# UNIT-4

- ## Brief introduction to Balance of Payment (BOP) account
  - Balance of payment statement is a systematic record of the financial and economic transactions between residents of one country with other countries during a specific period of time. It keeps the record of various external economic transactions of an economy.
  - **Features:**
    1. systematic record of the financial and economic transactions
    2. visible and invisible transactions are recorded
    3. an annual statement
    4. based on double entry book keeping
  - **Structure:**
    1. Current Account
       **All** visible and invisible imports and exports of goods are recorded in current account of balance of payment. The result of transaction recorded in current account of balance of payment can be deficit or surplus
       **Imports** and exports of goods and services, profit, interest, dividend and unilateral payments/receipts are recorded in balance of payment
    2. Capital Account
       **Capital** account is the account which record all the transaction related to short-term and long-term inflow and outflow of funds
       **outflow** and inflow of short-term lending or borrowing, portfolio investment, other short term and long-term investments
       **overall** change in the stock of liabilities and assets
    3. Reserve Account
       **Reserve** account includes International Monetary Fund (IMF), Special Drawings Right (SDR), Monetary gold etc
       Special Drawing Right also called paper gold, used to make payment between two different countries.
    4. Errors & Omission
       It includes lag and leads in reporting of transactions.
       It is used to balance the understated and overstated components
  - showed deficit of 3.3 % of Gross Domestic product
  - Foreign exchange reserve depleted by USD 25.8 billion

| Balance of Payment | Balance of Trade |
|---|---|
| 1. Balance of trade is a part of balance of payment. Therefore, it is broader as compared to balance of payment. | 1. It is a narrow term as compared to balance of payment. |
| 2. It take into consideration invisible, visible and capital transfer. | 2. It takes into consideration only visible items. |
| 3. It is theoretically always in balance *i.e.*, both debit and credit side are equal. | 3. Its balance can be unfavourable and favourable. |
| 4. Foreign lender condition, government policy for economic transactions etc. affect balance of payment. | 4. Raw material availability, cost of production, exchange rate etc. affect balance of trade |

  - **Disequilibrium in Balance of Payment:**
    1. **Cyclical Fluctuation:**
       Cyclical fluctuations in business activity also lead to BOP disequilibrium. When there is depression in a country, volumes of both exports and imports fall drastically in relation to other countries. But the fall in exports may be more than that of imports due to decline in domestic production.
       On the other hand, when there is boom in a country in relation to other countries, both exports and imports may increase. But there can be either a surplus or deficit in BOP situation depending upon whether the country exports more than imports or imports more than exports. In both the cases, there will be disequilibrium in BOP

2. **Decrease/Increase in Export:**
   An increase in the domestic production will increase the export of all such goods because country has sufficient production to fulfil domestic demand as well as international demand. This situation creates a positive impact on balance of payment. If domestic production is decreasing then it decreases the export.
   both the situation create disequilibrium in balance of payment
3. **Economic Development**:
   A developing country like India need foreign investment for development purpose. This also creates disequilibrium in balance of payment because for industrialisation the import of country increases
4. **Rapid increase in population**:
   If the population of country increases and production of country increase less than the rate of increase in population then that country will import goods from other counties to fulfil the basic needs of resident of country.
5. **Huge external borrowings:**
   If a country is borrowing from another country to meet the financial requirement for country, then there is heavy outflow in the form of interest of that particulars borrowing.

