1

FOREIGN EXCHANGE RATE

Unit Structure

1.0 OBJECTIVES

- To understand the concept of Rate of Exchange.
- To understand the Determination of Rate of Exchange.
- To understand the Types of Rate of Exchange.

1.1 INTRODUCTION

There were two ways to think about foreign exchange. In one meaning, foreign exchange is used to exchange one currency for another or to purchase and sell foreign currencies. On the other hand, two nations' obligations are settled by using foreign exchange (Refer) for all transactions. Therefore, the term "foreign exchange" refers to

1) all organisations that offer foreign debt facilities,

2) all procedures and systems for making international payments, and

3) the process of exchanging one country's currency for another country's currency.

Therefore, in foreign exchange, that technique is employed as a tool and weapon to settle both national and international debt.

The term "dowry rate" also refers to the exchange rate itself. The exchange rate is the price at which one unit of a country's currency is exchanged for another. When settling currency transactions between two countries, the foreign exchange rate assumes significance. Clearing and accepting checks, paying off domestic debts, and exchanging one currency for another are all parts of the foreign exchange process.

1.2 CONCEPT OF RATE OF EXCHANGE

The price of one currency represented in terms of another currency is known as the foreign exchange rate. The relationship between the currencies of two countries is represented by the exchange rate. The cost of one unit of foreign money in terms of domestic currency is known as the exchange rate. Think about the dollar-to-rupee exchange rate. How many rupees are purchased for one dollar? Here is how the rupee and dollar exchange rates look when seen from India. Since one US dollar is equal to 44.35 rupees, America must pay 0.0266 dollars to obtain one rupee.

1.3 DETERMINATION OF RATE OF EXCHANGE

Equilibrium Rate of Exchange:

Similar to how supply and demand determine a commodity's price, a free market's supply and demand for foreign currency determines the exchange rate. Foreign exchange supply and demand are balanced at the equilibrium exchange rate. Nurks contends that the equilibrium rate of exchange funds the overall transactional balance at any given moment. (According to Rangner Nurkse, the equilibrium rate of exchange is that condition that maintains the balance of payments in equilibrium for a predetermined length of time.)

When the supply or demand of a currency fluctuates, the exchange rate also changes. As a result, there is constant fluctuation in the exchange rate in the foreign exchange market. As a result, the foreign exchange account will alter.

Let's use a diagram to better understand how the exchange rate is calculated. The demand and supply curves for foreign exchange are denoted by the letters D and C. At point 'E' in the graphic, where the intersection of each other's demand and supply curves is held, trade is in equilibrium. The terms "VR" and "VN" in equilibrium rate signify that demand and supply are in balance. If the exchange rate increases to "VR," supply will increase to "R2 S2" and demand will increase to "R2 D2." People won't swap their money, which will cause the exchange rate to rise. Demand will rise to R1 D1 when it falls to VR1, and supply will fall to R1 S1. Since the exchange rate will be greater, an equilibrium in the exchange will result.

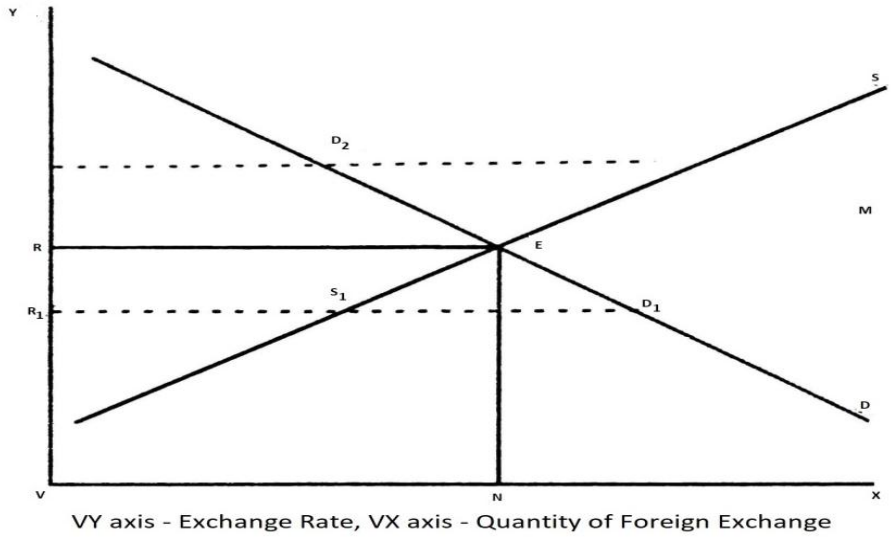

Figure 1.1: Equilibrium of Exchange Rate

This leads to the conclusion that as the exchange rate remains constant, the supply of foreign exchange increases as the demand for it rises. A country's exchange rate will rise if its supply of foreign currency rises while demand stays the same.

1.4 FIXED AND FLEXIBLE EXCHANGE RATE

Foreign exchange rates are either fixed or variable. Both have advantages and disadvantages.

1.4.1 Fixed Exchange Rate:

A fixed exchange rate is a system put in place by a government or central bank that links the official rate at which the national currency is exchanged with the currency of another nation or the price of gold. The goal of a fixed exchange rate system is to keep a currency's value within a specific range.

In a fixed exchange rate system, all foreign exchange transactions are settled at the exchange rate location within the country's fiscal authority. In order to address supply and demand gaps in the fiscal authority's role as an intermediary in the foreign exchange market and stabilise the exchange rate, the central bank holds currency reserves. When foreign cash is exchanged in accordance with the exchange rate established by the government under law, that rate is called fixed exchange rate.

A. Case for Fixed Exchange Rate:

1. **Base of Common Currency**: Different nations' fixed exchange rates are based on a single currency. because the value of common money is fixed. As a result, trade grows and production and economic growth accelerate. As a result, commerce attracts foreign trade and quotes or forecasts of commodity prices are made through trade. Johnson claims that having a constant exchange rate promotes global integration.

2. **Encouragement of Discipline**: A fixed exchange rate promotes financial restraint. Implementing fiscal and fiscal policy with attention allows us to influence the flow in the desired direction. It is notably helpful in reducing the economy's inflationary trend.

3. **Currency does not fluctuate**: There is no prospect of currency appreciation or depreciation under a fixed exchange rate regime. As a result, the national currency grows rapidly and the economy is stable.

4. **Capital and Inflow Attraction**: Long-term capital inflows are maintained by a steady exchange rate. The economy benefits. A fixed exchange rate is risk- and uncertainty-free.

5. **Control of Speculation Activity**: A fixed exchange rate eliminates the motivation for speculation. The financial system of the nation discourages speculation. There is therefore no room for speculation.

6. **Beneficial to small countries**: A fixed exchange rate regime, in Johnson's opinion, is particularly advantageous to small nations. Because countries' exchange rates fluctuate as a result of inflation and depreciation

7. **Liability or Burden**: Foreign liabilities are created when items are imported and exported at fixed exchange rates. Money is made by spending.

8. **Development of Money and Capital Markets**: Money and capital markets grow as a result of stable exchange rates. Money comes into the nation.

9. **Building multiple trades**: There is no uncertainty because of the steady exchange rate. This leads to the country's diversified development.

10. **International Financial Cooperation**: An exchange rate system with fixed exchange rates encourages global financial cooperation. It makes work flow more easily. As a result, the IMF, IBRD, Euro market, etc., develop effectively.

11. **Stability of developing country**: A steady currency rate is preferred by developing nations. Economic growth is envisioned for steady exchange. For the country's capital to enter smoothly from abroad, a stable exchange rate is crucial.

12. **Importance in the Growth of Domestic Relations**: Within a nation, possibilities and incentives are produced by a stable exchange rate. As a result, family dynamics immediately improve.

Simply put, a fixed exchange rate serves to ensure domestic economic stability by stabilising commerce between two nations. International trade is encouraged by a stable exchange rate because it fosters a sense of security and assurance. Particularly Japan and England are heavily reliant on international trade. They assert that such a setting must exist. The

foreign trade of these nations is likely to suffer from an unpredictable exchange rate, creating barriers to economic development. The "Louvre Agreement" was made by the United States and other Western nations like Germany, Japan, France, and England to fix currency exchange rates in their commerce.

A stable exchange rate enables traders to accurately predict the cost of imports as well as the revenue they will realise from exports. A stable currency rate also fosters an atmosphere that is conducive to long-term international investment. The result is a healthy expansion of global trade. Speculative transactions are prevented by a set exchange rate. As a result, the dreaded capital flight is halted. In currency areas like the sterling, dollar, and euro zones, fixed exchange rates are suited for international trade. International trade has a significant role in the economic growth of developing nations. They themselves must expand their export business. In this situation, a stable exchange rate's atmosphere of stability and confidence is advantageous for them.

B. Case against Fixed Exchange Rate:

The following arguments are advanced against fixed exchange rate.

1) **Abandonment of Objectives**: As a result of a fixed exchange rate the average price level in the economy e.g. Important goals of transaction stability and full employment are sacrificed. Domestic price hike policy is adopted to maintain equilibrium. Hence social expenditure in the country increases to a great extent and financial independence is affected.

2) **Unexpected Disruption**: The fixed exchange rate regime changes the current account balance as a result of unexpected disruptions in the domestic economy.

3) **Heavy burden on foreign exchange reserves**: Due to the fixed exchange rate system, the country's foreign exchange is kept in large reserves. Therefore, the country automatically has to face that problem due to shortage of foreign exchange. Therefore, the foreign exchange reserves have to bear a heavy burden.

4) **Failure of real price effect relationship**: Fixed exchange rate system does not show the real picture of cost price in different countries' currencies. The flows of both countries operate under different economic policies.

5) **Instability and Uncertainty**: Due to fixed exchange rate uncertainty and instability cause the volume of international trade to decrease and investment to a minimum level.

6) **Mode of Complexity**: Fixed exchange rate adds complexity. Because the qualities of a highly skilled person are utilized at the time it was used. But that results in uncertainty. This is a mistake of this method and it is implemented.

7) **Not always possible**: It is not possible to maintain a stable exchange rate for a long time. Because in the long run balance of trade problems and international commodity prices change. Therefore, the country has to change the international exchange rate.

8) **Balance of Trade Imbalance**: Fixed exchange rate system does not help to solve the problem of balance of trade imbalance. This is a temporary solution. There is no permanent solution.

9) **Increasing dependence on international issues**: Due to fixed exchange rate regime, the country is heavily dependent on international organizations for aid and loans.

10) **Problem of International Liabilities**: The purpose of fixed exchange rate is to maintain large reserves of foreign exchange to maintain balance of trade. Hence the demand for international currency liabilities increases. More demand increases supply. These problems arise. It is therefore argued that a country should maintain a flexible exchange rate.

1.4.2 Flexible Exchange Rates:

Exchange rates that are variable, flexible, or floating are decided by the market's equilibrium between supply and demand for foreign currency. Government action in setting the exchange rate, either directly or indirectly, is nonexistent. The country's trade balance is automatically in equilibrium if exchange rates are set by supply and demand on the market. Without any government action, the balance of global trade can approach equilibrium thanks to a floating exchange rate. It follows that it is a "floating exchange rate" when the balance between supply and demand for foreign currency on the market determines the exchange rate without the involvement of the government.

A. Case for and against Flexible Exchange Rate:

The case for or arguments in favor of Flexible/Floating exchange rate are as follows.

1) **Simple operation**: The mechanism of operation in floating exchange system is very simple. The exchange rate is freely and automatically driven by supply and demand in the foreign exchange market. It reduces the rarity or power of the country.

2) **Smooth Adjustment**: The trade balance is adjusted smoothly and effectively. There is no stress on the balance of trade. Also stress is accepted in a difficult state of balance.

3) **Automatic correction of imbalances**: Due to the variable exchange rate system, imbalances in the balance of trade are automatically and effectively corrected. So there is no need for gold flow or capital flows in or out of the country.

4) **No need for foreign exchange reserves**: A fluctuating exchange rate automatically settles at the equilibrium level. No need for foreign exchange service. The currency depreciates in relation to foreign exchange to cover the country's balance of trade deficit. Hence, currency surplus is accepted and the balance of trade automatically comes to the equilibrium level.

5) **Domestic economic policies are self-sufficient**: Government aims at modern welfare. For this, full employment growth is required along with stabilizing the growth rate. That goal is achieved through a flexible exchange rate. Here the objective of fixed exchange rate is also fulfilled.

6) **Removal of international liability problem**: Flexible exchange rate creates the problem of foreign exchange imperfection. This creates speculation in the supply of foreign exchange. The need for private liability was satisfied. It therefore changes or reduces the problem of international liability.

7) **Less borrowing and borrowing of funds in the short run**: As the foreign exchange rate fluctuates freely, there is no need for borrowing and borrowing in the short run to deal with the current account imbalance problem.

8) **Economically Stable Exchange Rate**: Due to fluctuating exchange rate there is no need to hold foreign exchange reserves. Hence, a fixed exchange rate is comparable in economic terms.

9) **Effects of Fiscal Policy**: A changing exchange rate regime increases the effectiveness of fiscal policy. Therefore, there is a possibility of increasing the export of the country. Hence the interest rate decreases. Exports stimulate production of goods and capital outflows. Thus domestic prices rise, Increases income and employment. When the problem of inflation arises in the country. Then the interest rate increases. This method is effective for fiscal policy.

10) **Establishment of International Trade**: The natural level is automatically compromised and corrected or maintained according to the changing exchange rate regime. It is not risky to overvalue or undervalue a country's currency.

11) **Protection to International Development**: A country is protected internationally against economic fluctuations due to fluctuating exchange rates. It is more effective. It occurs due to exchange compromise.

12) **Comparative Advantages**: Exchange rate is always in equilibrium. A country enjoys comparative advantages in respect of certain goods to determine the price for taxation.

In other words, without any government interference, a flexible exchange rate balances the balance of world commerce. In the post-World War II

era, a stable exchange rate not only boosts international trade, but a variable exchange rate can also accurately forecast changes in trade. Long-term international investment depends on many other factors and cannot be supported by a stable exchange rate alone. Examples include the accessibility of raw materials, investment potential, return on investment, political stability, and the pursuit of both economic and political goals. The increase in commerce between nations in the "Sterling Area," "Dollar Area," and "Euro Area" may not be due solely to exchange rate stability; there may be a variety of other factors at play.

There can be no guarantee that speculative transactions won't take place in international trade, even in the case of stable exchange rates.

Each nation experiences economic growth at a different rate. Additionally, the potential profit in each industry varies. Thus, a fixed exchange rate may not accurately reflect the two currencies' natural relationship. On the other hand, stability can be manufactured. International trade became incredibly unpredictable as long as European countries had their currencies tied to the US dollar, necessitating the establishment of new exchange rates. Since 1990, exchange rates have fluctuated as a result of liberal economic policies.

B. Case against to Flexible / floating exchange rate:

The following arguments are made against floating exchange rate.

1) **False appreciation of instruments**: Fluctuating exchange rate does not give proper guidance to the stakeholders in the foreign exchange market about the equilibrium exchange rate. Therefore, the decision to share with the resources of the country becomes wrong.

2) **Government Intervention**: The government does not directly intervene in the foreign exchange market due to fluctuating exchange rate transactions. If the exchange rate appreciates, the government implements monetary and fiscal policy. E.g. When domestic saving is high, net investment in the foreign country takes place. The indirect effects of the government will not be useful as the exchange rate reduces capital outflows. Another consequence is that the government does not understand the exchange rate so the exchange rate is fixed or manipulated. As a result, chaos would ensue if each country did not attempt to create a favorable exchange rate with the other. It will result in wholesale and exchange rate wars.

3) **Exchange rate liability and uncertainty**: Fluctuating exchange rate creates exchange rate liability in a developed country and has economic impact on international trade and capital movement.

4) **Nature of Inflation**: Inflation occurs due to changing exchange rate. Depreciation of exchange increases import prices. As a result the cost increases.

5) **Increase in speculation**: Fluctuating exchange rate leads to increase in speculation. Exchange rate changes due to supply and demand. Business activity fluctuates unexpectedly. Therefore, the size of the foreign exchange rate decreases.

6) **Scarcity in the global market**: In this system, all the functions of money are performed by a single currency. It is divided into world market goods and capital. So global tools don't take its share. Thus this method is not sustainable for long.

7) **Unfavorable to developing countries**: Developing countries face persistent balance of trade deficits. Importing machinery, tool materials, raw materials, etc. leads to economic development of the country. But exports are limited. Demand for primary products is elastic in international markets. As a result, their currency depreciates due to fluctuating exchange rates. It also slows down the trade and development process of developing countries.

1.5 NOMINAL, REAL AND EFFECTIVE EXCHANGE RATE

1.5.1 Nominal Exchange Rates:

The nominal exchange rate refers to the price at which a person can exchange one country's currency for another country's. This means it calculates how much of currency A or currency B can be purchased in exchange for the other. Starting from that point, depending on the base currency we select, all exchange rates can be expressed in one of two ways. Accordingly, we can either calculate how much of currency A we receive in return for currency B or how much of currency A we receive.

Let's imagine you visit a bank to convert $100 to EUR as an example. In other words, at this time, 1 USD is worth 0.88 EUR thanks to the bank's offer. Therefore, you may trade 100 USD for 88 EUR (i.e., 100 x 0.88). Of course, if you prefer, you can always convert your EUR 88 back to USD. In that situation, the bank will give you 1.14 USD for each EUR. Because EUR is used as the base currency rather than USD, the exchange rate seems different. However, the situation is essentially the same (if we ignore the rounding error). So, with this exchange rate, you can get your initial USD 100 back, in exchange for EUR 88 (i.e., 88 x 1.14).

1.5.2 Real Exchange Rates:

The real exchange rate refers to the price at which a person can exchange products and services from one nation for those from another. In other words, it specifies the quantity of a foreign good or service that can be exchanged for a single unit of a domestic good or service. Because the prices of the relevant goods and services must constantly be changed to the same currency before they can be compared, the actual exchange rate and nominal exchange rate are closely tied. In order to determine the real exchange rate, we can apply the following formula:

Real Exchange Rate = (Nominal Exchange Rate x Domestic Price) / Foreign Price

A case in point. Let's say you're looking for a great destination for your upcoming vacation. You discover two hotels online, one in Hawaii and the other in Ibiza, Spain (USA). Ibiza's accommodation rates are quoted at EUR 65 per night. In contrast, a hotel night in Hawaii costs USD 150. As we learned from the aforementioned example, the nominal exchange rate between the US dollar and the euro is 0.88. The real exchange rate between the two hotel rooms, calculated by plugging this into the calculation above (i.e., 0.88 x 150 / 65), is 2.03 nights in Ibiza for every night spent in Hawaii. In other words, you could spend more than twice as many nights in Ibiza than in Hawaii for the same amount of money.

Determination of Real Exchange Rate:

The changes in the real exchange rates are caused by many factors. Amongst them demand and supply are the two major factors through which real exchange rates are determined.

Demand:

A Change in export demand for the concerned country, say India when the world demand for the Indian goods has increase, its demand curve of shifts to the right as represented in the following figure –

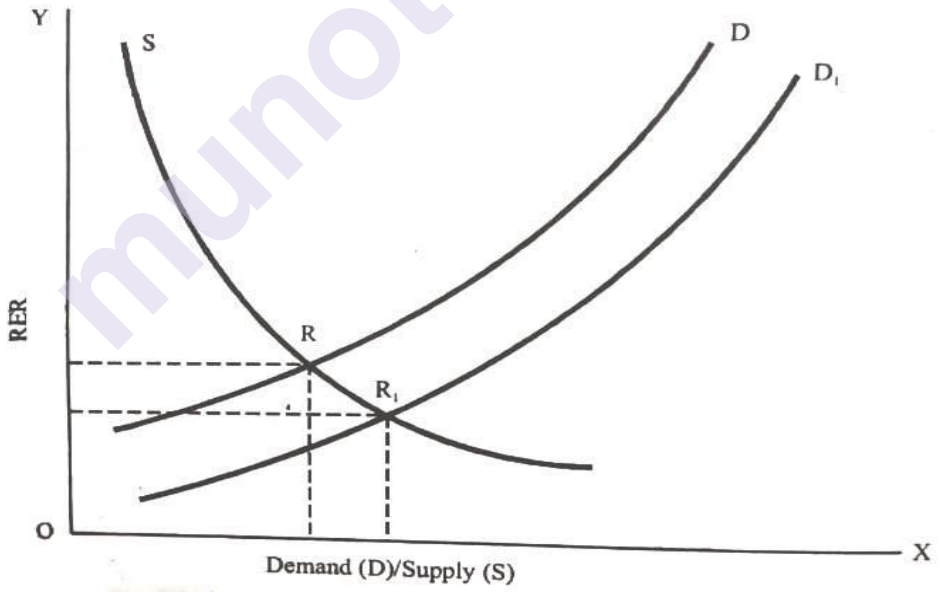

Figure 1.2

Due to the current exchange rate, when there is a demand for Indian goods, the relative price of Indian goods must increase relative to the foreign price in order to restore equilibrium. Therefore, with the given supply curve S, when demand for Indian goods increases, the demand curve shifts from D to D1, and the original equilibrium exchange rate changes from R to R1.

As a result, it suggests that the real exchange rate of the nation has declined. Since the purchasing power of the rupee has increased in relation to international commodities, this suggests that the nominal exchange rate, or external value, of the Indian rupee has increased in real terms.

Supply:

The availability of Indian exportables may alter as a result of technological and managerial advancements. If Indian export production tends to increase, there may be a supply-demand imbalance. In other words, the price of Indian goods must decrease in order to restore equilibrium when the growth in international demand for Indian exportables is smaller than the increase in the output supply of exportables. The real exchange rate will be fixed starting at R and increasing to R1 and beyond, as depicted in the following figure.

