Chapter 17
Money Supply and Inflation

Lecture Plan

- Introduction
- Money
- Demand and Supply of Money
- Inflation
- Causes of Inflation
- Inflation and Decision Making
- Measuring Inflation
- Inflation and Employment
- Control of Inflation

Objectives

- To understand the role of money in an economy, and the different aspects of demand and supply of money.
- To explore the realms of inflation and its different frontiers.
- To delve into concepts like wage price spiral, hyperinflation and inflationary gap.
- To understand various measures of inflation and their role in decision making.
- To analyze the reasons behind inflation, its impact on the economy and the measures to curb it.

Money

- Money does not have any inherent value
- It is valuable because it is:
- ***Medium of Exchange***:
  - the most convenient medium of exchange.
  - all the things which have utility are available in exchange for money.
  - Under barter system where goods (or services) are exchanged for goods (or services) *dual coincidence of wants* is the basis for exchange.
- ***Measure of Value:***
  - Provides a common denominator to all types of goods and services.
- ***Store of Value:***
  - Can be saved for future with convenience, whereas other goods can be saved for a limited time period only.

Demand for Money

- *Keynes has identified three motives to hold money*
  - ***Transaction Motive***:
    - Consumers need money to meet their day to day needs,
    - producers need money to make investments.
  - ***Precautionary Motive***:
    - To cover for unforeseen events such as sickness, accidents and losses, money is kept as precaution for contingency.
  - ***Speculative Motive***:
    - For making gains from speculation on future value of bonds and securities.
- Money may be demanded as a *flow* (transaction motive) as well as a *stock* (precautionary motive).
- Money as a flow is that which is in circulation.
- Total money supply at any point of time consists of money in circulation as well as in stock (in various forms of savings and deposits).

Supply of Money

- Earlier money was in the form of coins, composed of gold, silver and copper ,etc. Value of the coins was based on the value of the metals they contained.
- The gold standard broke down in 1930 in UK, in USA it lasted till 1971
- A currency issued by the government is called a *fiduciary issue* (based on trust and confidence).
- Modern form of money is simply pieces of paper or numbers in a ledger.
- System of paper money was introduced based on the *gold standard* or *silver standard* or some combination of the two, to ensure people's faith in the system.

Quantity Theory of Money

- Fisher : Value of money varies inversely with its quantity
- Any given percentage increase (or decrease) in the quantity of money will lead to the same percentage decrease (or increase) in the general price level.

$$MV=P$$

$$P= MV/T$$

  - where P is general price level,
  - T is transaction volume of goods and services,
  - M is supply of currency and
  - V is velocity with which money circulates
- All money in circulation includes currency and credit.

$$P= MV+ M'V'/T$$

where M' is credit money (like cheques) and V' is the velocity of credit money.

- If T and V remain constant in the short run; P changes by the same proportion as change in money supply.

Inflation

- Coulborn: it is a state of *“too much money chasing too few goods”.*
- Two broad categories:
  - *price inflation (generally called as inflation)*
  - *money inflation*.
- Both have cause and effect relationship, i.e. money inflation leads to price inflation.
  - *Money inflation is increase in the amount of currency in circulation. Which may be due to:*
    - *Deficit financing* : direct cause is printing of additional currency on demand of the government to meet its needs.
    - Additional money supply through foreign exchange inflows in the form of capital, such as foreign direct investment and foreign institutional investment, tourism and other incomes from abroad.
- *Price inflation* is a persistent increase in the general price level or a persistent decline in the real income of people, i.e. decline in value of money.