- ## Market for foreign exchange and exchange rate
  - **Bretton wooden system:** According to this system all the currencies are pegged with respect to USD and later it is backed by gold reserve.
  - After this foreign exchange become free floating system
  - Due to globalisation most modern economies are open economies
  - **Foreign exchange market** is the market where buying and selling of foreign currency takes place.
  - **Exchange rate** is the price of one currency in term of another currency in foreign exchange market.
  - **Brokers, central bank and commercial bank** are the participants in foreign exchange market.
  - **Function:**
    1. transfers the purchasing power across different countries which facilitate international investment and trade
    2. prices of various currencies with respect to other currencies are determined here
    3. gives facility to investors to minimise or hedge their risk in international transactions
    4. Due to foreign exchange market trades are able to arbitrage inequalities in international market
  - **Types:**
    1. **Spot Market:**
       Spot market is the market in which all the transactions taken place immediately. In this type of market all the receipts and payments are done immediately.
       The exchange rate in this market is called spot exchange rate or current exchange rate.
    2. **Forward Market:**
       It is the market in which buying and selling of foreign currency is done at a rate that is agreed upon for future date. The exchange rate decided in this market is called forward market rate.
       Forward market is used for hedging the risk in foreign trade.
    3. **Future Market:**
       Forward market and future market are similar because in both the market future date exchange rate is decided at present. The only difference is that future market is regulated market and all the trade conducted on stock exchange.
  - **Types of Foreign Exchange Rate:**
    1. **Fixed exchange rate or Pegged exchange rate system**
       Fixed exchange rate or Pegged exchange rate system is the system in which two or more-weak currency is pegged with strong currency.
       Rate is not depended on market forces
       Central bank or government of country purchases and sells foreign exchange. Both purchase foreign exchange when there is increase in foreign exchange and sell foreign exchange when there is excess demand for foreign exchange

Creates stability in foreign exchange
Protects the market from fluctuations and creates stability
Stability in foreign exchange rate promote foreign investment
controls inflation rate

Necessary to maintain foreign reserves to create stability
Lack of flexibility in the market that is needed to bounce back in case of economic shock.

2. **Flexible exchange rate system**
   Flexible exchange rate systems depends on the market demand and supply of various currencies. It is also called floating exchange rate. In this system there is no role of central bank of country and Government to create stability in the market.

   Not necessary to maintain foreign reserves
   Deficit and surplus are automatically corrected

   Leads to Speculation
   Sometime the fluctuation in exchange rate is very high which creates issues in the movement of capital and affect the foreign trade
   No motivation for foreign investment and trade due to frequent fluctuation in the exchange rate.
3. **Managed Floating Exchange rate**
   Managed Floating Exchange rate is the system in which combination of fixed exchange rate and flexible exchange rate is used. Under this system central bank of a country intervenes to create stability in foreign exchange market by selling and purchasing foreign exchange

- **Determinant of Foreign Exchange Rate**
  1. **Purchasing power parity**
     If in domestic country inflation rate is high the we can say that domestic good is costly as compared to foreign goods. This will increase the imports of country, which in turn will increase the demand for foreign currency.
  2. **Balance of payment position**
     If there is deficit in the balance of payment of any country it will decrease the value of domestic country because more foreign currency is required to make payment to other country and if balance of payment represent surplus, then it enhances the value of domestic currency.
  3. **Government intervention**
     Exchange rate also depend on government and central bank of country intervention. If government and central bank purchase foreign exchange, exchange rate will not fall and if they sell foreign exchange then exchange rate will not rise and there is stability in foreign exchange market.
  4. **Market expectation**
     The future expectation about inflation, taxes, inflation, balance of payment also affect the exchange rate in international market

- ## Monetary and fiscal policy in open economy
  - Close economy is the economy which does not have any relation with other countries and open economy is the economy which has relation with other countries.
  - If there is close economy then there is no problem of deficit and surplus in balance of payment
  - Each and every economy want to create stability in its economy. For this purpose, various types of tools and techniques are used like the fiscal and monetary policy.
  - **Monetary Policy**
    The methods used by centre bank of India to expand credit and contract credit in the economy is called monetary policy. In India Reserve Bank of India is called the Central Bank of India which formulates monetary policy
    1. Quantitative Tools
       - **Cash Reserve Ratio (CRR)**
         Cash reserve ratio is the percentage of commercial bank deposit which they keep with RBI
       - **Statutory Liquidity Ratio (SLR)**
         Statutory liquidity ratio is the percentage of deposit that the commercial banks maintain in the form of cash, gold and other securities

- **Repo Rate**
  Repo rate is the rate at which Reserve Bank of India provide credit to various commercial banks
- **Reverse Repo Rate**
  Reverse Repo Rate is the rate at which Reserve Bank of India takes loan from commercial bank
- **Open market operation**
  Open market operation is the process by which Reserve Bank of India sells government and other approved security to commercial bank and purchasing the same from commercial bank.