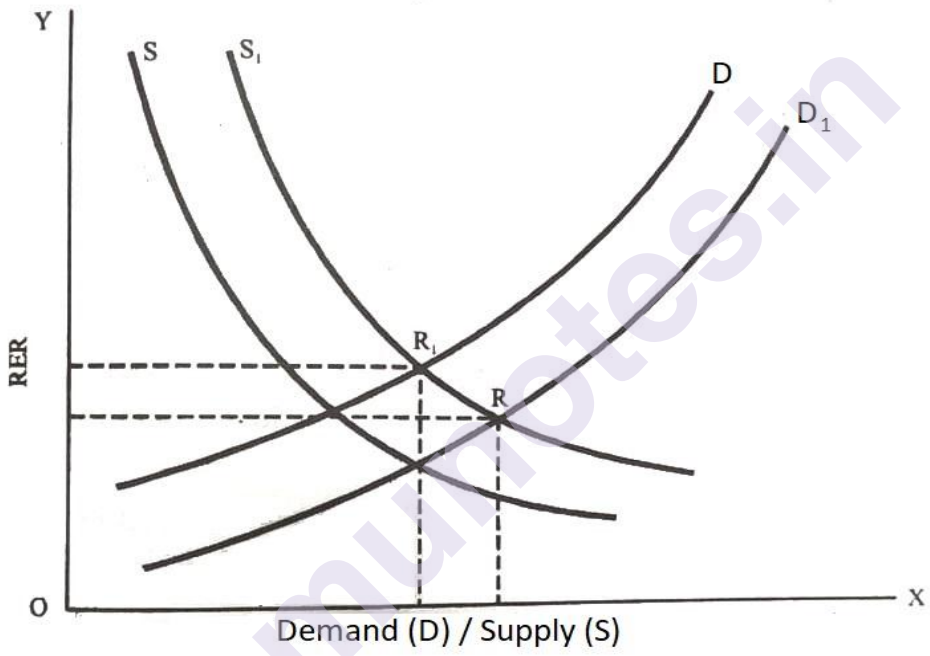

Figure 1.3

When a country's productivity grows, which is reflected in a rise in output and the supply of exportable goods, the real exchange rate tends to appreciate.

The country's balance of payments benefits when the real exchange rate increases or appreciates.

Thus, real exchange rate appreciation acts as a mechanism for adjusting the balance of payments in order to address the current account deficit.

The weighted average of the bilateral real exchange rates (RERS) between the concerned country and each of its trading partners yields the real effective exchange rate (REER). According to the respective trade shares of each trading partner, weights are assigned.

Suppose, a country has four major trading partners nations: A, B, C, and D. Then, the real effective exchange rate (REER) of a given country (x) is measured as:

$$REER_X [(RER_A . S)+(RER_B . S_B)+ RER_C . S_C)+(RER_D . S_D)]/4$$

Here, a, b, c and d are referred to the respective country and its trading share (5). RE implies the concern country's real exchange in relation to A's currency. Likewise RER_B refers to real exchange rate against B currency and so on.

The formula can be extended in general for 'n' partners nations to a country, thus:

$$REER_x = \sum ERER_n / N$$

Where, $\sum$ is sum of, N= number of partner countries, n = 1, 2, 3,...n.

1.6 PURCHASING POWER PARITY (PPP) AND INTEREST RATE PARITY (IRP)

A) Purchasing Power Parity Theory:

This idea was created by Gustav Cassel following World War I. The irreversible paper currency system was established during World War I, replacing the gold currency system. The purchasing power parity theory of exchange rate determination was put forth by Swedish economist Gustav Kassel in order to explain how to exchange different paper currencies of two different countries and how to calculate the exchange rate since the majority of the world's nations have adopted the paper currency system. Thus, purchasing power parity theory explains how the exchange rate of a paper currency that cannot be converted is calculated.

After World War I, Cassel elaborated in his theory.

The base rate is the base rate, and while the gold standard is Mint Par, the real rate of exchange varies below and above that rate. Similar to this, the non-convertible paper approach relies heavily on the purchasing power parity (PPP) rate. Only the base rate's direction is changed by the actual rate. The true power parity rate is the baseline from which the actual rate cannot deviate too much. Many individuals in other nations prefer a certain currency because it has the purchase power of the commodities produced in that nation. The fundamental tenet of buying power parity theory is this. When domestic money is used to purchase foreign currency, foreign purchasing power is obtained in exchange for domestic purchasing power. In other words, the exchange rate of a currency is determined by the relative purchasing power of two different currencies; similarly, the purchasing power of two different currencies is exchanged when two countries exchange their currencies. As a result, the equilibrium exchange rate develops when two currencies with equal purchasing power are traded. To put it another way, the exchange rate is considered to be in equilibrium when the purchase power of two different currencies is equal.

The ratio of the purchasing power of two non-convertible paper currencies serves as the exchange rate.

The proportion of pure gold in the two nations' currencies set the exchange rate during the gold standard. However, it is impossible to calculate the conversion rate of this method while utilising non-convertible paper money. Therefore, the currency's purchasing power is taken into account. You can purchase products and services from other countries using purchasing power. However, one must pay local money to obtain foreign currency. Therefore, a base rate must be established to ensure that both currencies have equal purchasing power.

Such an exchange can't be far from the real rate. For instance, the exchange rate would be 1 dollar = 46 rupees if one spent 46 rupees in India to purchase the same amount of products and services as could be purchased with US dollars.

The real rate may be higher or lower than this base rate. The following approach was suggested by Cassell for calculating the purchasing power parity rate. Exchange Rate = Foreign Price Index + Domestic Currency Price of Currency in Base Year

Suppose the exchange rate between England and America is 1 pound = 4.86 dollars. The price index in 1964 is 100. If the price index rises to 300 in England and 200 in America in 1973, the exchange rate will be as follows-

$$1 \text{ pound} = \frac{4.86 \times 200}{300} = 3.24 \text{ dollars}$$

Thus, the ratio of their purchasing power determines the equilibrium exchange rate between two nonconvertible currencies. This rate is temporary. Therefore, it varies depending on the circumstances and in the opposite direction from the typical level of prices between the two countries. The value of the currency increases when the actual rate exceeds the purchasing power parity rate. In other words, if the real rate falls below the purchasing power parity rate, the price of the currency declines and the currency is considered to be undervalued.

1.6.2 Interest Rate Parity (IRP):

According to the Interest Rate Parity (IRP) theory, the difference between the interest rates of two nations always remains equal to that determined by using both spot and forward exchange rates. Interest, spot exchange, and foreign exchange rates are all connected by interest rate parity. The theory also emphasises the idea that the size of a currency's forward premium or discount is equal to the spread between that country's spot and forward interest rates. In Forex markets, it is essential. This hypothesis is explained using the following two categories:

1. Covered interest rate parity:

The covered interest rate parity situation means there is no opportunity for arbitrage using forward contracts, which often exists between countries with different interest rates.

Formula for Covered Interest Rate Parity

$$F = S * \frac{(1+i_d)}{(1+i_f)}$$

where:

id- Interest rate in the domestic currency

if- Interest rate in the foreign currency

S- Current spot exchange rate

F- Forward foreign exchange rate

2. Uncovered Interest Rate Parity (UIP):

Uncovered interest rate parity (UIP) theory states that the difference in interest rates between two countries will equal the relative change in currency foreign exchange rates over the same period.

Formula for Uncovered Interest Rate Parity

$$F_0 = S_0 \frac{1 + i_c}{1 + i_b}$$

where:

F0- Forward rate

S0- Spot rate

ic- Interest rate in country

cib- Interest rate in country b

The link between domestic and international interest rates as well as currency exchange rates is governed by the uncovered interest rate parity (UIP) equation, which is a fundamental equation in economics.

Covered interest parity includes using forward contracts to cover the exchange rate, which is how it differs from uncovered interest parity. Uncovered interest rate parity, on the other hand, uses simply the anticipated spot rate and forecasts rates without hedging against exposure to foreign exchange risk. When the predicted spot rate and the forward

rate are same, there is no distinction between covered and uncovered interest rate parity.

Implications of IRP Theory:

Arbitrage may not be possible if the Interest Rate Parity theory is true. This means that regardless of whether investors use domestic currency or foreign currency, the Rate of Interest (ROI) will always be the same as if the investor had used local currency as their initial investment.

1. Foreign currency must trade at a forward discount when the domestic interest rate is lower than the foreign interest rate. This applies to preventing currency arbitrage in foreign exchange.

2. Domestic investors have the possibility to profit from arbitrage when a foreign currency lacks a forward discount or when the forward discount is insufficient to offset the interest rate advantage. Therefore, foreign investment can occasionally be advantageous to domestic investors.

3. The foreign currency must trade at a forward premium when domestic rates are higher than international interest rates. This is yet another measure to counteract local country arbitrage prevention.

4. Foreign investors will have the chance to profit from an arbitrage opportunity when the foreign currency does not have a forward premium or when the premium is too small to offset the domestic country advantage. Therefore, by making investments in the domestic market, foreign investors can profit.

1.7 QUESTIONS

Q1. Define the Rate of Exchange. Explain Determination of Rate of Exchange.

Q2. Discuss the Case for and against Fixed Exchange Rate.

Q3. Discuss the Case for and against Flexible Exchange Rate.

Q4. Elaborate the Nominal, Real and Effective Exchange Rate.

Q5. Explain the Purchasing Power Parity.

Q6. Explain the Interest Parity Theory.

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2

FOREIGN EXCHANGE MARKETS

Unit Structure

2.0 OBJECTIVES

- To understand the Foreign Exchange Markets.
- To understand the Foreign Exchange Risk and Exposure.
- To understand the Types of Exposure.
- To understand the Hedging Risk and Exposure.

2.1 INTRODUCTION TO FOREIGN EXCHANGE MARKET

The marketplace where participants can buy, sell, trade, and speculate on currencies is known as the foreign exchange market. Investment management businesses, banks, central banks, hedge funds, commercial companies, investors, and retail forex brokers make up the foreign exchange markets.

In currency exchange transactions, the rights to income and property can be exchanged for cash by changing one currency into another. This approach is used to study several elements.

1) Researching the national currency and the currencies of other nations,

2) Exchange appreciation factors,

3) Exchange and equilibrium value at exchange locations.

The transformation of different currencies into financial instruments. currency translation of prevailing instruments on credit. such as bank letters of credit, telegraphic transfers, traveler's checks, draughts, faxes, dowry, and so forth. Banks instantly exchange local money and foreign currency using tools in the bank account. Physical exchange of currency is not possible. It is exchanged and recorded officially in the relevant nation.

Exchange services are offered by banks. Between buyers and sellers, or between importers and exporters, the intermediate role is crucial. The market where buying and selling of foreign currency takes place is known as the foreign exchange market.

A foreign exchange market is a digital marketplace where banks, merchants, people, organisations, governments, etc. buy and sell foreign currency. The main buyers in this market for foreign exchange include traders, brokers, banks, and central banks. Brokers and intermediaries in the exchange market make money by purchasing and offering foreign currencies. The financial hub of the currency market is the foreign exchange market.

2.2 TYPES OF FOREIGN EXCHANGE MARKETS

The purpose of foreign exchange is to deal in the market which is classified into spot market and futures market.

1) Spot Market:

Transactions in foreign currency are completed there ("On the Spot") within 24 hours. Spot rate refers to the exchange rate set for quick purchases and sales of foreign currency. The present rate is different for both the selling rate and the buying rate. The current rate takes into account cable rate, transfer rate, and mail rate. The amount is credited to the buyer's deposit account at the spot rate when the buyer of foreign currency deposits the foreign currency's purchase price in the bank in local currency.

2) Forward Market:

In the forward market, two parties are involved. These parties can be two businesses, two people, or two government nodal agencies. In this kind of market, parties have made a commitment to transact at a specified price and quantity at a later period. For instance, a case of iceberg lettuce would cost $50 on January 1. The farmer and the restaurant agree to provide 100 cases of iceberg lettuce at a forward pricing of $55 per case on July 1. The contract will remain at $55 per case on July 1st, regardless of whether the cost per case has climbed to $65 per case or lowered to $45 per case.

3) Future Market:

The futures market, where contracts are bought and sold at the going rate. A market is referred to as a "futures market" when lots of traders use it to buy or sell futures. In the futures market, interest rates are crucial. The currency futures rate is lower when a nation pays more interest on collateral. The exchange rate is greater or stays higher if the purchase's future time frame is longer. The future rate is defined as "the rate at which the future is to be purchased and sold at the rate decided in the present."

4) Option Market:

An option is a contract that permits (but does not mandate) an investor to purchase or sell an underlying item, such as a share, ETF, or even an index, at a predetermined price over a predetermined time period. In this kind of market, "options" are bought and sold. Options are one of the most significant innovations in modern finance. An option contract grants the holder the right, but not the responsibility, to buy or sell, as opposed to a futures contract, which commits one party to deliver and another to pay for a certain good at a specific future date. Options are appealing to hedgers because they offer protection against value loss without sacrificing the possibility of gains. There are other types of options as well. In 1973 the Chicago Board of Trade established the Chicago Board Options Exchange to trade options on stocks. The Philadelphia Stock Exchange has a thriving business in currency options. The options market owes a good deal of its success to the development of the Black-Scholes option pricing model. Developed by economists Fischer Black, ROBERT C. MERTON, and MYRON SCHOLES, it was first published in 1973. The model considers factors including the current price of the stock or currency, its volatility, the price at which the option allows the buyer to buy the stock or currency in the future, interest rates, and time to calculate what the option is worth.

Options are derivative instruments that allow a foreign exchange market operator to buy or sell a foreign currency at a predetermined rate (**strike price**) on or before a specific date (maturity date). A **call option** allows traders to buy the underlying asset, whereas a put option allows them to sell it. Exercising the option means purchasing or selling the underlying asset through the option. In the options market, exercising the option is not an obligation for traders

5) Swap/Currency Market:

Swap market is one where transactions for simultaneous lending and borrowing of two different currencies are done between investors. It is a contract between two or more parties for exchanging cash flows on the basis of a predetermined notional principal amount.

In the swap market, there two types of swap transactions done that are currency swap and interest swap.

1. Currency swap is an exchange of fixed currency rates of one country with a floating currency rate of another country.

2. Interest swap means the exchange of floating interest rate with a fixed rate of interest.

2.3 FOREIGN EXCHANGE RISK AND EXPOSURE

2.3.1 Exposure, Risk and Parity Relationship:

When a corporation conducts financial transactions in another country's currency, it is said to be exposed to foreign exchange risk. All currencies may go through periods of extreme volatility, and if appropriate methods are not in place to rectify cash flows from unexpected currency swings, this can negatively affect profit margins.

A potential gain or loss due to a change in the exchange rate is known as foreign exchange risk. Uncovered liabilities in foreign currencies are referred to as "shorts" and uncovered claims as "longs."

The risk of unfavourable changes in the settlement value of transactions put into a currency other than the base currency or domestic currency is known as foreign exchange risk. Exchange rate risk, foreign exchange risk, or currency risk are all terms used to describe this risk, which results from fluctuations in base currency rates or denominated currency rates. It is the threat of financial harm brought on by changes in exchange rates. Here, changes in currency exchange rates will have an impact on a business's financial performance or state. For exporters, importers, and companies conducting business on the global market, exchange risk is a significant risk.

When the value of a company's future cash flows depends on the value of a foreign currency or currencies, the company is said to have foreign exchange exposure. A British company's cash stream is subject to currency fluctuations if it sells products to a US company. Additionally, the US-based company's cash outflow exposes it to currency risk. The exposure will be met with scepticism in both countries because the currency rate is prone to shift or fluctuate. In this instance, we saw that a company engaged directly in foreign currency dealing is subject to foreign exchange risk. A company without such a direct connection might occasionally be determined to be exposed to foreign exchange risk. For instance, if a company manufacturing tiny electronics in Sri Lanka competes with products imported from China, the cost advantage enjoyed by importers over that Sri Lankan company will diminish as the value of the Chinese Yuan against the Sri Lankan rupee rises. The example shows that a company without direct access to foreign exchange will also be impacted.

2.3.2 Types of Exposures:

As mentioned above exposure refers to the degree to which a company is affected by exchange rate changes. Multinational companies face unique risks that do not hamper domestic firms as much. These risks are related to foreign exchange risk and political risk.

There are three types of Exposures:

I) Transaction Exposure

II) Translation exposure

III) Operating exposure

I) Transaction Exposure:

Business organisations frequently conducted transactions in foreign currencies. When conducting commerce or transactions, they run the danger of exposure. Transaction exposure is the risk of experiencing exchange gains or losses on already-completed transactions with a foreign currency as the denominator.

Gains or losses associated with the payment of financial commitments with terms expressed in a foreign currency are measured by transaction exposure. Companies exposed to transactions may see actual exchange profits or losses. Additionally, it combines prospective and retroactive transactions. They are of a transient nature.

In short, transaction exposure measures gains are losses that arise from the settlement of financial obligations whose terms are stated in foreign currency.

Transaction exposures arises from:

A) Purchasing or selling goods and services on credit whose prices are stated in foreign currencies

B) Boring and lending funds when repayment is to be made in a foreign currency

C) Being a party to under formed forward foreign exchange contract.

D) Acquiring assets or liabilities denominated in foreign currencies

Forward contracts and options can be used to lower transaction risks.

For instance: Consider a scenario where an Indian company exports products to the USA and is charged in US dollars. The US dollar weakens over the two months it has to wait before receiving payments. In rupee terms, this will result in lower earnings. The export revenues will increase in terms of rupees if the value of the US dollar increases. In both instances, the cash flow changes. While there is a loss in one scenario, there is a gain in the other.

II) Translation Exposure:

Additionally called accounting risk. The risk of a corporation conducting domestic business at its headquarters but in a different country, with its financial performance reported in that country's currency, is referred to as translation risk or exposure. When a corporation has a sizable amount of its assets, liabilities, or equity held in foreign currencies, the risk of translation is higher.

Translation exposure occurs when financial statements from foreign affiliates are converted into the reporting currency of the parent company. in order to enable the parent to prepare consolidated financial accounts. For instance: Let's say an American MNC with a subsidiary in the UK makes £10 million a year. These earnings are converted into US dollars at the year's weighted average exchange rate when combined with other subsidiary earnings.

III) Operating Exposure:

Also known as economic risk or forecast risk is risk that affects the market value of a company from the unavoidable risk to exchange rate fluctuations many times companies face such type of risk when changes occurred in the macroeconomic conditions and regional instability and also government regulations.

It measures the change in the value of the firm that results from changes in future operating cash flows caused by an unexpected change in exchange rates.

2.3.3 Hedging, Risk and Exposure:

The process of managing exchange rate exposure is known as hedging. Hedging tactics aid in reducing earnings fluctuations brought on by exchange rate movements, and it is also important to reduce transactional economic, translational, and accounting exposures. This is accomplished by managing the currency rate by utilising different hedging strategies. This helps to reduce the expense of managing foreign exchange risk and to prevent volatility and surprises.

Periods of extreme volatility are possible for all currencies, and they can have a negative impact on profit margins. If adequate measures to safeguard cash flows from unexpected currency fluctuations are not in place, exchange rate risk can typically be handled through efficient hedging operations.

Hedging strategies and Techniques to manage risk and exposure:

There are various tools and techniques of risk management tools to help business for limiting and reducing their foreign exchange risks. We will explain here some important tools and techniques which are fundamental in nature-

I) Spot Transfer:

The danger of exchange rate swings will be reduced by spot transfers of foreign currency.

Spot transfers involve two parties agreeing to buy one currency and sell another at a predetermined time within the following two working days, or the "spot date." This rate is also known as the "here and now" rate. This is the most fundamental risk management technique utilised in currency trading.

1) The currency bought and sold is the most crucial factor that is agreed upon in every foreign exchange transfer, including spot transfers.

2) The sum of money to be exchanged

3) The transfer maturity date.

4) The exchange rate at which the transaction will take place.

II) Forward Market Hedge:

Currency forward market transactions involve currency exchanges that happen after spot transactions, at a future date that is defined. These transactions are referred to as forward transactions.

It is a contract between two parties that requires one of the parties to provide the stated quantity of foreign currency at a future date in exchange for the other party paying the other party the agreed-upon amount in domestic currency. The market for forward transactions is referred to as the Forward Market, and the exchange rate that applies to the forward contract is known as the forward exchange rate.

Exporters and importers greatly benefit from foreign exchange facilities because they can use them to enter into a suitable foreign exchange contract to offset the risk associated with exchange rate variations.

III) Limit Orders:

Another popular option for managing market risk is limit order, where businesses can set a target rate with the help of consulting agencies can monitor the market and notify if great hit that target to make transfer.This helps the businesses to select rate that works for them to avoid the risk of unpredictable market fluctuations.

IV) Hedging Through Currency Options:

People we have to exchange currency at some time in the future use currency options hedges to protect themselves against swings in currency values.

A derivative known as an option enables the holder to enter the underlying market at a given price. The ability to buy or sell a currency at a preset exchange rate is thus provided by currency options. Options on currencies expire after a predetermined time. Internationally, currency options hedges are frequently employed. As an illustration, an American importer might consent to purchase some electronics from a Japanese producer in the future. The Japanese Yen will be used for the transaction. In this case, the American importer develops the hedge by buying Yen currency options. The importer is now safeguarded in the event that the Yen appreciates against the dollar.

V) Money Market Hedge:

Small enterprises and retail investors can easily manage their currency risk by using the money market. Without using futures markets, it is one way to hedge against currency volatility.

When a suitable amount of money is borrowed or deposited now to fix payments and receipts in domestic currencies, a money market hedge is constructed to protect against exposure to foreign currency risk.

The domestic corporation can use a money market hedge to fix the value of its partner's currency before a planned transaction. By doing this, future transaction costs are made certain, and the domestic company is guaranteed to pay the price it desires.

