts the aggregate-demand curve to the right. A decrease in government purchases on goods and services, shifts the aggregate-demand curve to the left.
- 4. Shifts Arising from Changes in Net Exports: An event that raises spending on net exports at a given price level, shifts the aggregate-demand curve to the right. An event that reduces spending on net exports at a given price level, shifts the aggregate-demand curve to the left.

Shifts in AD



Aggregate Supply

- Aggregate supply is the total supply of goods and services in an economy.

Aggregate Supply Curve

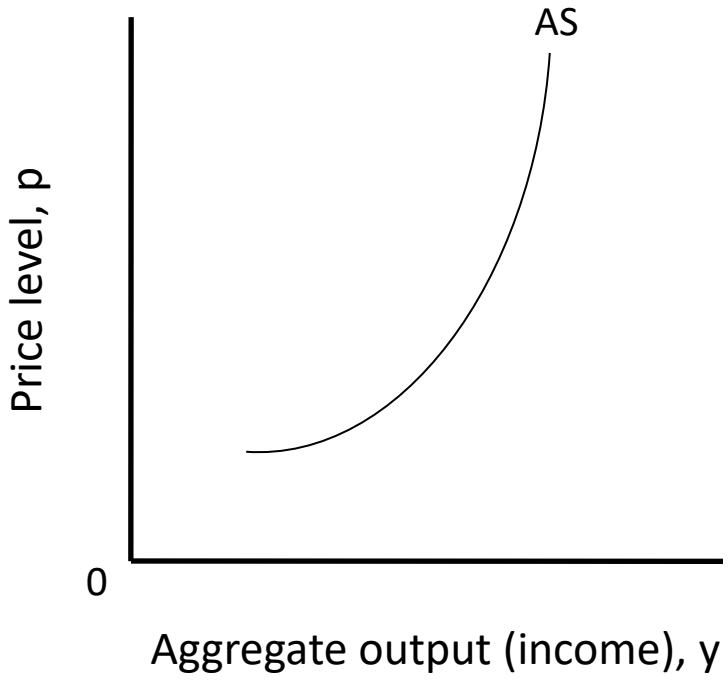
- A curve that shows the quantity of goods and services that firms choose to produce and sell at each price level

Aggregate Supply Curve

- Curve shows relation between aggregate quantity of output supplies by all the firms in an economy and overall price level.
- It is not a market supply curve, and it is not simple sum of all individual supply curves.

Aggregate Supply in The Short run

- In the short run, the aggregate supply curve (the price/output response curve) has a positive slope.



Why Does the Short-Run Aggregate-Supply Curve Slope Upward?

- 1. The Sticky-Wage Theory: An unexpectedly low price level raises the real wage, which causes firms to hire fewer workers and produce a smaller quantity of goods and services.
- 2. The Sticky-Price Theory: An unexpectedly low price level leaves some firms with higher than-desired prices, which depresses their sales and leads them to cut back production.
- 3. The Misperceptions Theory: An unexpectedly low price level leads some suppliers to think their relative prices have fallen, which induces a fall in production.

Why Might the Short-Run Aggregate-Supply Curve Shift?

1. Shifts Arising from Changes in Labor: An increase in the quantity of labor available (perhaps due to a fall in the natural rate of unemployment) shifts the aggregate-supply curve to the right. A decrease in the quantity of labor available (perhaps due to a rise in the natural rate of unemployment) shifts the aggregate-supply curve to the left.

2. Shifts Arising from Changes in Capital: An increase in physical or human capital shifts the aggregate-supply curve to the right. A decrease in physical or human capital shifts the aggregate supply curve to the left.