2. Qualitative Tools
   - **Regulation of marginal requirement**
     Various commercial bank provide loan through mortgage. The difference between the mortgaged asset and loan amount is called margin. If Reserve Bank want to increase the money supply, then it reduces the marginal requirement
   - **Credit rationing**
     Some time to control money supply RBI give instruction to commercial bank to provide credit for some specific purposes only and also decides the ceiling of loan to one person or some specific work.
   - **Moral suasion**
     This method involves request or permission to commercial banks by RBI to control money supply in the economy.
   - **Direct action**
     RBI issues various directives to commercial banks to regulate their investment and lending activities. If any bank does not follow the directives issued by RBI, then RBI takes direct action against all those banks.

- **Fiscal Policy**
  Fiscal policy is the policy which is adopted by government to create stability in the economy
  1. **Taxes**
     If government want to decrease the disposable income in economy, then it increases the taxes and if want to increase the disposable income in the economy then decrease the taxes
  2. **Government Expenditure**
     Increase in government expenditure leads to increase in aggregate demand and hence increase in income
  3. **Public Debt**
     If government want to reduce money supply, then it borrows from the public by issuing bonds and postponing the payment of principal and interest amount for future
  4. **Deficit Financing**
     For financing deficit government can sell government securities and print new currency. This process of financing is called deficit financing. Government can use this method for short period of time. Long-run use of this tool is creating instability in the economy.
- **Measures to Correct Disequilibrium in Balance of Payment**
  1. **Exchange Rate Depreciation**
     Government reduces the value of home currency temporary to correct disequilibrium in balance of payment. Decline in the value of home currency make the import of goods and services costly and therefore reduces imports. On the other hand, it makes export of goods and services cheaper and hence increases exports
  2. **Deflation**
     Government and Reserve Bank of India use their tools and techniques to reduce price of goods and services as well as the income of the consumer. Reduction in prices of domestic goods increases exports and reduction in income reduces imports
  3. **Exchange Control**
     Government and Reserve Bank of India create stability in the exchange rate by keeping foreign reserves. In case of disequilibrium in the balance of payment government direct all importers to keep their foreign exchange reserves with the monetary authority. The government allows only some specific companies to import goods and services but the exchange rate is fixed by the monetary authority

4. **Export promotion**
   To correct disequilibrium in the balance of payment government reduce export duties, and gives subsidies and various types of relief.
5. **Import Substitution**
   The main reason for the disequilibrium in the balance of payment is excess imports. That is why creating various substitute for imported goods in the domestic country also help in creating balance in the balance of payment. So, government provide subsidies and various types of support to industrialist so that they are able to produce goods which can act as substitute for imports
6. **Import Controls**
   By setting quotas, the government set a limit on the quantity of a particular commodity that can be imported from other countries. Tariff are the duties and taxes imposed on the import of goods. This reduces the imports and improves the balance of payment situation.

- ## Mundell Fleming model: Perfect capital mobility and Imperfect capital mobility under fixed and flexible exchange rate
  - Mundell Fleming Model describe the framework for the analysis of monetary and fiscal policy.
  - The other name of Mundell Fleming Model is IS-LM BOP model.
  - This model depicted the relation of various macro variables (inflation, GDP, exchange rate, the balance of payment, interest rate etc.) in international trade
  - It is applied in an open economy with perfect mobility of capital. Perfect mobility means the country can lend and borrow from the international market without any restriction
  - According to Mundell Fleming Model the national policy of any country depend on the exchange rate system in international market because in open market change in exchange rate will impact export and imports of that country.
  - **Assumption:**
    1. International rate of interest is equal to the domestic rate of interest.
    2. There is perfect mobility in the small open economy.
    3. Forward and spot exchange are almost the same.
    4. It is based on a fixed price level.
  - Mundell Fleming's Model is based on crucial predictions about the exchange rate system. The exchange rate may be fixed exchange rate and flexible exchange rate

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<u>Money Market Equilibrium Condition</u>