For instance, an American corporation must pay its suppliers in euros rather than dollars because it has to buy supplies from a German company in six months. The corporation might utilise the money market to lock in the value of the Euro relative to the dollar at the present rate, ensuring that even if the currency falls against the Euro in six months, the US company will be aware of the exact dollar amount of the transaction cost and can plan appropriately.

VI) Leads and Lags:

Leads and lags describe the purposeful postponement of payments due in foreign currency in order to benefit from an anticipated change in exchange rates.

Businesses may purposefully or unintentionally postpone making payments to a foreign business in the hope that the currency rate will change in their favour. The organisation may choose to pay sooner or later than Scheduled when a payment to a foreign entity is involved.

Additionally, there is danger associated with leading and lagging because, when it comes to timing strategies, currency rates can change abruptly.

VII) Currency Risk Sharing:

Two parties agree to share the risks associated with exchange rate swings.

Under currency sharing, the transaction's basic price is modified if exchange rates fluctuate above a certain neutral level.

The extent of currency sharing will rely on the two parties' willingness to participate into such a risk-sharing arrangement and their relative bargaining positions.

VIII) Currency Swaps:

Swaps are merely tools that allow the conversion of two cash flow sources into separate currencies. In the currency market, a swap is defined as the simultaneous selling of spot currency for the purchase of the same currency in the future or the simultaneous purchase of spot currency for

the sale of the same currency in the future. The forward is placed in the new spot. Technically speaking, transactions in which the same currency is simultaneously sold or bought for spot delivery and then simultaneously bought or sold for forward delivery are referred to as swaps or double deals since the spot currency is swapped against the forward. Commercial banks that engage in forward exchange trading may use swap operations to change the position of their funds.

2.4 SUMMARY

The market where currency rates are decided upon is the foreign exchange market. Exchange rates are the means through which different national currencies are linked together on the international market to provide information about the value of one currency relative to another.

For internal stability, ongoing exchange rate changes are unacceptable. It will interfere with the efficient operation of global trade and have an impact on home economic activity. The crucial aspect of managing foreign exchange involves many different considerations.

In the global economy, risk and exposure management is a crucial problem. To deal with reflections that appear in exchange rates and cause losses or gains in the currency market, a variety of methods and techniques are used. The management of such risks inherent in the foreign currency market requires the use of various hedging methods to address the risk associated with accounting exposure, transaction exposure, and operating exposures.

2.5 QUESTIONS

Q1. Define the Foreign Exchange Markets. Explain the types of Foreign Exchange Market.

Q2. Briefly discuss the types of Exposure.

Q3. Explain the various tools and technics for Hedging Risk and Exposure.

*****

3

BALANCE OF PAYMENTS - I

Unit Structure

3.0 Objectives

The main objectives behind the study of this unit are:

- To know about in detail about balance of Payments and its accounts.
- To study the relationship between balance of Payments and National Income.

3.1 INTRODUCTION

A method called "double-entry book keeping" is used to make a country's balance of payments account. The same amount is recorded on both the credit side and the debit side of each international transaction. Every deal has two sides, so that's how it works. Say a country sends out goods worth Rs. 100 crore.

This item will go on the credit side (+) of the merchandise account, since it gives a country the right to get money from foreigners. But at the same time, this amount is treated as a short-term capital debit (-) because it shows a short-term outflow of capital from the exporting country.

A typical business's balance sheet has entries with credits on the right and entries with debits on the left. But when figuring out the balance of payments, credits go on the left and debits go on the right.

3.2 BALANCE OF PAYMENTS

The balance of payment is a list of all the economic and monetary transactions between all the units of a country and the rest of the world in a given accounting year. It is designed to work with the double-entry system.

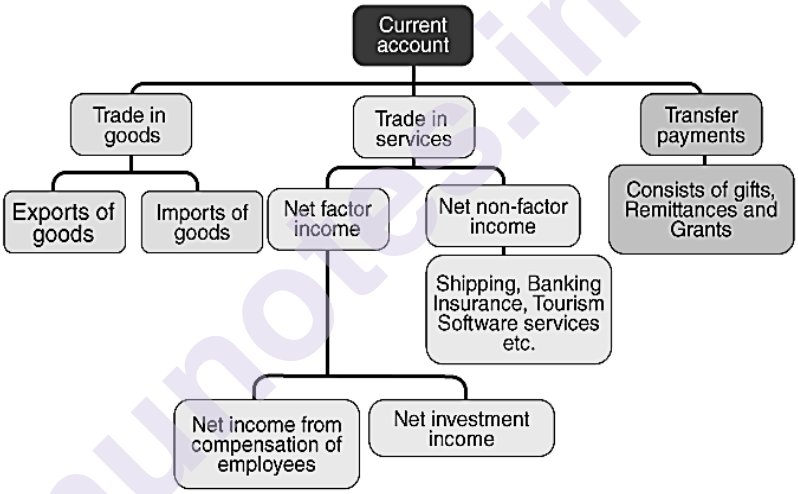
Definition:

According to Kindle Berger, "The balance of payments of a country is a systematic record of all economic transactions between the residents of the reporting country and residents of foreign countries during a given period of time".

3.2.1 Current Account:

The current account is a list of what goods, services, and transfer payments were bought and sold. Both exporting and importing goods are part of commodity trade. There are both transactions that make money for the factor and those that don't.

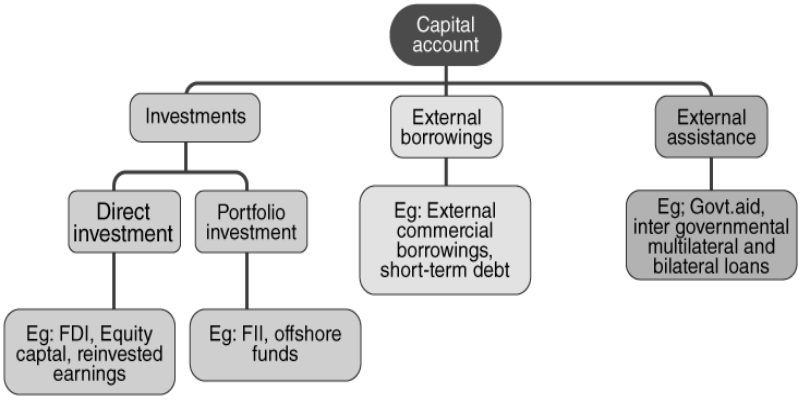
Transfer payments are money that the people of a country get for free, without having to give anything in return. They come from gifts, grants, and money sent back home. They could come from the government or from people who live in other countries.



3.2.2 Capital Account:

The capital account keeps track of all the assets that are owned outside the country. Any thing that can be used to hold money is called an asset. Examples include stocks, bonds, government debt, money, etc. When money is used to buy assets, it comes out of the capital account. If an Indian buys a UK car company, this is recorded as a "debit" on the capital account undertakings (as foreign exchange is going out of India).

On the other hand, a credit is made on the capital account when assets are sold, like when a Japanese customer buys a share of an Indian company. Foreign direct investments (FDIs), foreign institutional investments (FIIs), aid, and loans from outside the country are all examples of these.



3.2.3 Official Reserve Transactions:

Official reserve transactions, or ORTs, are things that a country's monetary authority does to change the country's official reserves. Buying and selling currency on the exchange market in exchange for other assets and foreign currencies. When a country has a deficit, it sells foreign currencies on the exchange market and buys them when it has a surplus. A balance of payments surplus or deficit is when the official reserve goes up or down.

The balance of payments depends on official reserve transactions because:

1. Helps fix the deficit or surplus in the balance of payments.
2. Buying your own currency is a credit on the balance of payments, while selling it is a debit.

Official Reserve Transactions are things that the country's monetary authority does to change the country's official reserves. On the exchange market for other assets and foreign currencies, people buy and sell currency. When the economy has a deficit, these foreign currencies are sold on the exchange market, and when the economy has a surplus, they are bought there. Official reserve transactions are very important because they help keep the balance of payments for the whole country in check. So, these transactions are counted as items for housing in the BOP.

The gold reserves, special drawing rights, and foreign currency that can be sold make up a country's official reserve. The official reserve goes up or down depending on whether there is a surplus or deficit in the balance of payments. There are three parts or categories to the Balance of Payments. These are the Capital Account, the Current Account, and the Financial Account. When a country's overall balance of payments (BOP) is in the black, its foreign exchange reserves grow. When there is a deficit, money is taken out of the reserves by selling foreign currencies on the exchange market. When a country has more money than it needs, it buys foreign currency.

This is part of the international accounting for the balance of payments. It shows the central banks' current account and capital account. The current

account shows a country's imports and exports of goods, services, revenues, transfers, and whether or not it is a net creditor or debtor. The capital account keeps track of how much money is invested abroad and at home, how much money the government borrows, and how much money the private sector borrows. When there is a deficit or surplus in the balance of payments, the ledger is brought back into balance by sending or bringing in reserve assets. This is shown in the official account for settlement.

3.3 RELATIONSHIP BETWEEN BALANCE OF PAYMENTS AND NATIONAL INCOME ACCOUNTS

The National Income and Product Accounts and the Balance of Payments Accounts are two different sets of accounts that use different rules of accounting. As their names suggest, the BPAs are mostly about transactions that happen outside of the country, while the NIPAs are a broader set of accounts that cover both domestic and international transactions. Most of the foreign transactions listed in BPAs are also listed in NIPAs. Some things have different names in the two accounts so that it is clear which set of accounts (and therefore which set of accounting rules) they belong to. There are small differences in how accounting is done, but the numbers in the BPAs and NIPAs are very close. In the examples that follow, we'll get information about both domestic and international transactions from the NIPAs. But for some foreign transactions, we'll use their BPA names instead of their NIPA names because these names are more common.

The Balance of Payments Accounts:

In the BPAs, transactions that result in payments to foreign countries are called debits, and transactions that result in payments from foreign countries are called credits. A debit is written with a minus sign, and a credit is written with a plus sign. The main categories of debits are imports of goods and services, payments (profits, interest, and rents) on foreign investments in the U.S., gifts to foreigners, purchases of assets abroad by people living in the U.S., and increases in the U.S. government's international assets. Credits come from what is being paid for the least. (Gifts are different. When you subtract the gifts you gave to foreigners from the gifts you got from foreigners, you get a debit entry for the net gifts you gave to foreigners. There is no credit entry to match.) Table 1 shows a group of BPAs that were made up. The current account is the first four rows. The table shows that there is no official intervention, which will be explained in more detail later. These rows show payments that are being made right now for goods and services, so they are also in the NIPAs. Rows 6 and 7 are the capital account. These rows show how much money was paid when assets were traded. Since these aren't immediate payments for goods and services, they don't show up directly in the NIPAs. In the first row of the table, the imports and exports of goods are shown. The total of the debit and credit entries in this row is the merchandise trade balance. If this number is more than zero, it means that

exports are more than imports. This is called a surplus in the goods trade balance. Both the current account and the capital account have other rows with balances that are the same. A positive balance means that there is a surplus, which means that a country is getting more money from foreigners than it is giving to foreigners. The weights are

Table 3.1
Hypothetical Balance of Payments Accounts
(No Official Intervention)

	Debits		Credits		Col. 1 + Col. 2		Running Total of Col 3	
	(1)		(2)		(3)		(4)	
Current Account								
1	Merchandise Imports	-300	Merchandise Exports	200	Merchandise Trade Balance	-100	Merchandise Trade Balance	-100
2	Service Imports	-60	Service Exports	50	Balance on Services	-10	Balance on Goods and Services (Trade Balance)	-110
3	Payments on Foreign Investment in U.S.	-70	Receipts on U.S. investment Abroad	90	Balance on investment income (Net Factor income from Abroad)	20	Balance on goods, Services and Income	-90
4	Unilateral Transfers	-15				-15	Current Account	-105
Capital Account								
5	Change in private U.S assets abroad	-20	Change in Private Foreign assets in U.S.	125	Private Capital Account	105	Official Settlements BOP	0
6	Change in U.S. official Assets	0	Change in Foreign official assets in U.S.	0	Official Capital Account Balance	0	Balance of Payments	0

When you add up the numbers on different lines, the totals get bigger and bigger. For example, the total of all the debits and credits on lines 1 through 4 is the current account balance. According to the rules of double-entry bookkeeping, every debit must be matched by a credit. So, the total of all the debit and credit entries in all the rows of the table must equal zero. This is called the "balance of payments." To have a zero balance of payments, both the current account balance and the capital account balance must be the same size but have the opposite sign. For example, a $100 billion current account deficit means a $100 billion capital account surplus. A current account deficit means that the United States is buying more domestic goods and services than it is selling. A capital account surplus means that the US sells more assets to other countries than it buys from them. These assets could be in the US or in another country. If the United States buys more goods and services than it sells, it will have to sell more assets than it buys to pay for those goods and services. A capital

account surplus is another name for a net capital inflow. For the goods and services that are being made right now to be paid for, there needs to be a net inflow of capital. The capital account deficit is also called the net foreign investment. The U.S. has a capital account deficit when it buys more assets from other countries than it sells to them. This means that other countries are giving the U.S. more net assets. Since the balance of payments must be zero, the amount of net foreign investment must be equal to the amount of the current account. In fact, the term "current account" is only used in the BPAs, while the term "net foreign investment" is used in the NIPAs. Except for small differences in how accounting is done, these two things are the same.

BPAs, Exchange Rates and Official Intervention:

Let's say that people in one country always want to be paid in their own currency and don't have any foreign money. For example, when a U.S. merchant buys German appliances, she must pay the German exporter with Deutsche marks that she bought on the foreign exchange market. In the same way, a German business that wants to buy goods from the US must buy dollars. If the US has a trade balance deficit with Germany, it means that Americans want more Deutsche marks than Germans do. This means that the United States has more money than Germany. When there are more dollars than marks, or when there are more dollars than marks, the mark is usually more valuable than the dollar.

The U.S. government can support the dollar on the foreign exchange market instead of letting its value fall. If the U.S. government has a lot of Deutsche marks, it can sell them for dollars to make the demand and supply of marks equal on the foreign exchange market. This makes sure that the mark doesn't get stronger against the dollar. The U.S. government's Deutsche marks are part of the government's official assets. If the government sold these marks, there would be a positive entry in Table 1, Row 7, Column 1. The entry is good because when the United States sells this asset, it gets money. Foreign currencies, gold, reserves at the International Monetary Fund (IMF), and special drawing rights (SDRs), a type of international reserve "currency" issued by the IMF, are all part of the U.S. official reserve assets. These assets can help the dollar's value in other countries. For example, if the U.S. government doesn't have any Deutsche marks, it can use SDRs to buy them from the German government and then sell them on the foreign exchange market to help support the dollar. Because of this chain of events, the value of all official U.S. assets also goes down.

If the U.S. government doesn't get involved in the foreign exchange market, the German government can step in to keep the Deutsche mark from getting stronger. To do this, it can change dollars into marks. This deal increases the German government's assets in the U.S., so a positive entry is made in Table 1, Row 7, Column 2. In reality, the German government would probably use these dollars to buy U.S. government debt, which makes up a big part of foreign official assets in the U.S.

All of the numbers in the last row of Table 1 are 0. This means that neither the U.S. government nor the governments of other countries can change the foreign exchange market. If the U.S. government and other governments stay out of the foreign exchange market completely, the exchange rate between the dollar and other currencies will change so that the amount of each currency sold matches the amount that is bought. We call this kind of deal a system with exchange rates that change over time.

Table 3.2 shows a set of imaginary balance of payments accounts that are similar to those in Table 1, except that the government is now involved in the foreign exchange market. (Is the US government trying to make the dollar worth more or less? Are other governments trying to make the dollar worth more or less? If the government gets involved, the exchange rate might stay the same. We call this kind of deal a system of fixed exchange rates.

When exchange rates were fixed, the official settlements balance of payments was the total positive balance up to row 6. Notice in Table 3.2 that the difference between the official settlements balance of payments surplus and the official capital account deficit is exactly zero (row 7, column 3). (row 6, column 4). This must be the case if the overall balance of payments is to be 0. The official settlements balance of payments was a way to figure out how much the government was involved in the foreign exchange markets. The balance of payments of a country was in the black when this number went up. (Remember that the overall balance of payments must always equal zero by definition.) If a country's official settlements balance of payments shows a surplus, does government intervention in the exchange markets make the home currency worth more or less?

All of the numbers in Row 7 are 0 when exchange rates change. (Look at Table 3.1 again). This means that for official settlements, the balance of payments is the same as zero. When fixed exchange rates were no longer used, the government stopped putting out the official settlements balance of payments. Even though exchange rates are no longer set in stone, governments still sometimes change how they move. So, the rates don't just go up and down. Even though the official balance of payments for settlements is no longer reported, it can still be worked out from other numbers that are. So, people still talk about surpluses or deficits in the balance of payments (official settlements). As in a system with fixed interest rates, these surpluses and deficits show how and where the government is stepping into the foreign exchange markets.

Table 3.3 shows the BPAs for the US in 1997. "Errors and omissions" is the name of one more thing. This line shows that there is a difference between the capital account and the current account. The information the government gets about the exchange of assets is used to measure the capital account. The current account is made up of information sent to the government about exports, imports, etc. If all transactions were reported in full and correctly, the current account would be the same as the capital account. Due to mistakes and omissions in reporting, the measured

balance of the capital account does not exactly match the measured balance of the current account. The errors and omissions entry is a small amount that is left over after the two accounts have been balanced. Both the current account and the capital account made a lot of mistakes and missed things in some recent years.

Table 3.2
Hypothetical Balance of Payments Accounts
(Official Intervention)

	Debits		Credits		Col. 1 + Col. 2		Running Total of Col 3	
	(1)		(2)		(3)		(4)	
Current Account								
1	Merchandise Imports	-300	Merchandise Exports	200	Merchandise Trade Balance	-100	Merchandise Trade Balance	-100
2	Service Imports	-60	Service Exports	50	Balance on Services	-10	Balance on Goods and Services (Trade Balance)	-110
3	Payments on Foreign Investment in U.S.	-70	Receipts on U.S. investment Abroad	90	Balance on investment income (Net Factor income from Abroad)	20	Balance on goods, Services and Income	-90
4	Unilateral Transfers	-15				-15	Current Account	-105
Capital Account								
5	Change in private U.S assets abroad	-20	Change in Private Foreign assets in U.S.	140	Private Capital Account	120	Official Settlements BOP	15
6	Change in U.S. official Assets	-10	Change in Foreign official assets in U.S.	-5	Official Capital Account Balance	-15	Balance of Payments	0

Table 3.3
Balance of Payments Accounts, 1997
(Billions of Dollars)

	Debits		Credits		Col. 1 + Col. 2		Running Total of Col 3	
	(1)		(2)		(3)		(4)	
Current Account								
1	Merchandise Imports	-877	Merchandise Exports	679	Merchandise Trade Balance	-198	Merchandise Trade Balance	-198
2	Service Imports	-171	Service Exports	258	Balance on Services	87	Balance on Goods and Services (Trade Balance)	-110

3	Payments on Foreign Investment in U.S.	-247	Receipts on U.S. investment Abroad	242	Balance on investment income (Net Factor income from Abroad)	-5	Balance on goods, Services and Income	-116
4	Unilateral Transfers	-40				-40	Current Account	-155
5	Errors and Omissions	-100						-255
Capital Account								
6	Change in private U.S assets abroad	-478	Change in Private Foreign assets in U.S.	717	Private Capital Account (Net Capital inflow)	239	Official Settlements BOP	15
7	Change in U.S. official Assets	-1	Change in Foreign official assets in U.S.	16	Official Capital Account Balance	15	Balance of Payments	0

National Income and Product Accounts:

The circular flow diagram shows that the economy's output and income are the same. So, we can measure total output by measuring total production or by measuring the total income of all factors of production. When you add up all the things that are made, you get an idea of the national product. When you add up all the income from all sources, you get an idea of the national income.

People often separate the national product into different groups, which they can do in two ways. Industry is one way to divide up the national product. The type of spending, or what the product is used for, is another, more common way to classify national product. In a closed economy, the national product can be used for consumption (C), investment (I), and government purchases of goods and services (G). The well-known national product identity is made in this way.

$$Y = C + I + G, \qquad (1)$$

where "national product" is often shortened to "Y." This identity says that the total amount spent on goods for consumption, investment, and government purchases must equal the total amount of goods and services made by the economy.

To let the rest of the world into the economy, this identity needs to be changed, and some new ideas need to be brought in. In an open economy, some of the goods and services made in the country can be sold abroad, so exports need to be added to the right side of the equation (1). Also, some of the money spent on domestic consumption might be spent on goods made outside of the country instead of those made there. The same is true for investments made at home and purchases made by the government. So, imports need to stop. This means that the national product identity in an open economy is:

$$Y = C + I + G + NX \qquad (2)$$

Where NX stands NET Exports

Gross Domestic Product, Gross National Product, and Net National Product are the main ways to talk about the national product. Each of these explains what Y is in a different way. (Each one also has real and made-up versions.)

Nominal Gross Domestic Product (GDP) is the current output of final goods and services produced during a given time period by domestic factors of production and valued at current market prices.

People who live in other countries own some factors of production that are in the United States. The money they make from these factors is their income. Some examples are the income from foreign-owned real estate and factories in the U.S. and the income from the work of foreign residents who live in the U.S. and make money there. In the same way, people from the U.S. can make money abroad by providing services of capital or labour. Net Factor Income from Abroad is the difference between the foreign income of U.S. residents and the foreign income of U.S. residents (NFIA). Most of this money comes from the return on capital, and only a small amount comes from work. For simplicity's sake, we'll assume that all net factor income from overseas is a return to capital.

