• Indivisibilities (e.g. combine harvester)
• container principle (capital equipment e.g. oil tankers-surface area vs. volume)
• greater efficiency of large machines
• by-products
• multi-stage production
• spreading overheads (e.g. investment in R&D)
• financial economies
• economies of scope (a range of products)

Production in the long run (cont.)

• diseconomies of scale
• external economies of scale
• external diseconomies of scale

Defining total, average and marginal revenue

• total revenue: \( TR = P \times Q \)
• average revenue: \( AR = TR / Q \)
• marginal revenue: \( MR = DTR / DQ \)

Revenue curves when the price varies with output

Stabilising Speculation:

Speculation will often have a stabilising effect on price fluctuations when suppliers and/or demanders believe that a change in price is only temporary.

Assume, for example, that there has recently been a rise in price, caused, say, by an increase in demand. In Figure 3.7(a) demand has shifted from \( D_1 \) to \( D_2 \). Equilibrium has moved from point \( a \) to point \( b \), and price has risen from \( P_1 \) to \( P_2 \).

How do people react to this rise in price?

Given that they believe this rise in price to be only temporary, suppliers bring their goods to market now, before price falls again. Supply shifts from \( S_1 \) to \( S_2 \). Demanders, however, hold back until price does fall. Demand shifts from \( D_2 \) to \( D_3 \). The equilibrium moves to point \( c \), with price falling back towards \( P_1 \).

4 : Market Structures:

Classifying markets: markets are classified according to these certain factors:

• number of firms
• freedom of entry to industry
• Saving \((S)\) is part of the income not being spent
• Investment \((I)\) is firms purchases
• Saving is a leakage from the circular flow: money paid to households but not returned to firms as spending
• Investment is an injection to the circular flow: money earned by firms but not from sales to households
• Leakages always equal to injections

But the output of firms is not all sold to households/firms buy intermediate goods from other firms. Therefore introduce the concept of \textit{value added} to avoid double counting the output that some firms buy from other firms (e.g. raw materials, machinery, etc-intermediate goods). \textit{Value added is net output, after deducting goods used up during the production process}

Government is also an end user \((G)\), buying the output of firms (education, health tanks). Governments also spend money on welfare benefits \((B)\)/ redistributive effect; things like pensions, jobseekers allowance, and income support.

All the above government spending are financed by taxes \((T)\)

We can also add the rest of the world to the flow:

• net exports add to GDP
• exports \((X)\) are made at home but sold abroad
• Imports \((Z)\)
• \[GDP = C + I + G + X - Z\]
If aggregate demand exceeded national income at say Y1, there would be excess demand in the economy. People would be buying more than what was currently being produced; firms would run out of their stocks dwindling and would therefore increase their level of production, in doing so they would employ more factors of production and therefore national income would rise.

What factors influence expenditure on imports of the country?
- National income
- Exchange rates

What factors influence expenditure on exports of a country?
- National income in foreign economies
- Other countries circular flow of incomes
- Exchange rate

GDP = gross domestic product
GNP = gross national income

GNP = GDP + net income from abroad
NNP = GNP - Depreciation (the fall in value of the capital stock during the period though the and obsolescence)

AIMS:
- Identify consumption and investment as two among the main components of aggregate demand
- Explain the relation between consumption and disposable income
Solow growth model assumes:

- Labour grows at a constant rate n
- constant savings ration \( s \)
- capital per worker is \( k \); this is constant in the steady state
- adding more capital per worker increases output per worker (\( y \))
- but with diminishing returns
- labour augmenting technical progress is the key

The convergence hypothesis: asserts that poor countries will grow more quickly than average, but rich countries will grow more slowly than average. But social and political differences may enable some economies to catch up more effectively than others.

7: Banking, Money and Interest rates:

What is money? any generally accepted means of payment for delivery of goods or settlement of debt. It is the medium of exchange

What is a barter economy?: has no medium of exchange, goods are simply swapped for other goods

Functions of money:

- a medium of exchange
- a means of evaluation
- a means of storing wealth

What should count as money?: boundaries not so clear between money and non money, stocks and shares can be seen as money for example depending on how narrowly money is defined.

Ideal attributes of money:

- durability
- divisibility
- transportability
- non-counterfeitability

By far the largest element of money supply is bank deposits, they play a crucial role in the monetary system. Retail and wholesale banking are the two types of banking. Universal banks conduct both types of bankings.
high and demand deficient unemployment will be low.

Cost push inflation is associated with continuing rises in costs and hence contributing upward shifts in the AS curve. Such shifts occur when costs of production rise independently of aggregate demand. If firms face a rise in costs they will respond by raising their prices and passing the costs to the consumer and by partly cutting back on production. How much firms increase prices depends on the AD curve. The less elastic the AD curve the less sales will fall as a result of any price change. These two types of inflation can occur together as well.
• Ask for a loan from IMF/WB

Committing to low inflation:

• Central bank independence is a typical commitment to tight monetary policy and low inflation.
• Institutional commitment has had some success in keeping inflation in my countries in recent years.