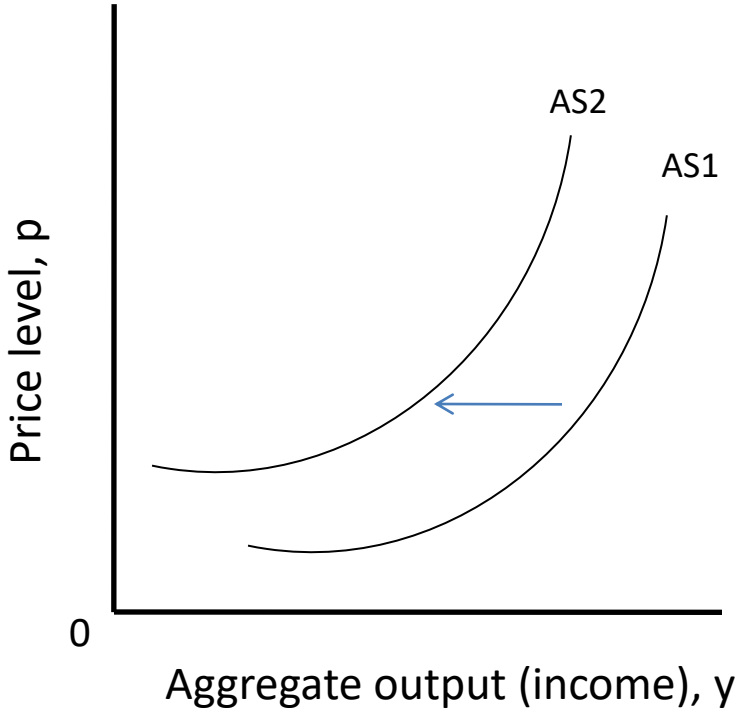
Why Might the Short-Run Aggregate-Supply Curve Shift?

3. Shifts Arising from Changes in Natural Resources: An increase in the availability of natural resources shifts the aggregate-supply curve to the right. A decrease in the availability of natural resources shifts the aggregate-supply curve to the left.

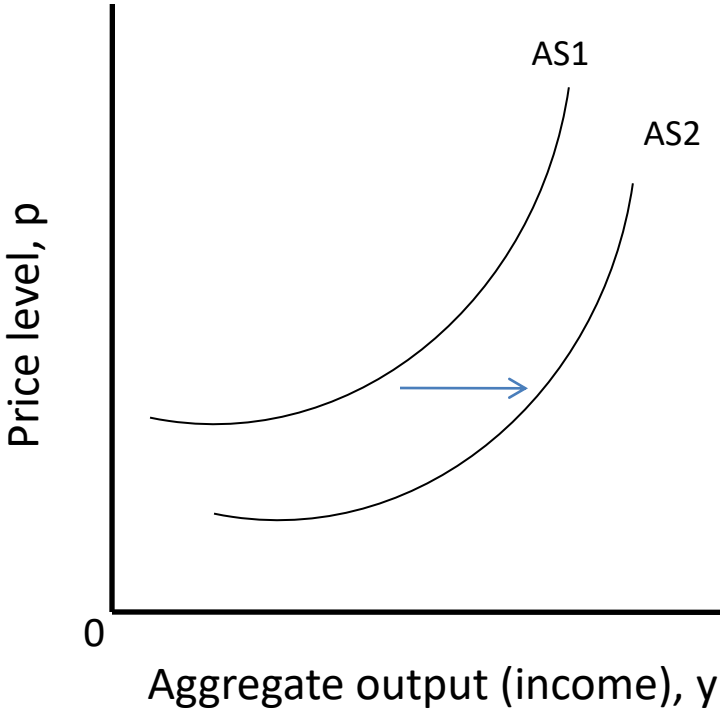
4. Shifts Arising from Changes in Technology: An advance in technological knowledge shifts the aggregate-supply curve to the right. A decrease in the available technology (perhaps due to government regulation) shifts the aggregate-supply curve to the left.

5. Shifts Arising from Changes in the Expected Price Level: A decrease in the expected price level shifts the short-run aggregate-supply curve to the right. An increase in the expected price level shifts the short-run aggregate-supply curve to the left.