Nominal Gross National Product (GNP) is the current output of final goods and services made during a certain time period by domestically owned factors of production and valued at current market prices. What do GNP and GDP have in common?

$$GNP = GDP + NFIA \qquad (3)$$

3.4 SUMMARY

The balance of payment is a list of all the economic and monetary transactions between all the units of a country and the rest of the world in a given accounting year. The current account is a list of what goods, services, and transfer payments were bought and sold. Both exporting and importing goods are part of commodity trade. The capital account keeps track of all the assets that are owned outside the country. Official reserve transactions, or ORTs, are things that a country's monetary authority does to change the country's official reserves. The National Income and Product Accounts and the Balance of Payments Accounts are two different sets of accounts that use different rules of accounting. People often separate the national product into different groups, which they can do in two ways. Industry is one way to divide up the national product. Gross Domestic Product, Gross National Product, and Net National Product are the main ways to talk about the national product.

3.5 QUESTIONS

1. Explain the concept of Balance of Payments.

2. Elaborate in detail the Current Account, Capital Account and Official Reserve Transactions.

3. Outline the relationship between Balance of Payments and National Income Accounts.

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4

BALANCE OF PAYMENTS - II

Unit Structure

4.0 OBJECTIVES

- To Study the various approaches of Balance of Payments Adjustments.
- To know about Portfolio balance approach.

4.1 INTRODUCTION

A method called "double-entry book keeping" is used to make a country's balance of payments account. The same amount is recorded on both the credit side and the debit side of each international transaction. Every deal has two sides, so that's how it works. Say a country sends out goods worth Rs. 100 crore.

This item will go on the credit side (+) of the merchandise account, since it gives a country the right to get money from foreigners. But at the same time, this amount is treated as a short-term capital debit (-) because it shows a short-term outflow of capital from the exporting country.

A typical business's balance sheet has entries with credits on the right and entries with debits on the left. But when figuring out the balance of payments, credits go on the left and debits go on the right.

4.2 APPROACHES TO BALANCE OF PAYMENTS ADJUSTMENT

4.2.1 Elasticity Approaches: Marshall-Lerner Condition:

The elasticity approach to BOP is linked to the Marshall-Lerner condition. These two economists came up with this rule on their own. It looks at the situations in which changes in exchange rates make a country's currency

worth less and bring BOP back into balance. This method is about how a currency's value going down affects prices.

Assumptions:

a. There is no change in the amount of exports.

b. Prices are set in the country's own currency.

c. The level of income in the country that is devaluing is fixed.

d. There are a lot of imports. arc elasticities are the price elasticity of demand for exports and imports.

f. Price Elasticities are about absolute values

g. There is no difference between the trade balance and the current account balance.

Based on these ideas, when a country devalues its currency, the prices of its imports in its own country go up and the prices of its exports in other countries go down. So, when a country devalues its currency, it increases exports and decreases imports. This makes the BOP deficit go down.

But how well it works will depend on how sensitive the country's demand for imports and demand for exports are to changes in prices. The Marshall-Lerner condition says that a country's balance of payments will get better if the sum of the price elasticities of demand for exports and imports is more than one. It looks like this:

$$e_x + e_m > 1$$

Where e_x is the elasticity of the demand for exports and E_m is the elasticity of the demand for imports. On the other hand, if the sum of the price elasticities of demand for exports and imports in absolute terms is less than one, $e_x + e_m > 1$, then devaluation will make the BOP worse (increase the deficit). If the sum of these elasticities in absolute terms is one, $e_x + e_m = 1$, devaluation has no effect on the BOP, which stays the same.

The following is the process through which the marshall-lerner condition operates in removing BOP deficit of a devaluing country

When the value of a foreign currency goes down, export prices in the home country go down. When prices are low, more goods are shipped abroad. How much they go up depends on how flexible export demand is. It also depends on the goods that are exported and how the market is doing.

If the country is the only one that exports raw materials or goods that go bad quickly, the demand for those exports won't change much. If it exports machinery, tools, and industrial products in competition with other countries, the elasticity of demand for its goods will be high, and devaluation will work to fix a deficit.

Devaluation also makes imports more expensive in the country where they are bought, so fewer goods will be brought in. How much the amount of imports goes down depends on how elastic the demand for imports is. In turn, the demand elasticity of imports is affected by the types of goods that the devaluing country brings in.

If it buys consumer goods, raw materials, and things that help industries work, it will have a low elasticity of demand for imports. When the import elasticity of demand for products is high, devaluing a currency can help fix a deficit in the balance of payments.

So, devaluation will only help a country's balance of payments when the sum of the elasticity of demand for exports and the elasticity of demand for imports is more than one.

The J-Curve Effect:

The Marshall-Lerner condition is met in most developed countries, as shown by facts from the real world. But economists agree that both demand and supply will be more flexible in the long run than in the short run.

Consumers and businesses will need some time to get used to how devaluation affects prices at home and the demand for exports and imports. Both exports and imports have lower price elasticity of demand in the short run, so they don't meet the Marshall-Lerner condition.

So, to start, devaluation hurts the BOP in the short run but helps it in the long run. This curve in time looks like a J. This is what economists call the "J-curve effect" of devaluation. This is shown in Fig. 3, where time is on the left and the difference between the deficit and the surplus is on the right. Let's say devaluation takes place at time T.

At first, the curve J has a big loop that shows the BOP deficit goes up after D. It doesn't start to go up and the deficit starts to get smaller until time T1. At time T2, BOP is in the black. From T2 to J, the surplus starts to grow. If the Marshall-Lerner condition is not met, the J-curve will flatten out from T2 to F over time if it is not met.

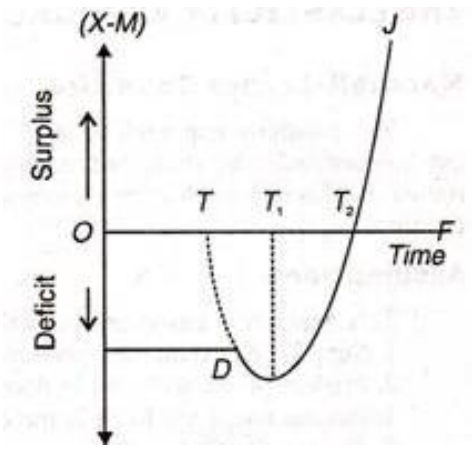

Figure 4.1: J-Curve

But if the country's exchange rate is flexible, its currency losing value will make bop worse. Because of devaluation, there is too much currency on the foreign exchange market, which could keep the currency from getting stronger. So, the foreign exchange market becomes unstable, and in the long run, the exchange rate may be higher than it should be.

Criticisms:

The Marshall-Lerner method for calculating elasticity based on conditions has the following problems:

1. Misleading:

The Marshallian idea of elasticity is not the right way to solve the BOP deficit with the elasticity approach. This is because it only applies to small changes along a demand or supply curve and problems that happen when these curves shift. Also, it assumes that the buying power of money stays the same, which has nothing to do with the value of the country's currency going down.

2. Partial Elasticities:

Alexander has criticised the elasticity approach because it uses partial elasticities, which don't take into account anything but the relative prices and amounts of exports and imports. This only works for trades with one commodity, not trades with more than one. It means that we can't make this plan work.

3. Supplies not perfectly Elastic

There aren't enough goods Exports and imports are perfectly elastic, according to the Marshall-Lerner condition. But this is not likely to happen because the country may not be able to increase the supply of its exports when they become cheaper because the value of its currency has gone down.

4. Partial Equilibrium Analysis:

The elasticity method assumes that prices and incomes in the country that is devaluing will stay the same. It also assumes that there is no limit to how much more can be put into making things to sell abroad. This analysis is a partial equilibrium analysis because it is based on these assumptions.

So, it doesn't take into account how changing the price of one product affects incomes and, as a result, the demand for goods. This is a big problem with the elasticity approach, since devaluation always has a big effect on the whole economy.

5. Inflationary:

When a currency loses its value, it can cause prices to rise. Even if it works to improve the balance of payments, it is likely to raise wages in industries that compete with imports and exports. But the higher incomes will have a direct effect on the bop by making more people want to buy

imports. Indirectly, they will affect the bop by increasing overall demand, which will cause prices to go up in the country.

6. Ignores Income Distribution:

The elasticity approach doesn't look at how devaluation affects how income is shared. When the value of a currency drops, resources have to be moved around. It takes resources from industries that don't export or import goods and gives them to industries that do. This will probably make the incomes of those in the second sector go up and those in the first sector go down.

7. Applicable in the Long Run:

In the long run, it works. For the J-curve effect of devaluation, the Marshall-Lerner condition works in the long run, but not in the short run. This is because it takes time for consumers and businesses to adjust when the value of the local currency goes down.

8. Ignores Capital Flows:

Either the current account or the balance of trade can use this method. But most of a country's BOP deficit comes from money leaving the country. It doesn't take into account bop on capital account. The goal of devaluation as a solution is to cut down on imports and the flow of money out of the country while increasing exports and the flow of money into the country.

Conclusion:

There has been a lot of talk about the Marshall-Lerner condition for improvements in the balance of payments. Economists tried to figure out how much demand could change in a country. Some economists thought that demand wasn't very flexible, while others thought it was.

So, the first group said that devaluation wasn't a good way to fix the balance of payments, while the second group said that it was a good way to do so. But it's hard to make a broad statement because each country's foreign trade is different in terms of how much it is and how it is set up.

4.2.2 Monetary Approaches to Balance of Payment Adjustment:

The work of R. Mundell and H. Johnson on the monetary approach to the balance of payments is well known. Some of the other people who have written for it are R. Dornbusch, M. Mussa, D. Kemp, and J. Frankel. The approach is based on the idea that the BOP disequilibrium is really a problem with money. It looks at how much money is needed and how much is available to try to explain BOP deficits or surpluses.

Assumptions:

The main ideas behind this way of doing things are:

(i) After transport costs are taken into account, the same product in different countries costs the same amount.

(ii) Things outside of a country set the level of output in that country.

(iii) Every country is making the most of what it has.

(iv) A single price assumption means that in a system with fixed exchange rates, there is no way to stop the flow of money.

(v) The rate of interest affects the demand for money in the opposite way that income does.

(vi) The amount of money is decided by the high-powered money and the money multiplier.

(vii) The demand for nominal money balances hasn't changed.

Based on the above assumptions, the monetary approach says that the difference between the supply of money and the demand for money is equal to the balance of payments deficit. People buy goods and securities from other countries with the extra money they have.

In a system where exchange rates are fixed, the central bank can get rid of the extra money by selling foreign exchange reserves and buying domestic currency. The balance of payments gets back to normal when there is no longer too much money on the market.

On the other hand, a country will have a surplus in its balance of payments if it has more money than it needs. People try to get the local currency by selling goods and securities to people from other countries. The central bank will buy domestic securities and extra foreign currency to make up for the lack of domestic currency. With these steps, the BOP surplus will be gone and the BOP will be back in balance.

The following relationships show how money is used to look at BOP:

The supply of money (M_s) is made up of the domestic part of the country's monetary base (H) and the international or foreign part of the country's monetary base (I) (F).

$$Ms = H + F$$

The demand for money (MD) is a stable, direct function of income, and the rate of interest is an inverse function of MD. When the supply of money and the demand for money are equal, the monetary equilibrium is reached.

$M_S = M_D$

$H + F = M_D$

$F = M_D - H$

Based on this relationship, it is clear that when there is a BOP surplus, the difference between how much money people want and how much money is available in the country is made up by a flow of reserves from abroad or

the international monetary base. On the other hand, if there is a BOP deficit, which means that there is more money in circulation than is needed, the problem can be fixed by sending money out of the country.

The monetary approach also explains how, in a flexible exchange system, BOP disequilibria are immediately fixed by automatic changes in the exchange rate, without any money or reserves moving between countries. When there is more money in circulation than there is demand for it, which causes a deficit in the BOP, the value of the country's currency automatically goes down. Prices go up at home, and more people want money because of it.

Because of this, the extra money is spent and the BOP deficit is fixed.

On the other hand, if there is a surplus in the BOP because there is more demand for money than supply, the country's currency will automatically go up. It causes prices to go down in the country. So, the BOP surplus and the demand for too much money cancel each other out.

How money is handled in the BOP situation affects policy in important ways. It means that policies like devaluation can only work in the short term if the monetary authority doesn't increase the supply of money to meet the rise in demand for money caused by devaluation or other adjustment policies.

Criticism of the Monetary Approach:

The following are the criticism of the Monetary approach to BOP Adjustment:

i) Stability of Money Demand Functions:

The money demand function is assumed to be stable. This might be a good idea in the long run. But most economists agree that money demand is an unstable function in the short term.

ii) Assumption of Full Employment:

In this method, everyone is assumed to have a job. In the real world, this idea is not true.

iii) Invalidity of Single Price:

The monetary approach to BOP adjustment is based on the idea that the same products should have the same price. Even this thought is wrong. When productive factors are moved to sectors that make goods that aren't traded, the high demand for goods that aren't traded can make the supply of goods that are traded go down. That could lead to more imports. So, the rule that all goods should have the same price has been broken.

iv) Ignoring other factors that affect money demand:

In this method, the demand function for money is only linked to income and interest rate. In fact, the money demand function is linked to a number

of other variables that have to do with both the economy at home and trade and exchange with other countries.

v) Possibility of Currency Sterilization:

Critics haven't agreed that it's true that currency can't be changed into something else in a system with fixed exchange rates. They have talked about situations in which money might not be useful. They think that the currency flow can be stopped if the private sector is willing to change how its wealth portfolio is made up in terms of how important bonds and money balances are.

Currency flow can also be stopped if the government is willing to have bigger budget deficits whenever the country has a BOP deficit.

vi) Market Imperfections:

Flaws in the market break the rule that identical products should have the same price. There are differences in prices between countries that trade with each other because the markets aren't perfect and because both domestic and international trade are limited or regulated by the government.

vii) Ignoring money lags:

The best way to deal with long-term changes in the balance of payments is with money. Most of the time, this method doesn't take into account the long time it takes for the final BOP adjustment to be made after the problem of BOP deficit is recognised.

viii) Ignoring Other Economic Strategies:

In this method, the main focus is on how credit flows change over time. Balance of Payments (BOP) equilibrium can also be reached by switching between different kinds of spending. This can be done through changes in the government budget and domestic flows of goods and money.

Even though it has problems, D. Hume's traditional price-specie flow theory is worse than the monetary approach. In that theory, there was a lot of focus on how the flow of gold changed the BOP and how that changed prices, international trade, and payments. The modern monetary approach, on the other hand, says that BOP deficits or surpluses can be fixed by changing the domestic and international monetary base and looking at how those changes affect production, income, and spending.

4.2.3 Absorption Approaches:

The absorption approach to the balance of payments looks at the world as a whole and is based on Keynesian national income relationships. It is also called the Keynesian approach because of this. It talks about how devaluation affects prices differently than it does income. The elasticity approach is also talked about.

The theory says that if a country's balance of payments has a deficit, it means that people are "absorbing" more than they are making. The country's income is less than what it costs to live and invest at home. If there is a surplus on the balance of payments, it means that the country is getting less money. The country's income is less than what it spends on spending and investing. In this case, the BOP is the difference between a country's income and how much it spends on its own economy.

This idea came from Sydney Alexander. Here's how to put the analysis into words:

Y = C + Id + G + X-M … (1)

where Y is the country's income, C is what it spends on consumption, I is its total domestic investment, G is what it spends on its own government, X is what it exports, and M is what it imports.

The total absorption (A) is equal to the sum of (C + Id + G), and the balance of payments (B) is equal to (X – M). So, the first equation becomes

Y = A + B

or

B = Y-A.. (2)

This means that the BOP on current account is the difference between the country's national income (Y) and how much it spends (A). BOP can be improved by either making more money at home or using less of it. Alexander says that the best way to do this is through devaluation, because it works in both directions. First, a devalued currency makes the country more money because it increases exports and decreases imports.

The extra money will bring in even more money because of the "multiplier effect." This will cause more money to be spent in the country. So, the difference between the total increase in income and the increase in absorption caused by the increase in income is the net effect of the increase in national income on the balance of payments.

It looks like this:

DB = DY-DA. (3)

The total absorption (DA) in a devaluation depends on how likely the last person to absorb is. People say this is a. Devaluation also has a direct effect on absorption through the change in income, which is written as D.

So, DA is a DY + DD... (4)

If we plug equation (4) into equation (3),

we get DB = DY-aDY-DD or DB = (1-a) DY-DD. (5)

The equation shows that there are three reasons why BOP is affected by devaluation. They are the marginal propensity to absorb (a), the change in income (DY), and the change in direct absorption (iii) (DD). Since the marginal tendency to absorb is an, the marginal tendency to save or hoard is (1-a). In turn, the number of unemployed or idle resources and the number of fully used resources in the devaluing country affect these factors.

Effects of Devaluation on BOP:

1. MP to Absorb:

To absorb the MP, it takes less than one (a1), and if the country has resources that aren't being used, devaluing the currency will make exports go up and imports go down. The balance of payments (BOP) will improve because output and income will go up. If, on the other hand, is more than 1, then BOP will be hurt by devaluation.

It means that people are spending more money on things they want and investing more money. In other words, they spend more than the country makes. In this case, devaluing the currency won't make exports go up or imports go down, and the BOP situation will get worse.

If there is full employment and is greater than 1, the government will have to cut spending and devalue the currency so that the economy's resources can be redistributed to increase exports and decrease imports. Things will get better in BOP in the end.

2. Income Effects:

Now let's look at how devaluation affects income. If a country has resources that aren't being used, devaluing its currency will help it sell more things abroad and buy fewer things from other countries. When exporting and importing industries grow, income goes up. Through the "multiplier effect," the extra money that goes into the economy will bring in even more money.

Because of this, things will get better in BOP. If the economy has used up all of its resources, the BOP can't be fixed by devaluing the currency because the national income can't go up. Instead, prices might go up, which would decrease exports and increase imports. This would make the BOP situation worse.

3. Terms of Trade Effect:

Changes in the terms of trade also have an effect on the national income because of devaluation. When the exchange rate goes down, the terms of trade get worse, and the national income goes down. In general, devaluation makes the terms of trade worse because the country that devalues has to sell more goods to buy the same amount of goods as before. So, the trade balance gets worse and the national income drops.

If prices stay the same in the currency of the buyer (the other country), the terms of trade get better because exports go up and imports go down. When a country's currency loses value, the country that buys imports from that country pays more for its increased exports than it makes from its own imports. So, the country's trade balance improves and its national income goes up.

4. Direct Absorption:

There are a number of ways in which devaluation affects direct absorption. If the country that is devaluing has resources that are not being used, exports will go up and imports will go down. This is called an expansionary process. Both income and use will go up because of this. BOP will get worse if the rise in income is more than the rise in absorption. In general, when a country has a lot of idle resources, devaluation has little effect on direct absorption.

If the economy has full employment and a BOP deficit, lowering the value of the currency won't raise the national income. So cutting down on direct absorption can help improve BOP. Devaluation can cause domestic consumption to drop on its own because of the real cash balance effect, the money illusion, and the redistribution of income.

5. Real Cash Balance Effect:

When the value of a country's currency goes down, prices go up in that country. If the amount of money stays the same, the cash people have will be worth less. People start putting away more money so they can get more. This can only be done if they spend less or get less money. This is what happens to the real cash balance when a currency loses value.

When people's real cash balances go down, they sell their assets because the value of their assets has gone down. This causes the prices of assets to fall and interest rates to rise. Since the amount of money stays the same, this means that people will invest and spend less. Because of this, less absorption will happen. When the value of a currency goes down, this is what happens to the real cash balance.

6. Money Illusion Effect:

Money illusion also makes it less likely that direct absorption will happen. Prices go up when the value of a currency goes down. People think that their real incomes have gone down when prices go up, even though their money incomes have gone up. They think they have more money than they really do, which makes them cut back on spending on things they want or need.

7. Redistribution of Income:

Direct absorption falls automatically if devaluation redistributes income in favour of people with a high marginal propensity to save and against people with a high marginal propensity to spend. If workers are more

likely to buy things on a whim than people who make money, absorption will go down.

Also, when the value of money goes down, people with lower incomes make more money, so they move into the income tax bracket. When they have to pay income tax, they spend less than people with higher incomes who are already paying it. In the first case, this means that the body can't take in as much.

When the value of a currency goes down, there is also a redistribution of income among the industries that make things. When prices go up more than production costs, businesses make more money than when production costs go up more than prices. So, devaluation will cause money to move from the second and third sectors to the first.

Devaluation will also change how sectors that make and sell traded goods and sectors that don't will share their income. The prices of goods that are traded go up more than the prices of goods that aren't traded. Because of this, producers and traders make more money, and workers who make goods that are traded get paid more than those who make goods that aren't traded.

8. Expenditure:

Reducing Policies: Direct absorption is also lower when the government uses policies that reduce spending and cause deflation. They will make sure that the BOP deficit is cut by devaluation. But people will lose their jobs because of them.

Its Criticisms:

The following things have been said against the BOP deficit absorption method:

1. **Doesn't Take into Account the Effects on Prices:** This method doesn't take into account the very important effects of devaluation on prices.

2. **Hard to calculate:** From an analytical point of view, it seems to be better than the elasticity approach, but it can't be used to figure out how likely people are to spend, save, or invest.

3. **Doesn't think about how it will affect other countries:** The absorption approach is weak because it depends too much on policies that are meant to change how much a country absorbs. It doesn't look at how a drop in the value of a country's currency affects how well it can take in people from other countries.

4. **Doesn't Work in a System with a Fixed Exchange Rate:** The absorption method of fixing the BOP deficit doesn't work in a system with a fixed exchange rate. People spend less on things they want to buy when prices go up because their money is worth less. If the amount of money stays the same and the interest rate goes up, both

output and absorption will go down. So, devaluation won't change the BOP deficit very much.