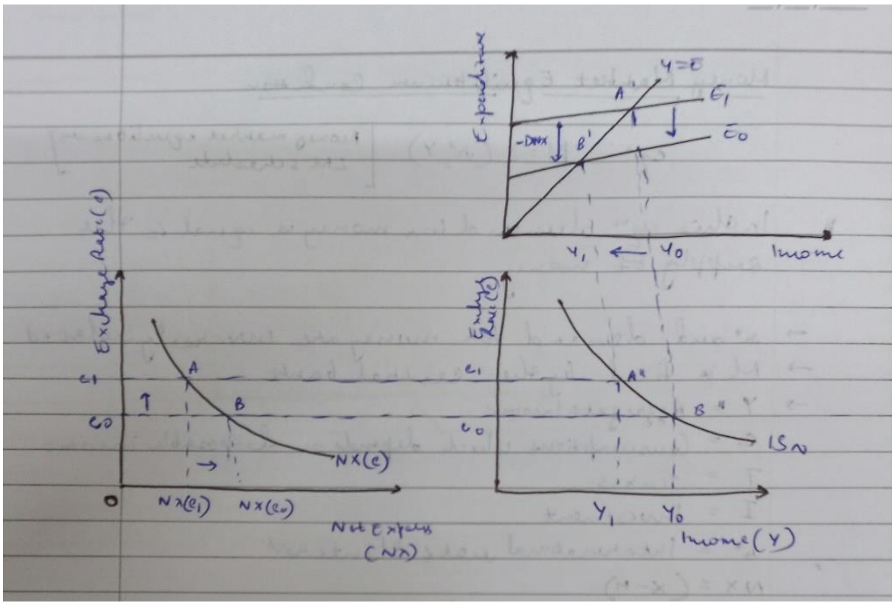
eq$^n$: $M = L(r^*, Y)$ [Money market equilibrium LM schedule]

In this eq$^n$ demand for money is equal to the supply of money

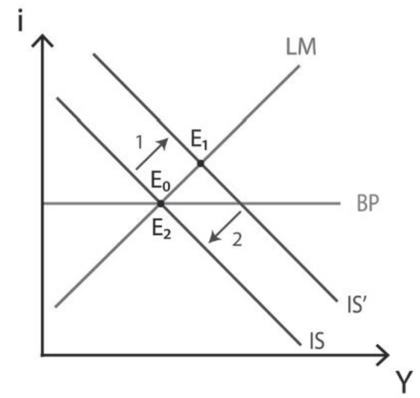
→ $r^*$ and demand for money are inversely related
→ M is fixed by the central bank
→ Y = Aggregate Income
C = Consumptions which depends on disposable income
T = Taxes
I = Investment
$r^*$ = International rate of interest
NX = (X − M)
→ I is indirectly related to $r^*$
→ (X−M) Net Exports is a −ve function of Y but positively related to change in nominal exchange rate (e)
→ ↑ (e) [depreciation), ↑ exports and ↓ imports resulting in ↑ (X−M)

$$Y = C(Y-T) + I(r^*) + G + NX(e)$$
(goods market equilibrium IS schedule)

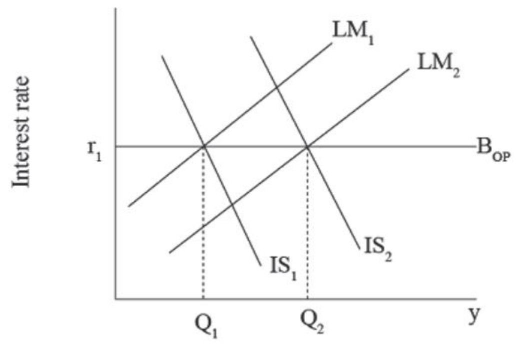
→ rate of interest in the international market will impact investment in the international market.
→ NX depends on the exchange rate in the international market.