Shifts of the Short-Run Aggregate Supply Curve



A decreases in aggregate supply

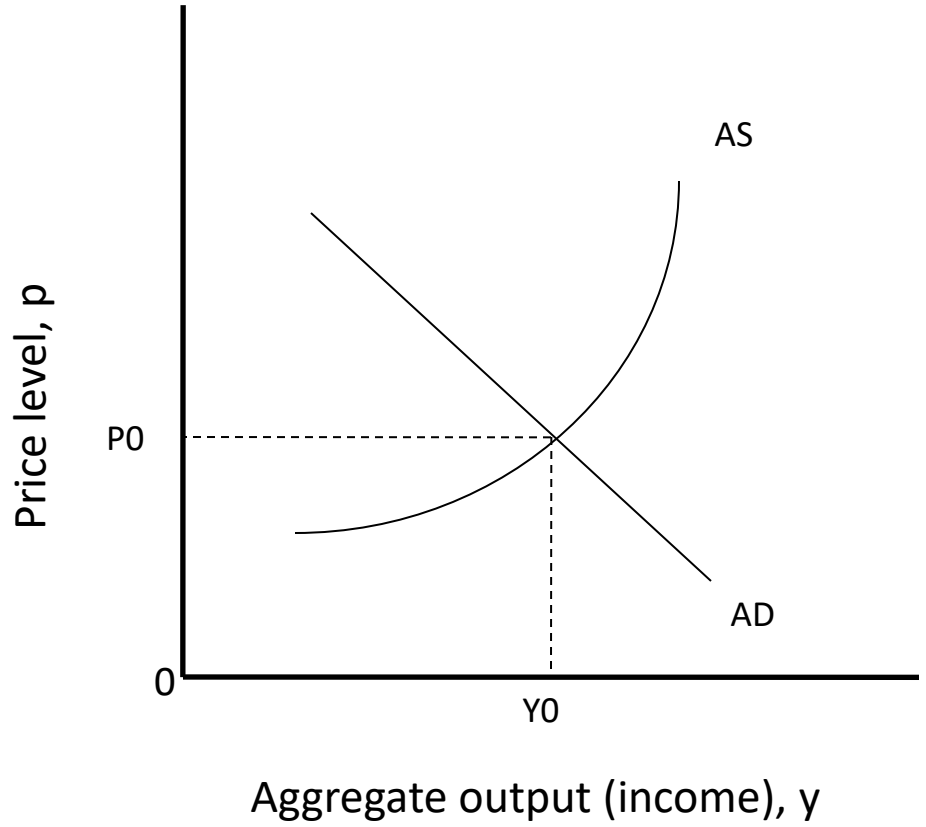


An increases in aggregate supply

The Equilibrium Price Level

- AD represents money and goods market in equilibrium.
- AS represents price/output decisions of all firms in economy.
- P0 and Y0 correspond to equilibrium in the goods market and the money market and a set of price/output decisions on the part of all the firms in the economy.

The Equilibrium Price Level

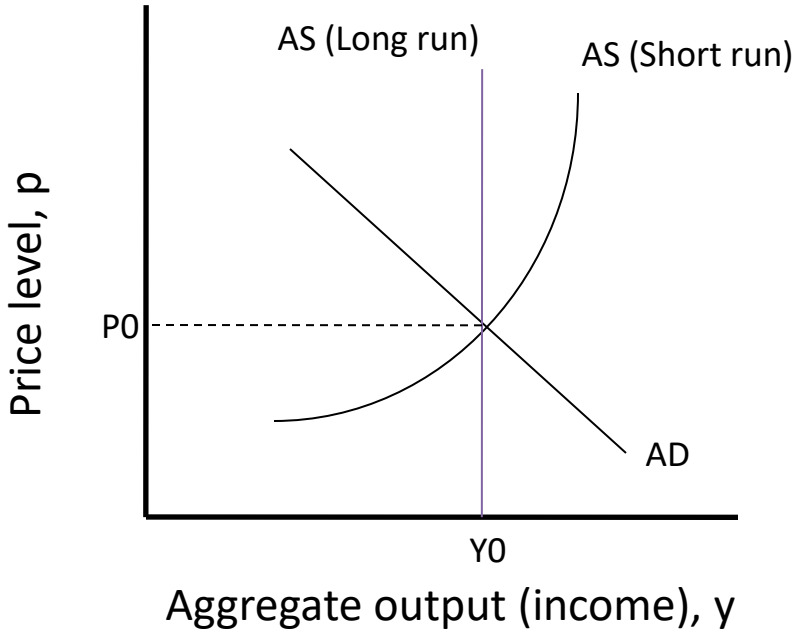


The Long-Run Aggregate-Supply Curve

- In the long run, the quantity of output supplied depends on the economy's quantities of labor, capital, and natural resources and on the technology for turning these inputs into output. Because the quantity supplied does not depend on the overall price level, the long-run aggregate-supply curve is vertical at the natural rate of output.
- natural rate of output
- the production of goods and services that an economy achieves in the long run when unemployment is at its normal rate.

The Long-Run Aggregate Supply Curve

- In the long run, an economy's production of goods and services (its real GDP) depends on its supplies of labor, capital, and natural resources and on the available technology used to turn these factors of production into goods and services.



- Durable goods: goods that last a relatively long time such as cars and household appliances.
- Nondurable goods: goods that are used up fairly quickly such as food and clothing.
- Services: things we buy that do not involve the production of physical things such as legal and medical services and education.
- Final goods and services: are goods and services produced for final use.
- Intermediate goods: are goods produced by one firm for use in further processing by another firm.