5. **Pay more attention to spending:** With this method, the level of domestic consumption is more important than how prices compare to one another. Just because domestic consumption is cut to lower absorption doesn't mean that the extra resources will be used to fix the BOP deficit.

4.3 PORTFOLIO-BALANCE APPROACHES

The main problem with the Keynesian approach to the demand for money is that it says people should hold all of their liquid assets in either money or bonds at any given time, not a little bit of each. This is not true in the real world.

Tobin's model of liquidity preference solves this problem by showing that if the return on bonds is uncertain, which means that bonds are risky, then an investor who is worried about both risk and return is likely to do best by holding both bonds and money.

In portfolio theories like the one put forward by Tobin, the role of money as a store of value is emphasised. These ideas say that people keep money as one of their assets. This is because other assets, like bonds, which are less liquid than money, have a different mix of risk and return than money.

To be more specific, money gives a safe (nominal) return, while stocks and bonds can go up or down in value. So, Tobin has said that people's best portfolio should include money.

Portfolio theories say that the demand for money depends on the risk and return of holding money, as well as the different things that people can hold instead of money. Also, the amount of real wealth a person has should affect how much of their portfolio should be money and how much should be other assets.

For instance, the money demand function can be written as:

$$(M/P)_d = f(r_s, r_b, \pi^e, W)$$

where rs = the expected real return on stock, rb = the expected real return on bonds, πe = the expected inflation rate and W= real wealth. An increase in rs or rb reduces money demand, because other assets become more attractive. An increase in ne also reduces money demand, because money becomes less attractive. An increase in W raises money demand, because higher wealth means a larger portfolio.

Speculative Demand for Money as behaviour toward Risk:

Tobin didn't think about how transactions affect how much money people want to buy. Instead, he only thought about how important it was to have money as a way to store wealth. With the wealth constraint (W = M + B), where W is the person's total fixed wealth, M is money, and B is a bond,

the focus is on how a person's portfolio is split between holding money and holding bonds.

Keynes thought that interest rates would always go back to a normal level, but Tobin's theory says that this is not true. We can assume that there will be no expected capital gain based on what Tobin says. This is because each individual investor thinks it is just as likely to make money or lose money on their investments.

The best way to figure out how much bonds will earn is to look at the market interest rate at the time (r). But this is exactly what people expect to get back from bonds. Since interest rates don't usually stay the same, the actual return also includes any capital gain or loss.

So, bonds should pay interest, but they are a risky way to make money. Even in the short term, the market rate of interest changes, so they don't know what their actual return will be.

On the other hand, money is a safe asset because it doesn't give you anything back. Money is a safe asset because it doesn't go up or down in value. Tobin thinks that a person will keep some of their money in cash to make their portfolio less risky as a whole.

If an investor only bought bonds, they would get the highest returns, but they would also take on the most risk. If you don't like taking risks, you might give up some return for less risk. Tobin says that people don't want to take risks, so they want money as an asset.

The way Tobin's theory works is shown in Figure. On the vertical axis of the top quadrant, we measure the expected return of the portfolio, and on the horizontal axis, we measure how risky the portfolio is. The expected return on the portfolio is the interest that can be made on bonds.

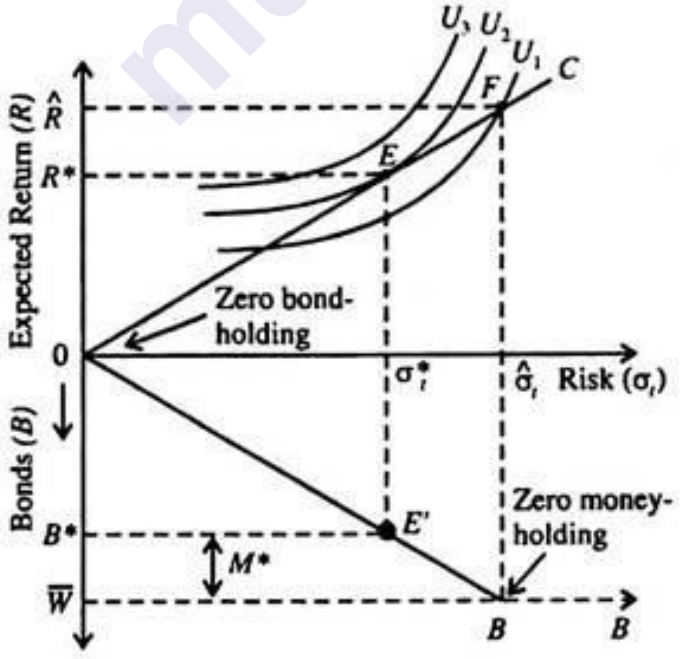

Figure 4.2

This will depend on the interest rate and how many bonds are in the portfolio. The total risk a person faces depends on two things: I how uncertain bond prices are, which means how uncertain people are about how the market rate of interest will change in the future, and (ii) how much of their portfolio is in bonds.

Write down R for the expected total return and a t for the total risk of the portfolio. If a person keeps all of his wealth (W) in cash and none in bonds (W = M + 0), R and t will both be zero, as shown by the origin (point 0). W = M + B, R and a will both go up as M goes down and B goes up if the number of bonds goes up.

The opportunity line C is made up of a series of points that show how a single investor can raise R by making t bigger. Moving along C from left to right shows that an investor can only get more bonds by getting less money.

In the lower part, the different ways that R and t can be combined based on how the portfolio is divided are shown. The number of bonds held is shown on the vertical axis. As the investor moves down the vertical axis, the number of bonds (B) held in W goes up, up to a maximum of W.

The difference between W and B is the amount of money that people want (M). In the bottom part of the picture, the line OB shows how a and B are connected. As the amount of B in W goes up, so does the value of t. This means that as the number of bonds in the portfolio goes up, so does the total risk of the portfolio.

Preference of the Investor: Risk Aversion

How a portfolio should be split up depends on what the investor wants. Here, we assume the investor doesn't like taking risks. He wants a high return on his portfolio while avoiding risk. If he thinks his expected return will go up, he will take on more risk. Let's say that the investor's utility function is U = f(R, t)...(9), where utility (U) goes up when R goes up and down when T goes up. The investor's three indifference curves for U_1, U_2, and U_3 levels of utility are shown. Each indifference curve shows the trade-off between risk and return, or when an investor is willing to take on more risk in exchange for a higher expected return.

Every point on this kind of indifference curve has the same fixed level of utility.

Any change from U_1 to U_2 and from U_2 to U_3 means a higher level of utility, which means higher levels of R and the same or lower levels of t. Investors don't like taking risks, so the indifference curves go up. He won't take on more risk unless it will make him more money. Also, as the investor moves to the right, the curves get steeper, showing that they are less willing to take risks.

If we assume this, then the more risk a person has already taken, the bigger the increase in expected return will have to be for the investor to take on more risk. We can now figure out how a portfolio should be split up for an investor who doesn't like taking risks.

Optimal Portfolio Allocation:

A person who doesn't like to take risks will move along line C until he gets to the point where he can reach the highest indifference curve. At that point, he chooses the portfolio he had planned to choose, which means he got the most out of his money. It's obvious why. At the tangency point E, where R = R* and t = *t, the terms under which the investor can increase the expected return on the portfolio by taking more risk are the same as the terms under which he or she is willing to make the trade-off. The slope of the indifference curve shows this.

From the bottom, we can see that we can get this risk-reward combination by holding B* worth of bonds and the rest of our wealth (W - B* = M*) in the form of money.

So, the investor's demand for money shows his or her "behaviour toward risk," which is the result of trying to lower risk below what it would be if W = B and M = 0. Point F in the upper part of Figure shows that a portfolio of only bonds would have a risk of t and an expected return of R. This portfolio isn't as good as having B* bonds and M* money.

The reason is that as an investor moves to the right of point E along line 0C, the extra return expected from the portfolio by holding more bonds (and less money) is not enough to make up for the extra risk (the slope of the line 0C is less than that of the indifference curve U2). The indifference curve goes down to U1 when the investor moves to point F.

Interest Rate Changes and the Speculative Demand for Money:

The amount of money held as an asset, according to Tobin's theory, depends on how high the interest rate is. Figure shows how the interest rate is related to how much money assets want. If the interest rate goes from r_0 to r_1 and then to r_2, it will be easier to take on more risk and increase the expected return on the portfolio.

So the line 0C has a steeper slope. In a counter clockwise direction, it goes from C(r_0) to C(r_1) and then to C. (r_2).

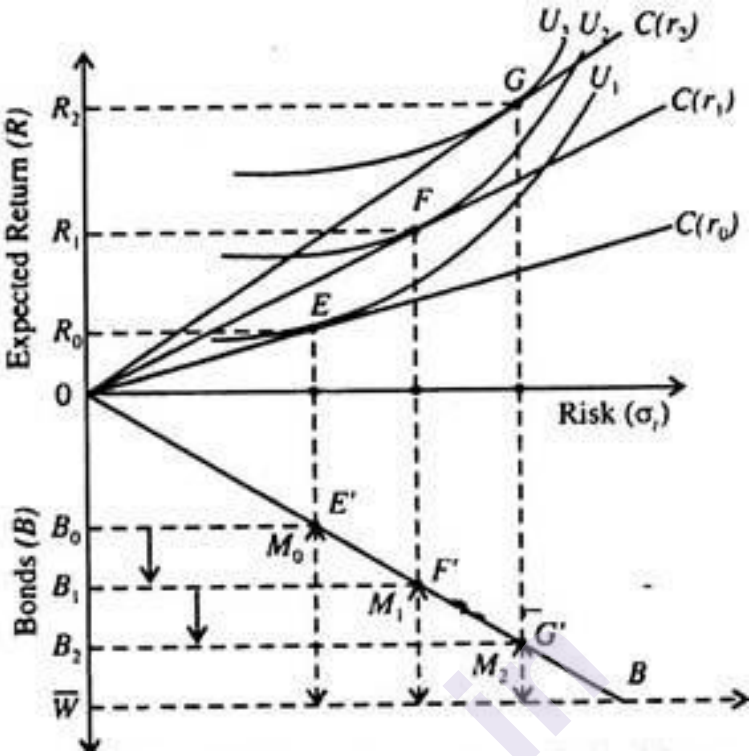

Figure 4.3

The investor then moves from E to F and then to G, where he or she takes on more risk and hopes to make more money. It's important to remember that each point is a part of making a portfolio as good as it can be. In this case, the number of risky bonds he owns goes up (from B_0 to B_1 and then to B_2), but the amount of money he has goes down (from M_0 to M_1, then M_2).

In short, the expected return on a portfolio will go up even more as the interest rate goes up and the risk goes up. Risk goes up when the number of bonds in the portfolio goes up.

Comments:

Like Keynes's theory, Tobin's says that the interest rate moves in the opposite direction of the speculative demand for money. This is because when the interest rate goes up, so does the payoff for taking on more risk. When the interest rate goes up, an investor wants to put more of his money into bonds, which are riskier than money, and less into money, which is safer.

The portfolio theories can be made easier to understand by using the money demand function (M/P)d = f(Y, I). First, it replaces wealth W with real income Y. Second, it only includes the nominal interest rate as a return variable, which is the sum of the real return on bonds and expected inflation (I = rb + e). The portfolio theories say that the expected return on other assets should also be a part of the demand function for money.

Is studying how much money people want a good way to use portfolio theories? The answer depends on how much money is involved. If we look

at any narrow money (M_1), we should think of it as a dominated asset, which means that there are always better ways to store value than it. So, Mankiw says, "People shouldn't hold money in their portfolios, and portfolio theories can't explain why people want these dominated forms of money."

Also, portfolio theories are more likely to work as theories of money demand if we have a general idea of what money is. Even though the portfolio approach to money demand might not work for M_1 demand, it can explain M_2 and M_3 demand in a clear way.

Tax Rates and Portfolio Choice:

When an investment pays off, most of the money goes to the government in the form of taxes. Different assets are taxed in different ways, so it's clear that taxes are an important part of picking a portfolio. After all, smart investors care more about how much they make after taxes than how much they make before taxes.

Government bonds are a good example of this. With the same level of risk and liquidity, these bonds don't pay as much as corporate bonds (debentures). Still, people buy government bonds because they usually don't have to pay taxes on their income or capital gains. The investor's income goes up because he saves more on taxes when the tax rate is high.

Investors with higher incomes want these tax-free bonds more, which drives up their price and lowers the return they get on them. We expect the return to go down until the after-tax return for people with high incomes is only a little bit higher than what they would get from an ordinary taxable bond with the same risk.

Loss Offset and the Return on Risk:

No financial investment gives a guaranteed rate of return, and buying equity shares is a risk. There is no safe way to make money. In other words, making an investment is like taking a risk, and investors should only be interested in the risk if the value of likely gains is higher than the value of likely losses.

Since an investor's marginal utility of money income goes down, a fair bet, in which the odds of winning or losing are the same, may not always be a good idea. People will be less likely to invest if taxing investment income makes the odds worse by lowering the expected return. But this kind of tax might not always improve the odds. If the investor wins, his money will make less money for him.

But if he can get a loss offset, his loss will be less if he loses. Both are just as likely to happen if there is a proportional tax. Chances of making money and chances of losing money will both go down by the same amount. Depending on the situation, an investor may take more risks or less risks because of the tax.

In the figure, where the rate of return is on the vertical axis and the risk is on the horizontal axis, there is a chance that people will take more risks. Let's say, for the sake of simplicity, that the investor has to choose between holding cash, which is completely safe, and one other option, like a corporate bond, which has some risk.

The opportunity line 0A shows how he can mix cash and bonds to get different levels of risk and return. If he keeps all of his money in cash, he won't take any risks and won't get anything back. If all of his money is in bonds, he will go from point A to point B, where the risk is 0C and the return is 0D.

Before taxes, the investor is at point E1, where his opportunity line 0A is just touching the highest possible indifference curve U2. The value of his risk is 0F, and the value of his return is 0G. Here, the indifference curve is used to show how people are becoming less willing to take risks.

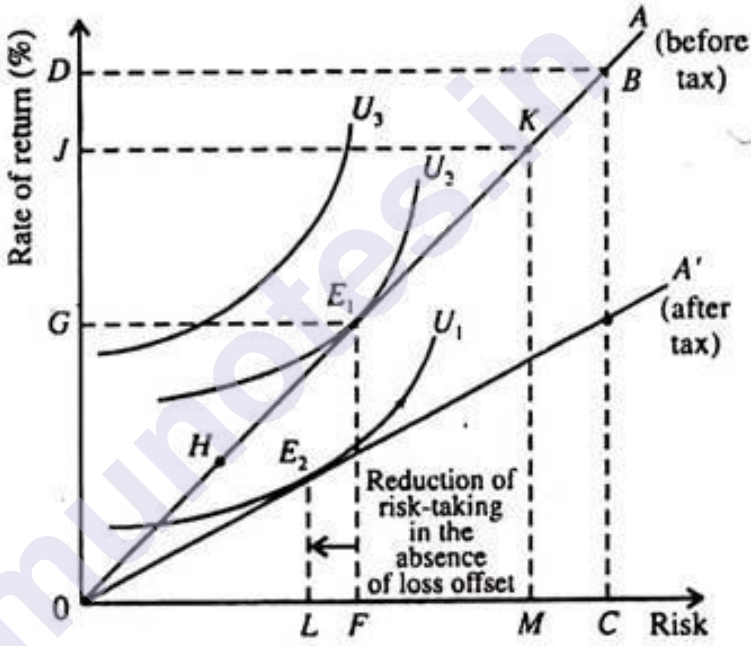

Figure 4.4

If the investor wants to keep the same amount of money, the rate of return has to go up as the risk goes up. This is because the implicit assumption is that as income goes up, the income schedule becomes less and less useful.

Now, there is a 50% tax, and we'll assume that the full loss offset is allowed. If the investor doesn't change the way his portfolio is made up, he will have half as much risk and half as much return as he did before. This is like what portfolio mix H would give him before taxes.

Since he could have done better by going from point H to the tangency point before the tax, he will now choose to go from point E_1 to point K. Gross risk and return have both doubled at K, but net risk and return are still the same as they were at U_2, before taxes. He still takes risks in his personal life, that's for sure. But people are taking more risks, which is bad

for the economy as a whole. Because now the government is helping them. It's now willing to take half the return and half the risk. Only if loss offset is allowed could this happen.

Without loss offset, the tax would move the opportunity line from 0A to 0A', and the new equilibrium would be at a tangency point E_2, with risk taking going down to 0L.

When certain things are true, a tax with a loss offset will encourage people to take more risks. You don't have to choose between cash, which is thought to be risk-free, and one risky asset. Because of inflation, it is risky to hold cash, and there are other assets that are also risky.

Then, the result will depend on how the preferences or indifference curves of the investor are set up. People could end up taking more risks or less risks depending on what happens. You can't easily guess what will happen.

4.4 SUMMARY

The balance of payment is a list of all the economic and monetary transactions between all the units of a country and the rest of the world in a given accounting year. The elasticity approach to BOP is linked to the Marshall-Lerner condition. The work of R. Mundell and H. Johnson on the monetary approach to the balance of payments is well known. Some of the other people who have written for it are R. Dornbusch, M. Mussa, D. Kemp, and J. Frankel. The absorption approach to the balance of payments looks at the world as a whole and is based on Keynesian national income relationships. In portfolio theories like the one put forward by Tobin, the role of money as a store of value is emphasised.

4.5 QUESTIONS

1. Elaborate the elasticity approaches to Balance of Payments Adjustment.
2. Outline the monetary approaches to Balance of Payments Adjustment.
3. Explain the absorption approaches to Balance of Payments Adjustment.
4. Describe the Portfolio-Balance Approaches.

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5

INTERNATIONAL INVESTMENT AND FINANCING - I

Unit Structure

5.0 OBJECTIVES

- To know the Cash management and investment and borrowing criterion with transaction costs.
- To know about the dimensions of cash management.
- To know about International Capital Asset pricing and International Portfolio investment.

5.1 INTRODUCTION

If we have a look at any individual factor which is mainly responsible for the amazing rapid globalization of the world economy then we can say that beyond doubt that it is international investment in its various forms. This can be shown by the following example, the global flow of foreign direct investment FDI, which involves overseas managerial control by way

of ownership, rose from $180 billion in 1991 to an approximate figure of $1.5 trillion in 2000, showing an eight-fold increase over a decade.

This chapter deals with short-term investments, here we discuss the norms for making short-term covered investments when there is a transaction cost in the foreign exchange markets. As short-term investments represents a vital aspect of cash management, this chapter focuses on short-term borrowing decisions and various other aspects of working capital management with reference to multinational companies.

This chapter also throws light on the portfolio investment, it takes into consideration international features of stock and bond investment decisions, focussing closely on the benefits of international portfolio diversification. It highlights the importance of international diversification over domestic diversification, despite the risk factor relating to exchange rates prevailing in international portfolio investment. A unit is included on the international capital asset pricing model which is used to compare the consequences of internationally segmented versus integrated capital markets. Chapter ends with a discussion of bond investments, again with a focus on diversification issues.

5.2 CASH MANAGEMENT: INVESTMENT AND BORROWING CRITERION WITH TRANSACTION COSTS

5.2.1 Concept of Cash Management:

Both the inflows and outflows of funds are generally unpredictable, especially for large multinational companies with sales and production activities throughout the world. It is therefore imperative for companies to maintain liquidity. The amount of liquidity and the form it should take is covered under the topic of working-cash (or working-capital) management. Liquidity can take a number of forms, including bank deposits, coin and currency, overdraft facilities, and short-term readily marketable securities. These involve different degrees of opportunity cost in terms of earnings options abandoned available on less liquid investments. However, there are such highly liquid short-term securities in cultured money markets that practically no funds have to remain completely idle. In some locations there are investments with maturities that extend no further than ‘‘overnight,’’ and there are overdraft facilities which allow firms to hold minimal cash balances. This makes part of the cash management problem comparable to the problem of where to borrow and invest.

5.2.2 Objectives of Cash Management:

The objectives of operative working-capital management in a global environment are:

1. To distribute short-term investments and cash-balance holdings between currencies and countries to maximize overall corporate returns.

2. To borrow from different money markets in order to achieve the minimum cost.

However, maintenance of required liquidity level and minimization of risks is crucial while meeting these objectives.

5.2.3 Problems in Cash Management:

The main issue of having large number of currency and country alternatives for investing and borrowing, which is the extra dimension of international finance, is also faced by companies which deal only in resident markets. For instance, if a company that manufactures and does marketing or sells only in the United States of America will still have a motivation to earn the highest yield, or borrow at the lowest cost, even if that means entering into foreign money markets.

There are extra complications faced by companies that have a multinational location of manufacture and sales. These comprise of the queries of local versus head-office management of working capital, and how to curtail foreign exchange transaction costs, political risks, and taxes.

Cash management by considering whether a company should invest or borrow in domestic versus foreign currency, where any foreign exchange exposure and risk is hedged by using forward exchange contracts.

After debating on the investment and borrowing standards we turn to whether a company with receipts and payments in different nations and currencies should manage working capital locally or centrally. We shall see that there are a number of merits to centralization of cash management, and only a few drawbacks.

5.2.4 Investment Criterion with Transaction Costs:

An investment in pound-denominated securities by a holder of US dollars requires first a purchase of spot pounds. The pounds must be bought at the pound offer or ask rate, S($/ask£), so that $1 will buy

$$£\frac{1}{S\left(\frac{\$}{ask£}\right)}$$

This initial investment will grow in n years at the investment return of r^I £

$$£\frac{1}{S\left(\frac{\$}{ask£}\right)}(1+r^I_£)^n$$

This can be sold forward at the buying or bid rate on pounds, $F_n(\$/bid£)$, giving a US investor, after n years,

$$\$ \frac{Fn\left(\frac{\$}{bid£}\right)}{S\left(\frac{\$}{ask£}\right)}(1+r^I_£)^n$$

The amount received from $1 invested instead in US dollar-denominated securities for n years at an annual rate $r^I_\$$ is $\$(1+ r^I_\$)^n$. Therefore, the rule for US dollars holder is to invest in pound securities when

$$\frac{Fn\left(\frac{\$}{bid£}\right)}{S\left(\frac{\$}{ask£}\right)}(1+r^I_£)^n > (1+r^I_\$)^n \ldots\ldots (1)$$

and to invest in dollar securities when the reverse inequality holds.