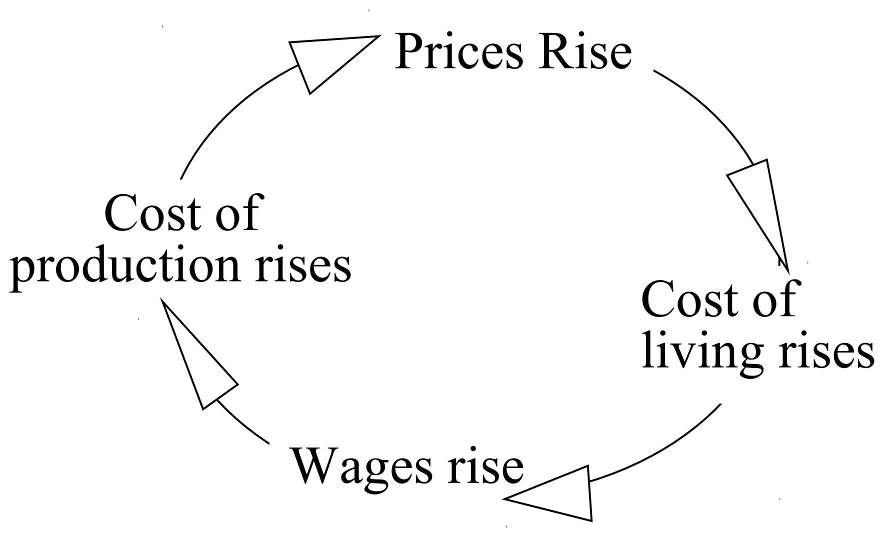
Concepts of Inflation

- **Headline Inflation:** measure of the total inflation within an economy
  - affected by the areas of the market which may experience sudden *inflationary spikes* such as food or energy.
- **Hyperinflation:** prices increase at such a speed that the value of money erodes drastically
  - This is also known as *galloping inflation* or *runaway inflation*.
- **Stagflation:** a typical situation when stagnation and inflation coexist.
- **Disinflation:** a process of keeping a check on price rise by deliberate attempts.
- **Deflation:** a state when prices *fall* persistently; just opposite to inflation
- **Inflationary Gap** (Keynes): *Excess of anticipated expenditure over available output at base price*
  - When money income exceeds the supply of goods and services, a gap is created between demand and supply resulting in inflation.

Wage Price Spiral

Wages chase prices and prices chase wages, thus create a wage price spiral.

- When prices rise, workers demand higher money (or nominal) wages to protect their real wages. This raises the costs faced by their employers.
- To protect the real value of profits producers pass the higher costs onto consumers in the form of higher prices.
- Workers (who are also consumers demand for higher money wages.



Causes of Inflation

- **Demand Pull Inflation:** when aggregate demand increases due to any reason, and supply of output is unable to match this increased demand; i.e *demand pulls prices up*.
  - Increase in money supply/ Increase in disposable income
  - Increase in aggregate spending
  - Increase in population of the country
- **Cost Push Inflation:** An increase in price of any of the inputs will increase the cost of production; *i.e. prices pushed up by cost.*
- **Low Increase in Supply:** if supply falls short of demand, prices will increase.
  - Obsolete technology/Deficient machinery
  - Scarcity of resources
  - Natural calamities/ Industrial disputes/ external aggressions
- **Built in Inflation:** Built in inflation is a type of inflation that has resulted from past events and persists in the present.
  - *It is also known as hangover inflation*.

Inflation and Decision Making

- **Impact on Consumers**
  - increase in any price upsets the home budget.
- **Impact on Producers (or Suppliers)**
  - Producers as sellers are benefited by inflation;
    - higher the prices, higher are their profits.
  - when as buyers of raw material, they are adversely affected by inflation.
- **Impact on Government:**
  - Government has to take the economy to higher levels of growth by encouraging production and investment,
  - At the other end, has to see that taxpayers’ money is not eroded by hyperinflation.
  - Thus government has to act as the balancing force between consumers and sellers.

Measuring Inflation

- A price index is a numerical measure designed to compare how the prices of some class of goods and/or services, taken as a whole, differ between time periods or geographical locations. (prices of the base year are assumed to be equal to 100.)

$$\text{Price Index} = \frac{\text{Current Year's Price}}{\text{Base Year's Price}} \times 100$$

- The most common term used to denote inflation is inflation rate, which is annual rate of increase of prices.

$$\text{Inflation Rate} = \frac{\text{Last year's Index - Current Year's Index}}{\text{Current Year's Index}} \times 100$$