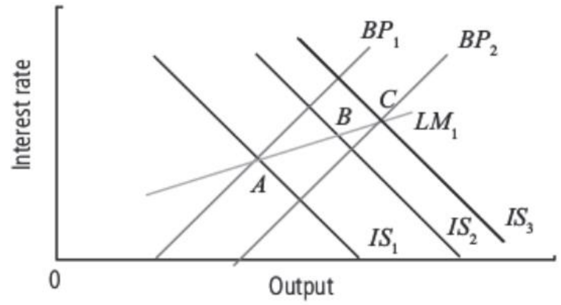
- In part (a), an increase in the rate from e0 to e1, lowers net exports from NX(e0) to NX(e1). As a result, the planned expenditure line E1 shifts downward to E0. Consequently, income falls from Y1 to Y0. In part (c), we show the new IS curve, which is the locus of points, indicating alternative combinations of e and Y which ensure equilibrium in the goods market. **e rises → NX falls → Y falls**
- The main message of the Mundell-Fleming model is that the effect of any economic policy (fiscal, monetary or trade) depends on the exchange rate system of the country under consideration, i.e., whether the country is following a fixed or a floating exchange rate system. Table 12.1 summarises the effects of three different policies in the Mundell-Fleming model.
- The intersection of the two curves at the point A determines the equilibrium level of income Y0, which has no relation to e, shown on the vertical axis. This is why the new (open economy) LM curve is vertical. The LMN curve is derived from r* and the closed economy LM curve
- we show the general equilibrium of goods market and the money market. The equilibrium income ($Y_0$) and exchange rate ($e_0$) are determined simultaneously at point A where the IS and LM curves intersect.
- **Perfect Capital Mobility:** Perfect capital mobility is the situation when capital moves from one country to another country without any cost for the purpose of getting higher return.
- **Imperfect Capital Mobility:** Imperfect capital mobility is the situation when capital moves from one country to another country by incurring some cost for the purpose of getting higher return
- **Fiscal Policy under Flexible Exchange Rate and Perfect Capital Mobility**
  When the government adopt an expansionary fiscal policy interest rate in domestic country becomes higher than international interest rate. It will increase the inflow of capital in the economy. It will create surplus in balance of payment and there will be appreciation of the domestic currency



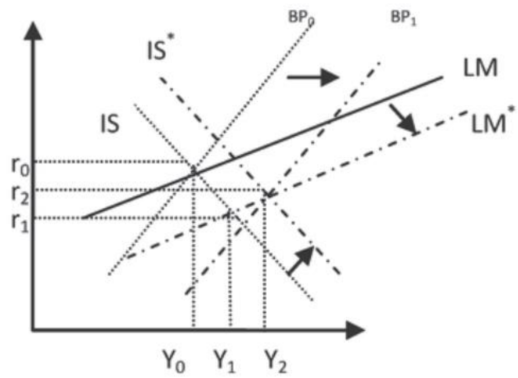
- **Monetary Policy under Flexible Exchange Rate and Perfect Capital Mobility**
  If RBI adopted expansionary monetary policy, then there is increase in income and decrease in interest rate. Due to expansionary monetary policy, there is outflow of capital from the country. It will depreciate the domestic currency and create the situation of deficit in balance of payment. The deficit will result in depreciation of domestic currency and shift in IS1 to IS2 After changing in IS the new equilibrium remain the same. Conclusion is that the fiscal policy is not effective as per Mundell Flemming




- **Fiscal Policy under Flexible Exchange Rate and Imperfect Capital Mobility**
  When RBI adopts an expansionary fiscal policy then inflow of capital in the country increases and it create surplus in balance of payment. Expansionary fiscal policy will shift IS curve from IS1 to IS2 that leads to increase in income and interest rate. It will leads to appreciation of domestic currency which creates an upward shift in balance of payment from BP2 to BP1 . But it will affect net export and shift IS3 to IS2.




- **Monetary Policy under Flexible Exchange Rate and Imperfect Capital Mobility**
  If RBI adopts an expansionary monetary policy, then there is increase in income and decrease in interest rate. Due to expansionary monetary policy, there is outflow of capital from the country. It will depreciate the domestic currency and create a situation of deficit in balance of payment. RBI expansionary monetary policy will shift LM to right. It will increase income and decrease in interest rate. It creates outflow of currency from one country to another country. Outflow of currency create depreciation of domestic currency and balance of payment shift from BP0 to BP1 . Due to this shift, there is deficit in balance of payment of a currency




- Mundell Fleming's Model analyses effect of fiscal and monetary policy of country by taking in to consideration fixed and flexible exchange rate. The effect of various monetary and fiscal policies on the balance of payment depends on the fixed and flexible exchange rate adopted by domestic country