If we had ignored foreign exchange transaction costs, then instead of the condition (1) we would have written the criterion for investing in pound securities as

$$\frac{Fn\left(\frac{\$}{£}\right)}{S\left(\frac{\$}{£}\right)}(1+r^I_£)^n > (1+r^I_\$)^n \ldots\ldots (2)$$

In comparing the conditions (1) and (2) we can see that because transaction costs ensure that F_n ($/bid£) < F_n ($/£) and S($/ask£)>S($/£), where $F_n(\$/£)$ and S($/£) are the middle exchange rates (i.e. the rates half way between the bid and ask rates), the condition for advantageous hedged investment in pound securities by a dollar-holding investor is made less likely by the presence of transaction costs on foreign exchange. That is, the left-hand side of (1), which includes transaction costs, is smaller than the left-hand side of (2), which excludes transaction costs. However, because both interest rates are investment rates, transaction costs on securities represented by a borrowing–lending spread have no bearing on the decision, and do not discourage foreign versus domestic-currency investment. For example, suppose we have

S($/bid£)	S($/ask£)	$F_{1/2}$($/bid£)	$F_{1/2}$($/ask£)	$r^I_\$$	$r^I_£$
1.5800	1.5850	1.5600	1.5670	7%	10%

where $r^I_\$$ and $r^I_£$ are respectively the dollar and pound interest rates on 6-month securities, expressed on a full year, or per annum, basis. Then, earnings from the dollar investment at the end of the 6 months on each dollar originally invested are

$$\$ (1 + r^I_\$)^n = (1.07)^{½} = \$ 1.03441$$

If the investor does not bother to calculate the receipts from the pound security using the correct side of the spot and forward quotations, but instead uses the midpoint values half way between ‘‘bids’’ and ‘‘asks,’’

that is, S ($/£) = 1.5825 and $F_{1/2}$($/£) =1.5635, then receipts from the hedged pound security are

$$\$\frac{F_1\left(\frac{\$}{£}\right)}{S\left(\frac{\$}{£}\right)}(1+r^I_£)^{1/2} = \$\frac{1.5635}{1.5625}(1.10)^{1/2} = \$1.03622$$

This amount surpasses the $1.03441 from the dollar denominated security, making the pound security the preferred choice. However, if the correct exchange rates are used, highlighting the fact that hedged investment in pound-denominated securities require buying pounds spot at the ask price and selling pounds forward at the bid price, then the earnings from the pound security are calculated as

$$\$\frac{F_1\left(\frac{\$}{bid£}\right)}{S\left(\frac{\$}{ask£}\right)}(1+r^I_£)^{1/2} = \$\frac{1.5600}{1.5850}(1.10)^{1/2} = \$1.03227$$

The dollar-denominated security with receipts of $1.03441/$ invested is seen to be better than the pound-denominated security for a dollar-holding investor. That is, the right choice is the dollar security, a choice that would not be made without using the exchange rates which shows the transaction costs of buying and selling pounds. The example confirms that inclusion of transaction costs on foreign exchange tends to favour the choice of domestic-currency investments.

5.2.5 Borrowing Criterion with Transaction Costs:

When a borrower contemplates using a swap to raise US dollars by borrowing pounds, the borrowed pounds must be sold at the pound selling rate, S($/bid£). For each dollar ($1) the dollar borrower wants he or she must therefore borrow

$$£\frac{1}{S\left(\frac{\$}{bid£}\right)}$$

The repayment on this number of borrowed pounds after n years at $r^B_£$ per annum is

$$£\frac{1}{S\left(\frac{\$}{bid£}\right)}(1+r^B_£)^n$$

This number of pounds can be bought forward at the buying rate for pounds, F_n($/ask£), so that the number of dollars paid in n years for borrowing $1 today is

$$\$\frac{F_n\left(\frac{\$}{ask£}\right)}{S\left(\frac{\$}{bid£}\right)}(1+r^B_£)^n$$

Alternatively, if $1 is borrowed for n years in US dollars at $r^B_{\$}$ per annum, the repayment in n years is

$$\$(1+r^B_{\$})^n$$

The borrowing standard that allows for foreign exchange transaction costs is that a borrower should obtain dollars by borrowing hedged British pounds (i.e. via a swap) whenever

$$\frac{Fn\left(\frac{\$}{ask£}\right)}{S\left(\frac{\$}{bid£}\right)}(1+r^B_{£})^n < (1+r^B_{\$})^n \quad \ldots\ldots. (3)$$

Because $F_n(\$/ask£) > F_n(\$/£)$ and $S(\$/bid£) < S(\$/£)$, the condition (3) is more unlikely than the condition without transaction costs on foreign exchange, which is simply

$$\frac{Fn\left(\frac{\$}{£}\right)}{S\left(\frac{\$}{£}\right)}(1+r^B_{£})^n < (1+r^B_{\$})^n \ldots\ldots. (4)$$

where S ($/£) and Fn ($/£) are mid-points between ‘‘bid’’ and ‘‘risk’’ exchange rates.

For example, suppose a borrower who needs US dollars for 6 months faces the following:

$S(\$/bid£)$	$S(\$/ask£)$	$F_{1/2}(\$/bid£)$	$F_{1/2}(\$/ask£)$	$r^B_{\$}$	$r^B_{£}$
1.5800	1.5850	1.5500	1.5570	8%	12%

where $r^B_{\$}$ and $r^B_{£}$ are respectively the per annum 6-month borrowing rates in dollars and pounds. The dollar repayment after 6 months from dollar borrowing is

$$\$(1+r^B_{\$})^{1/2} = \$(1.08)^{1/2} = \$\,1.03923$$

If the borrower did not bother to calculate the cost of a ‘‘swap out’’ of pounds using the correct bid or ask exchange rates but instead used mid-point rates, the repayment per dollar borrowed would be computed from the left-hand side of equation (4) as

$$\$\frac{Fn\left(\frac{\$}{£}\right)}{S\left(\frac{\$}{£}\right)}(1+r^B_{£})^n = \$\frac{1.5535}{1.5825}(1.12)^{1/2} = \$1.03891$$

The borrower’s choice would be the pound-denominated loan because it needs a smaller repayment. However, if the borrower selected the proper bid and ask rates as in the left-hand side of equation (3), the repayment on the swap would be

$$\$\frac{Fn\left(\frac{\$}{ask£}\right)}{S\left(\frac{\$}{bid£}\right)}(1+r^{B}_{£})^{n} = \$\frac{1.5570}{1.5800}(1.12)^{1/2} = \$1.04289$$

This is larger than the repayment from borrowing dollars. We find that the impetus to endeavour into foreign-currency denominated borrowing is reduced by the consideration of foreign exchange transaction costs, just as is the incentive to invest in foreign currency.

Unlike the situation with investment, where borrowing–lending spreads are immaterial, in the case of borrowing, foreign-currency borrowing may be made more difficult by borrowing–lending spreads. This is because when foreign funds are raised overseas, lenders may charge foreign debtors more than they charge domestic debtors because they consider loans to foreigners to be riskier. For example, the mark-up over the prime interest rate for dollars facing a US borrower in the United States might be smaller than the mark-up over prime for the same US borrower when raising pounds in Britain. This may be due to greater trouble in aggregation on loans to foreigners, or to the difficulty of transferring credible information on creditworthiness of borrowers between countries. However, if the pounds can be raised in form of capital or borrowed in the United States, there should be no difference between dollar–pound investment spreads and borrowing spreads.

Companies invest and borrow cash because sometimes they have net cash inflows and at other times, they have net cash outflows. While the investing and borrowing measures that we have given provide a way of choosing between alternatives, they do not provide direction on some of the complexities of multinational cash management. For example, how should a company respond when one subsidiary company has excess amounts of a currency, while another subsidiary company which operates independently needs to borrow the same currency? Should a company hedge all its foreign-currency investments and/or borrowing when it deals in large number of different foreign currencies and thereby enjoys some natural diversification? Good cash management in these and other conditions requires some centralization of financial management and perhaps also centralize holding of the funds themselves. As we shall see later, concentration has several merits but also some demerit when the holdings of funds, as well as management decisions concerning the funds, are centralized.

5.3 INTERNATIONAL DIMENSIONS OF CASH MANAGEMENT

5.3.1 Advantages of centralized cash management:

1. Netting:

Many multinational companies have their offices across the globe, and each office has its own debtors and creditors, they also have their other sources of cash inflows and outflows, which are denominated in a number

of different currencies. However, if the offices are allowed to manage their own working capital, it may so happen, say for example that one office is hedging a long pound position while at the same time another office is hedging as short pound position of the same maturity. Netting helps in avoiding this situation as it calculates the overall position in each currency. However, to do this calculation, a proper co-ordination of the cash management is a must.

Reduced transaction cost is the main benefit enjoyed by the companies deploy centralized cash management in order to manage their net cash inflows and outflows. The amount of savings is reflected by the fact that how different offices deal in the same currency and have an opposite position in these currencies. The benefit of netting also depends on the length of the time frame over which it is feasible to engage in netting, which ultimately depends on the ability to practice leading and lagging.

Leading and lagging involve the movement of cash inflows and outflows forward and backward in time so as to permit netting and achieve other goals? For example, if Raymond has to pay £1 million for wool on December 31 and has received an order for £1 million of blazer from Britain, it might try to organize payment for about the same date and thereby avoid exposure. Now if the bill for the wool is cleared before its due date that is December 31 and the receivable amount is carried forward then this is called leading of the export. If the payment for the wool would have been before December 31 and is overdue, then this is called lagging of the export. On similar lines, it is also possible to lead and lag payments which are made for imports.

When dealing in the nearby areas the scope of netting via leading and lagging are limited by the likings of the other party. However, when transactions are between offices of the same multinational corporation, the opportunity for leading and lagging (for the purpose of netting and achieving other benefits such as deferring taxes by delaying receipts) is considerable. Recognizing this, governments generally, regulate the credit period and quickening of settlement by putting limits on leading and lagging. The regulations differ greatly from country to country, and are subject to change, often with very little warning. If cash managers are to employ leading and lagging successfully and not find themselves in trouble with tax authorities, they must keep current with what is allowed.

2. Currency diversification:

When cash management is unified it is possible not only to net inflows and outflows in each separate currency, but also to reflect whether the company's foreign exchange risk is adequately reduced via natural diversification that the company need not hedge all the individual positions.

The variation of exchange-rate risk results from the fact that exchange rates do not all move in congruence. Consequently, a portfolio of inflows and outflows in different currencies will have a smaller variance of value than the sum of variances of the values of the individual currencies. We

can explain the nature of the divergence benefit by considering a straightforward example.

Suppose that in its foreign operations, Reliance buys its cloth in Britain and sells its finished garments in both Britain and Germany in the following amounts:

	Germany (€)	Britain (£)
Denim purchase	0	2,000,000
Jeans sales	1,500,000	1,000,000

The payments for British denim are made at the time of sales of jeans. (Alternatively, we could think of the revenue from the export of jeans as receipts from foreign investments, and the payment for imports of cloth as repayment of a debt.)

One route open to Reliance is to sell forward the €1.5 million it is to receive and, after netting its pound position, buy forward £1 million. Reliance would then be hedged against changes in both exchange rates versus the dollar. An alternative, however, is to consider how the British pound and the euro move vis-a`-vis the dollar and hence between themselves. Let us suppose for the purpose of revealing the possibilities, that when the euro appreciates vis-a`-vis the dollar, generally the pound does so as well. In other words, let us assume that the euro and pound are highly positively correlated. Such a correlation will occur if the source of exchange-rate movements stems from economic developments in the United States. For example, good news concerning the US currency such as a reduced current account deficit would likely increase the value of the dollar against both the euro and the pound.

With net pound payables of £1 million, euro receivables of €1.5 million, and spot exchange rates of, for example, S ($/€) = 1.2 and S($/£) = 1.8, the payables and receivables cancel out: the payable to Britain is £1 million x $1.8/£ = $1.8 million at the current rate, and the receivable from Germany is €1.5 million x $1.2/€ = $1.8 million. The risk is that exchange rates can change before payments are made and receipts are received. However, if the pound and the euro move together and the US dollar depreciates against both of the currencies by, for example, 10 percent to S($/€) = 1.32 and S($/£) = 1.98, then payments to Britain will be £1 million x $1.98/£ = $1,980,000, and receipts from Germany will be €1.5 million x $1.32/€ = $1,980,000, which is still the same. The amount that is lost through extra dollar payments to Britain will be offset by extra dollar revenue from Germany. We find in this case that Aviva is quite naturally unexposed if it can be sure that the currencies will always move together vis-a`-vis the dollar.

In our example, we have, of course, selected very special circumstances and values for convenience. In general, however, there is safety in large numbers. If there are debtors in many different currencies, then when some may go up in value terms, while the others may come down. There

will be some cancelling of gains and losses. Similarly, if there are many payables, they can also neutralize. Moreover, as in our example, receivables and payables can offset each other if currency values move together. There are many possibilities that are not obvious, but it should be remembered that although some cancelling of gains and losses might occur, some risk will remain. A firm should use forward contracts or some other form of hedging if it wishes to avoid all foreign exchange risk and exposure. However, a firm with a large variety of small volumes of payables and receivables (i.e. small volumes in many different currencies) might consider that all the transaction costs involved in the alternative forms of hedging are not worthwhile in view of the natural hedging from diversification. The determination of whether the diversification has sufficiently reduced the risk can only be made properly when cash management is centralized.

3. Pooling:

The concept of pooling is witnessed when cash is held as well as managed in a central location. The main advantage of pooling is that higher returns can be enjoyed due to economies of scale in returns offered on investment vehicles such as bank deposits. At the same time, cash needs can be met wherever they occur out of the centralized pool without having to keep precautionary balances in each country. Delays and uncertainties in movement of funds to where they are needed require that some balances be maintained everywhere, but with pooling, a given probability of having sufficient cash to meet liquidity needs can be achieved with smaller cash holdings than if holdings are decentralized. The reason pooling works is that cash surpluses and shortages in different locations do not move in a perfectly similar fashion. As a result, the discrepancy of total cash flows is smaller than the sum of the discrepancies of flows for individual countries.

For example, when there are large cash-balance outflows in Britain, it is does not imply that there will also be unusually large outflows in Australia, Japan, Sweden, Kuwait, and so on. If a firm is to have adequate amounts in each country, it must maintain a large cash reserve in each. However, if the total cash needs are shared in, for example, the United States, then when the need in Britain is unusually high, it can be met from the central pool because there will not normally be remarkably high drains in other countries at the same time.

4. Security availability and efficiency of collections:

All of the merits of centralized cash management that we have mentioned so far, which are all particular characteristics of economies of scale, would increase wherever centralization occurs. However, if the centralization happens in a major international financial centre like London or New York, there are additional benefits in terms of a broader range of securities that are available and an ability to function in an effective financial system.

It is useful for a firm to designate as many payments and incomes as its counter parties will allow in units of a main currency and to have bills

payable in a financial centre. Contracts for payment due to the firm should specify not only the payment date and the currency in which payment is to be made, but it should also specify the details of branch or office at which the payment is due. In order to ensure timely payments, penalties for late payments can be imposed. To accelerate the speed of payment collection post-office box numbers can be used wherever they are available. Similarly, if a firm bank with a large-scale multinational bank, it can usually arrange for head-office accounts to be quickly credited using an electronic funds transfer system, even if payment is done at a foreign branch of the bank.

5.3.2 Disadvantages of centralized cash management:

Practically, it is virtually impossible to hold all cash in a major international financial centre. This is because there may be unforeseen delays in moving funds from the financial centre to other countries. Important payments like payment to a foreign government for taxes or to a local supplier of a crucial input, excess cash balances should be held where they are needed, even if this means sacrificing opportunity in terms of higher interest earnings available elsewhere. When the cash needs in local currencies are known well in advance, beforehand arrangements can be made for receiving the needed currency, but large allowances for potential delay should be made. When one is used to dealing in USA, Europe, and other developed areas, it is too easy to believe that banking is effective across the globe, but the delays that can be faced in banks in some nations can be exceptionally long, uncertain, and expensive.

In principle it is possible to centralize the management of working capital even if some funds do have to be held locally. However, comprehensive centralization of management is tough because local representation is often essential for dealing with local clients and banks. Even if a international bank is used for accepting revenues and making payments, problems can arise that can only be dealt with on the spot. Therefore, the question a firm must answer is the degree of centralization of cash management and of cash holding that is appropriate, and in particular, which activities and currencies should be decentralized.

Check Progress:

1. What are the objectives of international cash management?

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2. What is meant by ‘‘netting?’’

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3. What is meant by ‘‘leading’’ and ‘‘lagging?’’

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4. What do you understand by ‘‘pooling’’?

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5. How does liquidity preference affect international cash management decisions?

5.4 PORTIFOLIO INVESTMENT: INTERNATIONAL CAPITAL ASSET PRICING

5.4.1 Introduction:

The world as a whole has benefitted from global investment via a better allocation of financial resources, and a smoother capital or consumptive stream from lending and borrowing. Individual investors gain in these same ways from engaging in global investment and thereby achieving a more efficient portfolio. Stated in the local language of finance, diversified global investment offers investors higher expected returns and/or reduced risks vis-a`-vis exclusively domestic investment. This chapter emphases on the sources and sizes of these gains from venturing abroad for portfolio investment, which is investment in equities and bonds where the investor’s holding is too small to provide any effective control.

5.4.2 The Benefits of International Portfolio Investment:

Spreading risk: correlations between national asset markets:

Because of risk aversion, investors demand higher expected return for taking on investments with greater risk. It is a well-established proposal in portfolio theory that whenever there is imperfect correlation between different assets’ returns, risk is reduced by maintaining only a part of wealth in any individual asset. More generally, by choosing an investment portfolio according to anticipated returns, variances of returns, and correlations between returns, an investor can achieve minimum risk for a given expected investment portfolio return, or maximum expected return for a given risk. Furthermore, all things being equal, the lower are the correlations between returns on different assets, the greater are the benefits of portfolio diversification.

Within an economy there is some degree of individuality of asset returns, and this provides some diversification openings for investors who do not

venture abroad. However, there is a tendency for the various segments of an economy to feel mutually the impact of overall domestic activity, and for asset returns to respond jointly to projections for domestic activity, and risks about these prospects. This restricts the independence of individual security returns, and therefore also restricts the gains to be made from diversification within only one nation.

Because of different industrial structures in different countries, and because different economies do not trace out exactly the same business cycles, there are reasons for smaller correlations of expected returns between investments in different nations than between investments within any one nation. This means that international investments offer diversification benefits that cannot be enjoyed by investing only in the domestic nation and means, for example, that a US investor might include British stocks in a portfolio even if they offer inferior expected returns than US stocks, the benefit of lowering the risk might more than compensate for inferior expected returns.

5.4.3 International Capital Asset Pricing:

The central international financial concern relating to the pricing of assets, and hence their expected rates of return, is whether they are determined in an integrated, global capital market or in local, segmented markets. If assets are valued in an internationally combined capital market, expected yields on assets will be in accordance with the risks of the assets when they are held in an effective, globally diversified portfolio, such as the world-market portfolio. This means that while in such a situation it is better to diversify globally than not to, the expected yields on assets will just compensate for their systematic risk when this is measured with respect to the globally differentiated world portfolio. That is, with globally integrated capital markets the expected returns on foreign stocks will be appropriate for the risk of these stocks in a globally diversified portfolio. There will be no ‘‘free lunches’’ from global stocks due to higher expected returns for their risk. On the other hand, if assets are valued in segmented or domestic capital markets, their returns will be in accordance with the systematic risk of their domestic market. This means that if an investor happens to have an ability to avoid whatever it is that causes markets to be segmented, this investor will be able to enjoy special benefits from global diversification. It is consequently significant for us to consider whether assets are priced in globally integrated or in segmented capital markets. However, before doing this it is useful to appraise the theory of asset pricing in a national context, because if we do not understand the issues in the simpler national context, we cannot understand the global dimensions of asset pricing.

5.4.4 The international capital asset pricing model, ICAPM:

If assets are valued in globally unified capital markets, expected yields are given by

$$r_j^* = r_f + \beta^w (r^*_w - r_f) \text{ .... } (1)$$

Where,

$$\beta^w = \text{Cov}\ (r_j, r_w) / \text{Var}\ (r_w) \ldots\ldots\ldots\ldots (2)$$

and where r^*_w = ''world market'' expected return. However, it is not easy in practice to apply the international CAPM, or ICAPM, because this need, being able to define a world risk-free interest rate, making assumptions about likings of investors from different nations who face different real earnings according to the basket of goods they purchase, and dealing with other problems.

If the international CAPM as summarized in equations (1) and (2) is valid, then investors do not receive abnormal returns from investing in foreign assets; returns appropriately compensate for the systematic risk of assets in a globally diversified portfolio. On the other hand, if assets are priced in segmented capital markets, then if an investor or firm could overcome the cause of the market segmentation, perhaps by getting around capital flow regulations, such an investor could enjoy abnormal returns. (Later we shall explain that US multinational corporations appear to be in this situation, investing where ordinary US investors cannot.)