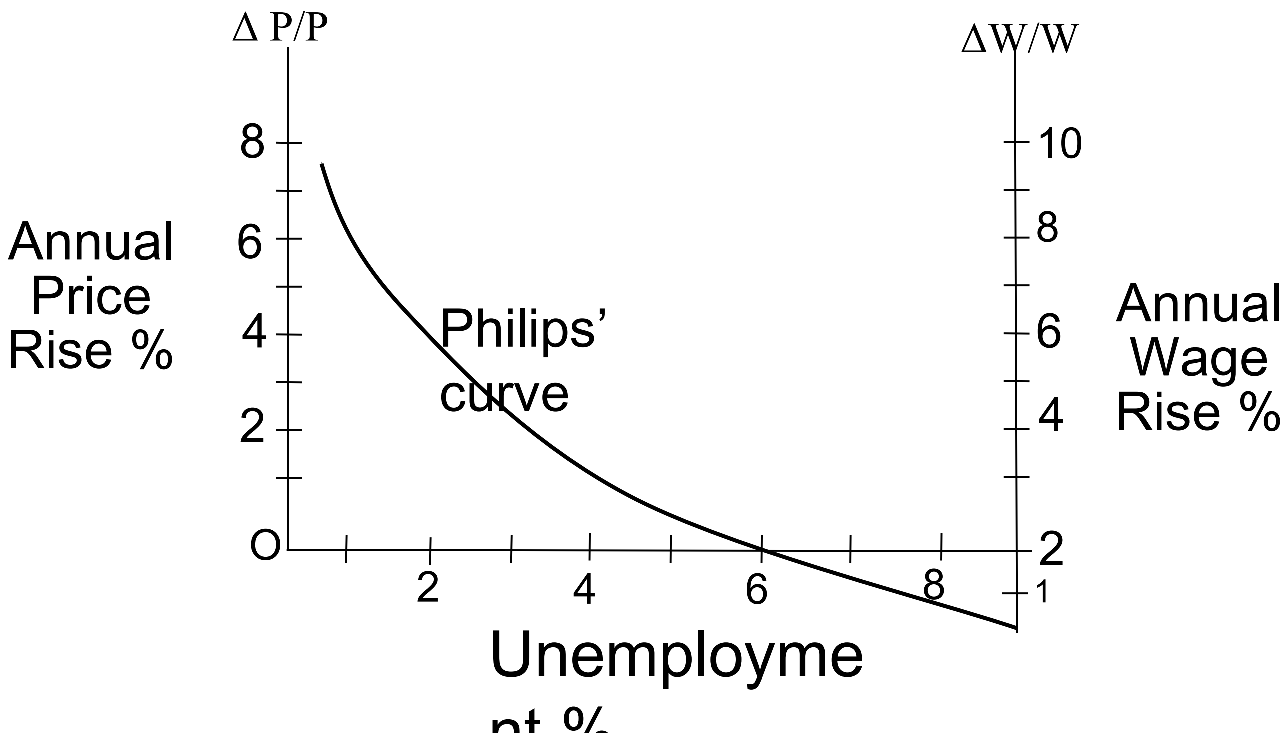
Measuring Inflation

- **Producer Price Index (PPI):** measures average changes in prices received by domestic producers for their output.
- **Wholesale Price Index (WPI):** measures wholesale prices of a wide variety of goods (including consumer and capital goods.
  - USA has replaced WPI with PPI
- **Consumer Price Index (CPI):** measures the price of a selection of goods purchased by a *typical consumer.*
  - CPI differs from PPI in that price subsidy, profits, and taxes may cause the amount received by the producer to differ from what the consumer paid.
- **Cost of Living Indices (COLI):** used to adjust fixed incomes and contractual incomes to maintain the real value of such incomes.
  - wage indexation is based on such indices.
- **Service Price Index (SPI):** With the growing importance of service sector across the world, many countries have started developing services price indices (SPI).

Inflation and Employment

- A. W. H. Philips studied the relationship between unemployment and rate of changes in money wages in UK, taking statistics for a period from 1862 to 1957.
- Philips postulated that the lower the rate of unemployment, the higher is the rate of change of wages.
    - labours accept jobs at lower pay if they are unemployed and firms are more willing to hire due to low wages.
    - But this effect dissipates as inflation becomes more expected with workers demanding higher wages and firms being less willing to hire.
    - the objectives of low unemployment and low rate of inflation may be inconsistent.
- Hence the government must choose between the feasible combinations of unemployment and inflation.