5.5 SETTLEMENT OF INTERNATIONAL PORTFOLIO INVESTMENT

When an investor buys a stock or bond in a foreign market the settlement and exchange of assets occurs in more than one regulatory atmosphere. The procedure of such multi-nation exchange and settlement is handled by global custodians. Services like holding of securities and making payments are provided by the custodians. For additional fees, they also provide services like handling foreign exchange dealings, handling of proxies, collection of dividends, giving relevant corporate information to the asset owners and making arrangement for reclaiming of withholding taxes. While some countries such as the US and Canada have so integrated their settlement procedures that the border does not represent much of a blockade, in situations where language and regulatory differences exist settlement can be complex or complicated. For example, changes or fluctuations in exchange rates as well as asset prices make the timing of transactions related to settlement tremendously important. All in all, by overcoming the complexities custodians help in integrating the markets. However, they have clearly not yet made markets a unified whole, or we would not observe so much evidence supporting market separation.

5.6 SUMMARY

1. If different countries' economic performances are not perfectly synchronized, or if there are other differences between nations such as in the types of industries they have, there are benefits from international diversification of portfolios beyond those from diversification within a single country. Therefore, investments in foreign nations might be made even if they offered inferior expected

returns than some domestic investments; the diversification benefits might more than compensate for lower expected returns.

2. It has been proved beyond that large gains can be earned through international diversification of the portfolio due to considerable independence between different nations and stock returns. Globally diversified portfolio does indeed prove to have lower volatility than portfolios of domestic stocks of the same size.

3. There is very low or no co-relation between the stocks of the companies in the same industry but in different nations. This points out to the fact that there is a low correlation but the stock market indexes which is mainly due to distinctive economic conditions and not because indexes of different nations' markets have different industrial compositions.

4. If assets are valued in globally unified capital markets, their returns are appropriate for their risk when combined with the world-market portfolio. Then, by not diversifying globally, an investor is taking more risk than is necessary for a given expected return, or lower expected return than is necessary for a given risk.

5. Global custodians play a major role in handling of the exchange and settlement of foreign securities. In this way they play a major role in integrating the capital markets globally.

5.7 QUESTIONS

1. Define Cash Management and Investment Criterion with Transaction Costs.

2. Explain Borrowing Criterion with Transaction Costs.

3. Explain International dimensions of cash management.

4. How can ''pooling'' provide benefits for international cash management?

5. How does liquidity preference affect international cash management decisions?

6. What types of investments are included in ''international portfolio investment?''

7. Write note on international capital asset pricing model to an explanation of the pricing of securities.

8. What does a global custodian do?

5.8 REFERENCES

- Book "International Finance" written by Maurice D. Levi

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6

INTERNATIONAL INVESTMENT AND FINANCING - II

Unit Structure

6.0 OBJECTIVES

- To know the Capital Budgeting for Foreign Investment.
- To know the Growth of Multinationals
- To know about the International Financing

6.1 INTRODUCTION

This Chapter considers a capital-budgeting framework that management can employ when deciding whether or not to make FDIs. We shall see that a number of difficulties are faced in assessing foreign investments that are not present when assessing domestic investments. These extra difficulties include the existence of exchange-rate and country risks, the need to consider taxes abroad as well as at home, the issue of which country's cost of capital to use as a discount rate, the problem posed by restrictions on repatriating income, and the frequent need to account for subsidized financing. The ways of dealing with these challenges are explained by an extensive example.

Chapter includes an appendix in which various topics in taxation are covered, some of which are relevant for the capital-budgeting procedure used for evaluating foreign direct investments. The appendix offers a general overview of taxation in the international context, covering such topics as value-added tax – which is assuming increasing international importance – tax-reducing organizational structures, and withholding tax. It is through foreign direct investment that some companies have grown into the huge multi-national corporations (MNCs) whose names have entered every major language – Sony, IBM, Shell, Ford, Nestle, Mitsubishi, Citibank, and so on. Chapter studies various reasons for the growth in relative importance of MNCs, as well as the reasons for international business associations that have resulted in transnational alliances. The chapter also takes into account some special difficulties faced by multinational corporations and international alliances, including the need to set transfer prices of goods and services moving between divisions and the need to measure and study country risk. The problems in obtaining and using transfer prices are described, as are some methods of measuring national risk. A clarity is given regarding the differences between national risk and two narrower concepts, political risk and sovereign risk. The ways of reducing or removing country risk are described. Chapter concludes with an account of the challenges and benefits that have accompanied the growth of multinational corporations and international alliances. This involves a discussion of the power of these huge organizations to irritate the economic policies of host governments, and of the transfer of technology and jobs that results from foreign direct investment. The final chapter deals with project financing. The problems addressed include the nation of equity issue, foreign bonds versus Eurobonds, government lending, bank loans and matters that relate to financial structure. Overall, we shall see that there are important matters which are unique to the international arena, whether the issue concerns the uses or the sources of funds. We shall also see that considerable progress has been made in understanding many of the more challenging multinational matters.

6.2 CAPITAL BUDGETING FOR FOREIGN INVESTMENT

6.2.1 Selecting Projects:

The massive multinational corporations (MNCs), whose names are household words around the globe and which have power that is the envy and fear of many governments, grew large by making foreign direct investment (FDI). A standard used for making these investments will be shown in this chapter as we develop the principle of capital budgeting that can be used in assessing foreign projects.

A typical foreign direct investment is the building of a plant to manufacture a company's products for sale in overseas markets. The choice of building a plant is one of several alternative ways of selling the company's products in a foreign country. Other options include exporting

from domestic facilities, licensing a producer in the foreign market to manufacture the good, and producing the good in a facility outside the intended market which the firm already operates.

Project assessments, generally referred to as capital budgeting. However, in the international arena, capital budgeting involves multifaceted problems that are not shared in a domestic context. These include, for example, the amount of debt versus equity used in the company financing, the dependence of cash flows on capital structure, because of cheap loans from foreign governments. This brings about a difference in the cost of capital to the corporation as compared to the opportunity cost of capital of shareholders, where the latter is the correct discount rate. There are also exchange-rate risks, national risks, multiple tiers system of taxation, and sometimes restrictions on sending income back to home country. We will show the conditions under which some of the more complicated problems in the evaluation of overseas direct investments can be reduced to controllable size.

There are numerous approaches to capital budgeting for traditional domestic investments, including net present value (NPV), adjusted present value (APV), internal rate of return, and payback period. We shall use the APV technique, which has been characterized as a ‘‘divide and conquer’’ approach because it tackles each difficulty as it occurs. The adjusted present value approach involves accounting separately for the complexities found in foreign investments as a result of such factors as subsidized loans and restrictions on repatriating income. Before we show how the difficulties can be handled, we shall enumerate the difficulties themselves. Our clarifications will show why the APV approach has been proposed for the assessment of overseas projects, rather than the traditional NPV approach which is generally the preferred choice in evaluating domestic projects.

Difficulties in Evaluating Foreign Projects:

Introductory finance textbooks tend to advise the use of the NPV technique for capital budgeting decisions. The NPV is defined as follows

$$NPV = -K_0 + \sum_{r=1}^{T} \left(\frac{CF * (1+t)}{(1+\bar{r})t} \right)$$

Where,

K_0 = project cost

CF^*_t = expected before-tax cash flow in year t

t = tax rate

$\bar{r}$ = weighted average cost of capital

T = life of the project

The weighted average cost of capital, $\bar{r}$ is in turn defined as follows:

$$\bar{r} = \frac{E}{E+D} r^e + \frac{E}{E+D} r (1+t)$$

Where,

r^e = equilibrium cost of equity reflecting only the systematic risk

r = before-tax cost of debt

E = total market value of equity

D = total market value of debt

t = tax rate

We see that the cost of equity and the cost of debt is weighted by the relative importance of equity and debt as sources of capital, and that an additional adjustment is made to the cost of debt i.e., interest which is due to the fact that interest payments are generally a deductible expense when determining corporate taxes. The adjustment of (1-t) gives the effective cost of debt after the fraction t of interest payments has been saved from taxes. While not generally acknowledged, this NPV approach has enjoyed a prominent place in finance textbooks.

There are two thoughts of reasons why it is difficult to apply the traditional NPV technique to overseas projects and why an alternative framework such as the adjusted-present-value technique is preferred by many managers. The first thought of reasons involves the problems which cause cash flows the numerators in the NPV calculation to be seen from two different perspectives that of the investor's home country and that of the country in which the project is placed. The right perspective is that of the investor's home nation, which we assume to be the same for all company shareholders.

The second category of reasons involves the degree of risk of foreign projects and the appropriate discount rate the denominator of the NPV calculation. We shall begin by looking at why cash flows differ between the investor's perspective and the perspective of the foreign country in which the project is located.

6.2.2 Cash Flows: Home versus Foreign Prospective:

Blocked funds:

If funds that have been blocked or otherwise restricted can be utilized in a foreign investment, the effective project cost to the investor may be below the local project construction cost. From the investor's perspective there is a profit from activated funds equal to the difference between the face value of those funds liberated by pursuing the project, and the present value of the funds if the next best thing is done with them. This profit

should be deducted from the capital cost of the project to find the effective cost from the investor's perspective. For example, if the next best thing that can be done is to leave blocked funds idle abroad, the full value of the activated funds should be deducted from the project cost. Alternatively, if half of the blocked funds can be returned to the investor after the investor pays taxes, or if the blocked funds earn half of a fair market interest rate, then 50% of the value of the blocked funds should be subtracted from the capital cost of the project.

Effects on sales of other divisions:

From the perspective of the foreign manager of an overseas project, the total cash flows generated by the investment would appear to be relevant. However, factories are frequently built in countries in which sales have previously taken place with goods produced in other facilities owned and operated by the same parent company. When the MNC exports to the country of the new project from the home country or some other pre-existing facility, only the increment in the MNC's corporate income due to the investment is relevant. This means deducting from the new project's cash flow, the income lost from other projects due to the new project. It should be noted that it may not be necessary to deduct all losses of cash flows from other facilities because sales in the foreign market will sometimes decline or be lost in the absence of the new project, and this is why the investment is being made. For example, the foreign investment may be to pre-empt another company entering the foreign market. What we must do is net out whatever income would have otherwise been earned by the MNC without the new project.

Remittance restrictions:

When there are limitations on the sending back home of newly generated income earned on a foreign project the amount that can be remitted to the parent investor's country only those cash flows that are remittable to the parent company are important from the MNC's viewpoint. This is true irrespective of the fact whether or not the income is actually remitted. When remittances are legally limited by the foreign government, sometimes the restrictions can be circumvented to an extent by using charges for parent company overhead and so on. If we include only the income which is remittable via legal and open channels, we will obtain a conservative estimate of the project's value. If this is positive, there is no need for any more addition. If it is negative, we can add income that is remittable via illegal transfers, for example. The ability to perform this two-step procedure is a major advantage of the APV approach. As we shall see, a two-step process can also be applied to taxes.

Different levels of taxation:

International taxation is an extremely complicated topic that is best treated separately,

as it is in Appendix A. However, for the purpose of assessing foreign direct investment, what matters is the total taxes paid, and not which

government collects them, the form of taxes collected, the expenditures allowed against taxes, and so on. The important point is that for a US-based multinational, when the US corporate tax rate is above the foreign rate, the effective tax rate will be the US rate if full credit is given for foreign taxes paid. For example, if the foreign project is located in Singapore and the local tax rate for foreign-based corporations is 22 percent while the US corporate tax rate is 40 percent, then after the credit for foreign taxes paid is applied, only 18 percent will be payable in the United States. If, however, the project is located in Japan and faces a tax rate of 42 percent, full credit will not be available, and the effective tax rate will be 42 percent. This means that when we deal with foreign projects from the investor's point of view, we should use a tax rate, t, which is the higher of the home-country and foreign rates.

Taking t as the higher of the tax rates at home and abroad is a conservative approach. In reality, taxes are often reduced to a level below t through the judicious choice of transfer prices, through royalty payments, and so on. These methods can be used to move income from high-tax nations to low-tax nations and thereby reduce overall corporate taxes. In addition, the payment of taxes can be deferred by leaving remittable income abroad, and so if cash flows are measured as all remittable income whether or not remitted, some modification is required since the actual amount of taxes paid will be less than the cash-flow term indicates. The modification can be made to the cost of capital or included as an extra term in an APV calculation.

6.2.3 Discount Rates: Corporative versus Shareholder perspectives:

While governments occasionally offer special financial terms and other kinds of aid for certain domestic projects, it is very common for foreign investors to receive some sort of assistance. This may come in the form of reduced-cost land, lower interest rates on debt, and so on. Reduced-cost land can be reflected in project costs, but cheaper financing is more problematic in the NPV approach. However, with the APV method we can add an additional term to the calculation to reflect the value of the debt subsidy. As we shall see, the benefit of the APV approach is due to the fact that cheaper loans are available to the corporation but not to the shareholders of the corporation. Cheaper financing also makes the appropriate cost of capital for foreign investment projects differ from that for domestic projects, which is what happens in segmented capital markets.

6.3 GROWTH AND CONCERNS ABOUT MULTINATIONALS

6.3.1 Introduction:

Regardless of where you live, chances are you have come across the names of numerous multinational corporations (MNCs) such as those listed in Table 1. These huge organizations, which measure sales by the tens of billions of dollars and employment by the tens or even hundreds of

thousands, have assessed expected cash flows and risks and decided that foreign direct investment (FDI) is useful. But what makes likely cash flows and risks what they are? Furthermore, can anything be done to influence them? For example, can transfer prices of goods and services moving within an MNC be used to decrease taxes or otherwise increase net cash flows from a given scheme? Can financial structure the combination between debt and equity for financing actions be used to reduce political risk? Definitely, can an MNC correctly calculate the cash flows and political risks of foreign investments? Furthermore, do the matters relating to MNCs apply also to members of multinational alliances firms in different nations working in cooperation or are transnational alliances a means of avoiding problems faced by MNCs? These questions, which are vital to the emergence and management of MNCs and multinational alliances, are addressed in this chapter. Besides this, we look at the difficulties and advantages that have accompanied the growth of multinational and transnational forms of corporate organization.

Table 6.1

The 50 largest non-financial MNCs, ranked by total assets, 2022

Rank	Corporation	Home Country	Industry	Total assets (billion $)	Total sales (billion $)	Total Employment
1.	Volkswagen	Germany	Consumer Durables	638.26	295.73	672,789
2.	Saudi Arabian Oil Company (Saudi Aramco)	Saudi Arabia	Oil & Gas Operations	576.07	400.38	68,493
3.	Toyota Motor	Japan	Consumer Durables	552.46	281.75	366,283
4.	AT&T	Unites States	Telecommunications	551.62	163.03	203,000
5.	Amazon	United States	Retail and Wholesale	420.55	469.82	1,608,000
6.	SoftBank	Japan	Telecommunications	418.94	96.86	58,786
7.	Royal Dutch/Shell	United Kingdom	Petroleum	404.38	261.76	82,000
8.	Petro China	China	Oil & Gas Operations	392.6	380.31	476,223
9.	Apple	United States	Semiconductor, Electronics, Electrical Engineering, Technology Hardware & Equipment	381.19	378.7	154,000
10.	Verizon Communications	United States	Telecommunications Services, Cable Supplier	366.6	134.35	105,376
11.	Gazprom	Russia	Oil & Gas Operations	360.47	117.3	477,600
12.	Alphabet	United States	IT Software & Services	359.27	257.49	156,500

13.	Samsung	South Korea	Semiconductors, Electronics, Electrical Engineering, Technology Hardware & Equipment	358.88	244.16	113,485
14.	Deutsche Telekom	Germany	Telecommunications Services	340.56	128.59	216,528
15.	Microsoft	United States	Services IT, Internet, Software & Services	340.39	184.9	182,268
16.	Exxon Mobil	United States	Oil & Gas Operations	338.92	280.51	63,000
17.	Mercedes-Benz	Germany	Consumer Durables	295.48	178.94	172,425
18.	Group Total	France	Oil & Gas Operations	293.46	185.12	101,309
19.	Sinopec	China	Oil & Gas Operations	292.05	384.82	385,691
20.	BP	United Kingdom	Oil & Gas Operations	287.27	158.01	65,900
21.	China Mobile	Hong Kong	Telecommunication Services	283.37	131.49	449,934
22.	BMW Group	Germany	Automotive (Automotive and Suppliers)	277.28	131.48	118,909
23.	Alibaba Group	China	Retailing	276.25	129.76	251,462
24.	Comcast	United States	Media & Advertising	275.9	116.39	132,300
25.	Sony	Japan	Semiconductors, Electronics, Electrical Engineering, Technology Hardware & Equipment	260.48	89.9	109,700
26.	Ford Motor	Canada	Automotive (Automotive and Suppliers)	257.04	136.34	26,000
27.	Tencent Holdings	China	IT Software & Services	252.99	86.86	112,771
28.	Walmart	United States	Retailing	244.86	572.75	2,300,000
29.	General Motors	United States	Automotive	244.72	127	88,400
30.	CVS Health	United States	Retailing	240.5	291.98	300,000
31.	Chevron	United States	Construction, Oil & Gas Operations, Mining and Chemicals	239.53	156.29	42,595
32.	Nippon Telegraph & Tel	Japan	Telecommunications Services	204.46	110.39	324,667
33.	Stellantis Company	Netherlands	Automotive (Automotive and Suppliers)	195.33	176.61	189,512
34.	Reliance Industries	India	Oil & Gas Operations	192.59	86.85	236,334

35.	Johnson & Johnson	United States	Drugs & Biotechnology	182.02	94.88	144,300
36.	Pfizer	United States	Drugs & Biotechnology	181.48	81.49	29,000
37.	Petrobras	Brazil	Oil & Gas Operations	174.68	83.89	45,532
38.	Intel	United States	Semiconductors, Electronics, Electrical Engineering, Technology Hardware & Equipment	168.41	79.02	121,100
39.	Meta Platforms	United States	IT, Internet, Software & Services	165.99	117.93	71,970
40.	Siemens	Germany	Professional Service	164.22	76.46	8,000
41.	Nestlé	Switzerland	Food, Soft Beverages, Alcohol & Tobacco	152.71	95.25	276,000
42.	Equinor	Norway	Oil & Gas Operations	147.12	88.37	21,126
43.	AbbVie	United States	Drugs & Biotechnology	146.53	56.2	50,000
44.	LVMH Moët Hennessy Louis Vuitton	France	Clothing, Shoes, Sports Equipment	142.5	75.9	34,930
45.	Taiwan Semiconductor	Taiwan	Semiconductors	139.35	61.47	56,831
46.	Novartis	Switzerland	Drugs & Biotechnology	135.88	51.63	104,323
47.	Procter & Gamble	United States	Packaged Goods	120.22	79.62	26,000
48.	BHP Group	Australia	Materials	105.72	65.55	80,000
49.	Roche Holding	Switzerland	Drugs & Biotechnology	101.32	68.69	100,920
50.	The Home Depot	Canada	Retail and Wholesale	71.88	151.16	30,000

Source: The Global 2000: Forbes report 2022, Ranks are calculated by assets by author

6.3.2 Reasons for the Growth of MNCs:

1. Availability of raw materials:

If there are factories which are manufacturing a good quality of denim cloth and at a cheaper rate then why should not a company like Aviva Corporation purchase the denim material from abroad, and bring it to the United States do the jeans manufacturing and export it once again? Clearly, if the ability exists to manufacture the jeans in the foreign market, the firm can eliminate two-way shipping costs for denim in one direction and jeans in the other by directly investing in a manufacturing plant abroad.[1]

Many companies, especially in mining sector, have little options but to locate at the site where raw materials is readily available. If copper or iron

ore is being smelted, it often does not make sense to ship the ore when a smelter can be erected near the mine site. The product of the smelter the copper or iron bars which weigh less than the original ore can be transported out to the market. However, even in this rather straightforward situation we still have to ask why it would be an overseas firm rather than a native firm that owned the smelter.

With a native firm there would be no foreign direct investment. Thus, to explain foreign direct investment, we must explain why a multinational corporate organization can do things better or cheaper than local firms. As we shall see in the following paragraphs, there are many advantages enjoyed by MNCs versus local, single country companies.

Note:

A model of overseas direct investment that considers transportation costs as well as issues involving stages of production and economies of scale has been developed by Jimmy Weinblatt and Robert E. Lipsey, ''A Model of Firms' Decisions to Export or Produce Abroad,'' National Bureau of Economic Research, Working Paper 511, July 1980.

2. Integrating operations:

The benefit of ownership of the various stages of the supply chain is based on the lower stock levels that are required when there is good communication of data between the different stages of production, stock arrival can then move closer to just-in-time levels. The benefit of common ownership to achieve this is perhaps less significant than it used to be because of electronic data exchange that can link separately owned companies when the flow of information between stages of the supply chain is jointly helpful.

3. Non-transferable knowledge:

Nowadays, selling their knowledge in the form of patent rights and to license a foreign producer is quite possible for any firm. This is turn removes the burden from the firm to make a foreign direct investment. Many a times a firm which has production process or product, if it does the foreign production itself then it can make huge profits. This is mainly because of the fact that many a times, there are certain kinds or types of knowledge which cannot be sold or purchased but are acquired through years of experience. For example, Aviva can sell its patterns and designs to a foreign firm, it can also license the use of its name, but it cannot sell its production and marketing experience to a foreign firm. This is the main reason why the firms want to do their own foreign production.

4. Protecting reputations:

Products develop good or bad repute, and these are carried across international borders. For example, people everywhere know the names of certain brands of fast food, jeans commercial banks and soft drinks. It would not serve the good repute of a multinational company to have a foreign licensee do a careless job providing the good or service. Whether we are talking about restaurant chains where people could become sick,

accounting firms which might use unlawful or ethically questionable practices, or pharmaceutical companies that can make mistakes, it is important for multinationals to maintain high and similar standards across the globe to protect their reputations. A bad experience in one location can easily spill over to sales and profits in other locations as well. This is the nature of negative external factors which are internalized if foreign production is kept within the company rather than being licensed out to a separate corporate entity. We find that there is good reason for foreign direct investment rather than alternative ways of expanding into foreign markets such as granting foreign licences.