Philips' Curve



- Demand pull inflation refers to the effects of falling unemployment rates (rising real national income) in the curve.
- Cost push inflation and built in inflation will lead to *shifts* in the Phillips curve.

Control of Inflation

- Inflation erodes the value of money and discourages savings
- But zero inflation is undesirable
- Need to control inflation
  - monetary policy measures (proposed by those who believed money supply is the major culprit)
  - fiscal policy measures (proposed by Keynes and his followers).
  - Other measures
- The government has to adopt an appropriate combination of these measures after thorough examination of the causes of inflation

Monetary Policy Measures

- **Increasing the discount rate**: The central bank rediscounts the eligible papers offered by commercial banks. This is also called bank rate.
- **Higher reserve ratios**:
    - Cash Reserve Ratio (CRR)
    - Statutory Liquid Ratio (SLR)
- **Open market operations**: directly sell government securities to public and restrain their disposable income
- **Selective credit control**: discourages consumption but not investment

Fiscal Policy Measures

The government may reduce public expenditure or increase public revenue to keep a check on inflation

- Reducing public expenditure
- When government spends on activities like health, transport, communication, etc., income of individuals increases; this in turn increases the aggregate demand.
  - Therefore the reverse will also be true.
- Increasing public revenue
  - Major source of government revenue is various types of taxes
  - Increase in income tax leaves less of disposable income in the hands of consumers

Money supply aggregates in India

RBI calculates various concepts of money supply which are known as money supply aggregates or measures of monetary aggregates.

M1: Currency with public, i.e. coins and notes + demand deposits of public with banks. (very liquid assets)

- It is also known as **Narrow Money**

M2: M1 **+** Post office savings deposits

M3: M2 **+** Time deposits of the public with banks+ “Other” deposits with RBI

- It is also known as **Broad Money.**

M4: M3 **+** All other deposits with Post office

M0: Currency in circulation+ Bankers’ deposits with RBI+ “Other” deposits with RBI.

- It is also called **Reserve Money.**

Now RBI calculates only three of the above measures, i.e. M0, M1, and M3.

Summary

- Money does not have any inherent value; it is in demand because all the things which have utility are available in exchange for money.
- Money serves as a medium of exchange, a measure of value and as a store of value.
- Money is a *flow*, as well as a *stock*.
- *Narrow money* includes only very liquid assets like currency, i.e. notes and coins in the hands of public and demand deposits in the banks; *broad money* includes a set of less liquid assets like term deposits with banks.
- Inflation is an upward movement in the average level of prices. It is a situation in which the volume of purchasing power (money in hands of consumers) is persistently more than the goods and services available to consumers.
- Headline inflation is a measure of the total inflation within an economy,
- In hyperinflation prices increase at such a speed that the value of money erodes drastically
- Stagflation is a situation when stagnation and inflation coexist.
- Suppressed inflation is when the government makes policies to temporarily keep prices under check.
- Disinflation is a well planned process to bring down prices moderately from a very high level;
- Deflation is state when prices are controlled persistently.

Summary

- When money income in the hands of people exceeds the supply of goods and services, a gap is created between demand and supply; it is known as inflationary gap.
- A wage price spiral represents a situation in which wages chase prices and prices chase wages.
- Producer Price Index measures average changes in prices received by domestic producers for their output.
- Wholesale Price Index measure inflation on the basis of wholesale prices of a wide variety of goods (including consumer and capital goods).
- Consumer price index measures the price of a selection of goods purchased by a typical consumer.
- Phillips' curve is widely used to explain the relation between unemployment and inflation; the lower the rate of unemployment, the higher is the rate of change of wages.
- Methods for controlling inflation may be broadly divided into two groups: monetary and fiscal measures.
- Monetary measures include: increasing the discount rate, higher reserve ratios, open market operations; and selective credit control.
- Fiscal measures include government revenue and government expenditure.