5. Exploiting reputations:

Foreign Direct Investment may occur to utilize rather than guard a reputation. This inspiration is probably of particular significance in Foreign Direct Investment by banks, and it happens in the form of opening branches and establishing or buying subsidiaries. One of the reasons why banking has become an industry with huge multinationals is that an international repute can attract deposits; many associate the size of a bank with its safety. For example, a name like Coca Cola, KFC, or Standard Chartered Bank in a small, less developed nation is likely to attract deposits away from local banks. Repute is also important in accounting, as Exhibit table 1. explains. This is why many large industrial nations such as the United States Of America and Great Britain have argued in global trade negotiations for a liberalization of restrictions on services, including accounting and banking. It is also the reason why the majority of less-developed nations have confronted this liberalization.

6. Protecting secrecy:

Direct investment may be chosen to the granting of a license for a foreign company to manufacture a product if secrecy is significant. This point has been raised by Erich Spitteler, who argues that a firm can be inspired to choose direct investment over licensing by a feeling that, while a licensee may take safety measures to protect patent rights, it may be less careful than the original owner of the patent.

7. The product life-cycle hypothesis:

To sustain the growth of earnings, the company must undertake foreign ventures where markets are not as well infiltrated and where there is perhaps less competition. This makes direct investment the natural significance of being in business for a long enough time and having exhausted options of expansion at home. There is an unavoidability in this view that has concerned those who believe that American firms are further along in their life-cycle development than the firms of other countries and are therefore dominant in foreign expansion. However, even when US firms do expand into foreign markets, their activities are often scrutinized by the host governments. Moreover, the spread of US multinationals has been matched by the inroads of foreign firms into the United States. Particularly noticeable have been auto and auto-parts producers such as Toyota, Honda, Nissan, and Michelin. Foreign firms have an even longer

history as leaders in the US food and drug industry (Nestle, Hoffmann-La Roche); in oil and gas (Shell, British Petroleum as BP and so on); in real-estate development, banking, and insurance; and in other areas.

8. Capital availability:

Robert Aliber has suggested that access to capital markets can be a reason why firms themselves move abroad.[5] The smaller one-nation licensee does not have the same contact to cheaper funds as the larger firm, and so larger firms are able to operate within overseas markets with a lower discount rate. However, Edward Graham and Paul Krugman have challenged this argument on two grounds. First, even if large multinational firms have a lower cost of capital than small, native firms, the form of foreign investment does not have to be direct investment. Rather, it can be an indirect investment and take the form of portfolio investment. Second, the majority of Foreign Direct Investment has been two-way, with, for example, US companies investing in Japan while Japanese companies invest in the United States. This pattern is not a consequence of the differential-cost-of-capital argument which implies one-way investment flows.

9. Strategic FDI:

Companies enter overseas markets to preserve market share when this is being endangered by the potential entry of local firms or multinationals from other nations. This strategic motivation for FDI has always existed, but it may have contributed to the multi-nationalization of business as a result of improved access to capital markets. This is different from the argument regarding the differential cost of capital, given previously. In the case of increased strategic Foreign Direct Investment, it is globalization of financial markets that has reduced entry barriers due to large fixed costs. Admission to the necessary capital means a wider set of corporations with an ability to expand into any given market. This increases the motivation to move and enjoy any potential first-mover advantage.

10. Organizational factors

Richard Cyert and James March emphasize reasons given by organization theory, a theme that is extended to FDI by E. Eugene Carter.[6] The organization theory view of Foreign Direct Investment emphasizes broad management objectives in terms of the way management attempts to shift risk by operating in many markets, sales growth, etc. which is against the outdated view to focus on maximization of profits.

11. Avoiding tariffs and quotas:

Another reason for producing abroad instead of producing at home and shipping the product concerns the import tariffs that might have to be paid.[7] If import duties are in place, a firm might manufacture inside the foreign market in order to evade them. We must not forget, however, that tariffs guard the company engaged in production in the foreign market, whether it be a foreign company or a local firm. Tariffs cannot, therefore,

clarify why overseas companies move abroad rather than use the licensing route, and yet the movement of companies is the core of direct investment. Nor, along comparable lines, can tax write-offs, subsidized or even free land offerings, and so on, explain direct investment, since overseas companies are not usually helped more than domestic ones. We must trust our other listed reasons for direct investment and the superseding desire to make a larger profit, even if that means moving abroad rather than expanding into alternative domestic endeavours. There have been cases where the danger of burden of tariffs, or numerical restrictions on imports in the form of quotas, have provoked direct investment overseas. For example, a number of foreign automobile and truck manufacturers established plants, or considered establishing plants, in the United States to avoid restrictions on selling foreign-made cars. The limits were intended to protect jobs in the US industry. Nissan Motors constructed a plant in Tennessee, and Honda erected a plant in Ohio. For a period of time Volkswagen manufactured automobiles and light trucks in the United States and Canada. Other companies included Renault and Daimler-Benz which made direct investment in United States and Canada.

12. Avoiding regulations:

The multi-nationalization in the banking sector, Foreign Direct Investment has been made by banks to evade guidelines. This has also been a incentive for foreign investment by manufacturing companies. For example, a case might be made that some companies have moved to escape values set by the US Environmental Protection Agency, the Occupational Safety and Health Administration, and other agencies. Some foreign nations with lower ecological and safety standards offer a haven to firms using dirty or hazardous processes. The items manufactured, such as chemicals and prescription drugs, may even be offered for sale back in the parent companies' home nations.

13. Production flexibility:

An indicator of departures from purchasing power parity (PPP) is that there are periods when manufacture costs in one nation are predominantly low because of a real decline of its currency. Multinational companies may be able to relocate

manufacturing to exploit the prospects that real depreciations offer. This requires, obviously, that trade unions or governments do not make the shifting of manufacturing too difficult. Small manufactured goods such as televisions and computer components offer themselves to such shuffling of production, whereas automobile production, with its worldwide unions and exclusive setup costs, does not.

14. Symbiotic relationships:

Some firms follow clients who make FDIs. For example, large American accounting firms which have knowledge of holding companies' special needs and practices have opened offices in countries where their clients have opened subsidiary companies. These US accounting firms have an

advantage over local firms because of their knowledge of the parent and because the client may prefer to engage only one company in order to reduce the number of people with access to sensitive data; The same factor may apply to securities, consulting, and legal companies, which often follow their home country clients' direct investments by opening offices in the same overseas sites. Similarly, it has been shown that manufacturing companies may be drawn to locations where other manufacturing companies from the same nation are situated. The advantage of being in the same area is that they can work together and benefit from their knowledge of each other. The advantages from being in the same area as other companies are called agglomeration economies.

15. Indirect diversification:

We should not leave our discussion of factors contributing to the growth of multinational companies without mentioning the potential for the multinational companies to indirectly provide portfolio diversification for shareholders. This service will, obviously, be valued only if shareholders are incapable to diverge themselves. This needs the existence of segmented capital markets that only the multinational companies can overcome. All the reasons of growth of multinational companies, including that relating to divergence, depend on market limitations.

6.3.3 Problems and Benefits from the Growth of MNCs:

As we have mentioned, much of the worry about multinational companies stems from their size, which can be huge. Indeed, the profits of some of the larger companies can exceed the operating budgets of the governments in smaller nations. It is the power that such scale can give that has led to the greatest worry. Can the multinational companies push around their host governments to the advantage of the shareholders and the disadvantage of the citizens of the nation of operation? This has led several nations and even the United Nations to investigate the impact of multinational companies. The issues considered include the following.

1. Blunting local economic policy:

It can be tough to manage economies in which multinationals have wide-ranging investments, such as the economies of Canada and Australia. Since multinational companies often have ready access to outside sources of finance, they can blunt local monetary policy. When the host government wishes to constraint economic activity, multinationals may nevertheless expand through foreign borrowing. Similarly, efforts at economic expansion may be unfulfilled if multinational companies transfer funds overseas in search of yield advantages elsewhere. You do not have to be a multinational to upset plans for economic expansion unified financial markets will always produce this effect but multinational companies are likely to participate in any opportunities to gain profits. Additionally, as we have seen, multinational companies can also shift profits to reduce their total tax liability; they can try to manipulate transfer prices to move profits to countries with lower tax rates. This can make the multinational companies a slippery animal for the tax collector, even

though, on the other side of the ledger, by buying local goods they contribute to tax revenue.

2. Destabilizing exchange rates:

It has been contended that multinational companies can make foreign exchange markets unstable. For example, it has been demanded that when the US dollar is moving quickly against the world's major currencies, the Canadian dollar swings even further. In particular, it has been contended that a falling value of the US dollar against, for example, the euro or sterling, has been related with an average larger decline of the Canadian dollar against these currencies. Although the existence of this phenomenon has not been officially confirmed, multinational companies have been responsible for such an effect. It has been claimed that when US parent companies are expecting an increase in the price of the euro, sterling, and so on, they buy these foreign currencies and instruct their Canadian subsidiary companies to do the same. With a thinner market in the Dominion currency, the effect of this activity could be larger movement in the Canadian dollar than the US dollar.

3. Defying foreign policy objectives:

Apprehension has been expressed, especially within the United States of America, that US-based multinational companies can challenge foreign policy objectives of the US government through their foreign branches and subsidiaries. For example, a US multinational companies might break a barrier and avoid permissions by operating through overseas subsidiary companies. This has caused even greater fear within some host nations. Why should corporations operating within their boundaries have to follow orders of the American government or any other foreign government? Multinational companies present a possibility for conflict between national governments. There is even possibility for conflict within international/multinational trade unions. For example, in 1980 and 1981 Chrysler Corporation was given loan guarantees to help it continue in business. The US government asserted on wage and salary rollbacks as a condition. Chrysler workers in Canada did not like the instruction from the US Congress to accept a reduced wage.

4. Creating and exploiting monopoly power:

It is quite common to listen to the view that because multinational companies are so large, they have lessened the rivalry. However, the truth may be the contradictory. In some industries such as computers, automobiles, shipbuilding and steel where a single country might support one or only a few companies in the industry, competition is increased by the presence of foreign multinational companies. That is, the multinational companies themselves compete in global markets, and without them monopoly powers in some sectors might be even stronger. Charges have been levelled, most remarkably with regard to the oil industry, that multinationals can use monopoly power to hold back output to effect price increases for their products. Because the multinational companies have such wide operations, much of the data on which the governments must

rely are often data collected and reported by the multinational companies themselves. There is no assurance that the data remain accurate, and there is no simple way to implement controls and punish culprits. This became one of the foremost political matters of the new millennium.

5. Keeping top jobs at home:

Multinational companies tend to focus and specialize their ‘‘good’’ and ‘‘bad’’ activities within certain sites. This can mean doing Research & Development within the home nation. Highly skilled university and technical-school graduates who find their employment and promotion prospects reduced would prefer locally owned and managed enterprises in their nation to foreign multinational companies. This has been a debated problem in nations that consider themselves ‘‘branch plant’’ economies. Canadian and Australian scientists and engineers have been predominantly frank. While multinational companies have enhanced projections for some better-paid employees in their home nations, it has been reasoned that they have ‘‘exported’’ lower-wage jobs, especially in production sector. The evidence does not appear to support this claim. FDI is frequently motivated by strategic considerations, and it can help investing firms retain markets threatened by new entrants. In such a way jobs at home those providing partly treated inputs and R&D are protected. Also, on the positive side, multinational companies have relocated technology and capital to less-developed countries (LDCs), and in this way helped quicken their economic development. US and Japanese based multinational companies have been particularly active building manufacturing facilities in less developed countries. For example, US multinational companies impact in Latin America has been particularly strong. The Japanese MNCs’ impact has also risen, particularly in Asian LDCs.

6. Homogenization of culture:

There is little or no doubt that multinational companies spread a public culture. Chain hamburger openings become the same on Main Street in Iowa and on the Champs-Elysees in Paris. Soft drink bottles with a conversant shape can wash up on any beach with no way of telling from which nation they came. Hotel rooms are similar everywhere. The same company names and merchandise names appear in every major Western language. Even architecture shows a common inspiration – the ‘‘international style.’’ Many have criticized this development, complaining that it is robbing the world of a good deal of its diversity and local interest. Yet the local people demand the products of the multinational companies. This is all part of the never-ending love-hate relationship between concerned people everywhere and the multinational companies.

Check Progress:

1. What do you understand by capital budgeting in international prospective.

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2. How we can select project in international capital budgeting.

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3. Write a note on Growth of multinational corporations.

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4. What are the reasons of growth of multinational corporations.

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5. What is the benefits of host country for establishing multinational corporations.

6.4 INTERNATIONAL FINANCING

The amalgamation and associated globalization of capital markets has opened up a huge arrangement of new sources and forms of financing. Today's corporate treasurers of large multinational companies as well as domestic companies can often access overseas capital markets as easily as they can access the domestic capital market. This chapter considers these broadened prospects by explaining the central international financial issues involved in each of the major methods of raising financial capital, some of which are unique to the international sphere. We consider the international aspects of raising capital via stocks, bonds, parallel loans between corporations, credit swaps between banks and corporations, and loans from host governments and development banks.

6.4.1 Equity Financing:

The prime international financial question concerning equity financing is in which **country stocks should be issued.** A second question relates to

the legal vehicle that **should be used for raising equity capital**; should this be done by the parent firm or by a subsidiary company, and if by a subsidiary company, **where should it be registered?**

a. The country in which shares should be issued:

Obviously, stocks should be issued in the nation in which the best price can be received, net of issuing costs. If for the time being, we assume the costs of issue to be the identical everywhere, the nation in which the best price can be received for the shares is the nation in which the cost of equity in terms of the required expected rate of return for investors is the cheapest. There is no concern about risk from the equity issuer's perspective, other than to the extent that through equity buyer's concern for systematic risk, the riskiness of shares issued affects the required expected rate of return and hence the price received for the shares; the required expected rate of return of shareholders is, of course, the expected rate of return paid by the firm. It should be clear that if international capital markets are integrated, the expected cost of equity financing will be the same in every country.

If capital markets are divided, the expected returns on the same security could be different in diverse markets. A firm might then be able to receive more for its stocks in some markets than others. Obviously, when a company's stocks are listed concurrently in different nations, the share price measured in a common currency will have to be the same everywhere up to the transaction costs of arbitrage. Otherwise, the shares will be bought in the inexpensive market and sold in the costlier market until the price difference has been eradicated. However, the cause of the capital-market division may prevent arbitrage. Additionally, a company may not be considering concurrent issue in different nations, but rather, a single nation in which to float an issue.

b. The vehicle of share issue:

A company that has decided to issue shares overseas must decide whether to issue such shares directly, or to do so indirectly via a subsidiary company situated abroad. There is frequently a motive to use a specially established financing subsidiary to avoid the need to withhold tax on payments made to foreigners. For example, many US companies established subsidiary companies in the Netherlands Antilles and other tax havens to evade having to withhold 30 percent of dividend or interest income paid to foreigners. The US financing subsidiaries took advantage of a ruling of the US Internal Revenue Service that if 80 percent or more of a corporation's income is earned abroad, then dividends and interest paid by the company are considered foreign and not subject to the need to withhold. To the degree that foreign creditors or shareholders of American companies are incapable of receiving full credit for taxes withheld, they may be willing to pay more for securities issued by American subsidiary companies than for the securities of the parent company in the United States of America.

6.4.2 Bond Financing:

Identical two questions arise with bond financing as with equity financing, namely, (1) the nation of issue and (2) the vehicle of issue. The conclusions regarding these matters with bonds are also very much like to those we have defined above in connection to equities. In particular, organizations tend to issue in markets with comparatively full disclosure rules and strong investor safety because these are the markets which appeal to investors. Corporations also choose markets with comparatively low issue costs of debt, just as they do when issuing equity. However, an extra global issue does stand up with bond financing, namely the currency of issue.

The currency of issue is not the same as the nation of issue, although the two may coincide. For example, if an American company sells a pound denominated bond in Great Britain, the currency of issue is that of the nation of issue. However, if an American company sells a US-dollar-denominated bond in Great Britain, the currency of issue is not that of the nation of issue. In the first case of these situations the bond is called a foreign bond; in the second case it is called a Eurobond. Let us provide a more general explanation of foreign bonds and Eurobonds.

Foreign bonds versus Eurobonds:

A foreign bond is a bond sold in a foreign nation in the currency of the nation of issue. The borrower is foreigner to the nation of issue, hence the name. For example, a Canadian company or a Canadian provincial government might sell a bond in New York designated in US dollars. In the same way, a Brazilian firm might sell a euro-denominated bond in Germany. These are examples of foreign bonds, also stated to as "Yankee bonds". A Eurobond, on the other hand, is a bond that is designated in a currency that is not that of the nation in which it is issued. For example, a US-dollar-denominated bond sold outside of the United States in Europe or elsewhere is a Eurobond, a Eurodollar bond. In the same way, a sterling-designated bond sold outside of the United Kingdom is a Eurobond, a Euro-sterling bond.

Foreign bonds are generally guaranteed and sold by brokers who are situated in the nation in which the bonds are issued. Eurobonds, on the other hand, are sold by international syndicates of brokers because they are generally sold simultaneously in a number of countries. The syndicates will normally have a lead manager which underwrites the largest proportion of the issue, and a number of smaller members, although some syndicates have co-lead managers. The lead managers include Merrill Lynch, Goldman Sachs, Union Bank of Switzerland

(UBS), Morgan Stanley, Deutsche Bank, JP Morgan, and others. Eurobond issues tend to be very large, and their existence is an indication in itself that capital markets are segmented. This is because if there was no capital market segmentation, big bond issues could take place in a single market with foreign bond buyers purchasing what they want in that market. The need to sell parts in different countries' markets suggests that

in any individual market there is a downward-sloping demand curve for any particular issue.

The vehicle of bond issue:

Whether the bond that is issued is a Eurobond, foreign bond, or domestic bond, and whether it is designated in a solitary currency or in numerous currencies, a decision must be made either to issue the bond directly as an obligation of the parent company, or to issue it indirectly through a financing subsidiary company or some other subsidiary company. Firms issue bonds via a foreign subsidiary if they do not want the bonds to be a responsibility of the parent company. This has the additional benefit of dropping country risk if some of the subsidiary company's bonds are held locally. However, because the parent is almost always viewed as less risky than subsidiary companies, the reduction in the parent's obligation and also in nation risk must be traded off against the fact that the interest rates that must be paid are usually higher when having a subsidiary company issue bond.

6.4.3 Bank Financing:

It is quite common for funding to be done by governments or development banks. Because government and development-bank funding are usually at favourable terms, many corporations consider these official sources of capital before considering the issue of stock, the sale of bonds, borrowings from commercial banks, or parallel loans from other financial corporations.

Host governments of overseas investments offer funding when they believe projects will generate jobs, earn foreign exchange money, or provide training for their workforce. There are abundant examples of loans being provided to multinational companies by the governments of, for example, Spain, Canada Australia and Great Britain, to induce industrial firms to make investments in their nations. Sometimes the state or provincial governments also offer funding, perhaps even challenging with each other within a country to have plants built in their jurisdiction. Several American states have provided cheap funding and other concessions to attract Japanese and other foreign firms to establish operations. Canadian provincial and Australian state governments have also used special funding arrangements to induce investors.

Even though the governments of poorer nations or less developed countries do not generally have the resources to offer cheap funding to investors, there are a number of development banks which specialize in providing funds for investment in infrastructure, for irrigation, and for similar projects. While this funding is usually provided to the host government instead of to companies involved in the building of the projects, the companies are indirectly being funded by the development bank loans to the host governments.

A foremost provider of financial aid is the International Bank for Reconstruction and Development (IBRD), normally known as the World

Bank. The World Bank, which was established in 1944, is not a bank in the sense that it does not accept deposits or provides payment on behalf of all the nations across the globe. In fact, it is a lending institution that borrows from the governments of the developed nations by selling them its bonds, and then uses the proceeds for development in underdeveloped (or developing) nations. World Bank or IBRD loans have a maturity period of up to 20 years depending upon the terms and conditions of the loan being provided. Interest rates are determined by the (relatively low) cost of funds to the bank.

Many developing nations do not meet the requirements for World Bank loans, so in 1960 an allied organization, the **International Development Agency (IDA)**, was established to help even poorer nations. Credits, as the advances are called, have terms of up to 50 years and carry no interest burden. A second partner of the World Bank is the **International Finance Corporation (IFC)**. The IFC provides advances for private investments and takes equity positions along with private-sector partners.

6.5 SUMMARY

1. We must be reliable in foreign-project assessments. We can use domestic or foreign currency as long as we use the matching discount rates, and we can use real values of cash flows if we use nominal cash flows or real interest rates if we use nominal interest rates.

2. Discount rates should show only the systematic risk of the item being discounted. Doing business overseas can help reduce overall company risk when earnings are more independent between nations than between activities within a particular nation, and this can mean lower discount rates for overseas projects.

3. Multi-National Companies have grown by making Foreign Direct Investments.

4. Among the reasons why Multi National Companies have made direct investments are to gain access to raw materials, to integrate operations for increased efficiency, to avoid regulations, to protect industrial mysteries and copyrights, to expand when domestic prospects are over, evade tariffs and quotas, to increase manufacture flexibility and thereby profit from variations in real exchange rates, to prevent others entering a market, to follow client Multi National Companies, and to increase diversification.

5. Multi-National Companies face two dimensional problems to a greater degree than other firms, namely measuring transfer prices and nation risks.

6. If capital markets are globally combined, the cost of capital should be the same wherever the capital is raised.

7. If capital markets are divided, it pays to raise equity in the nation in which the company can sell its shares for the highest price. It may

also pay to consider selling equity instantaneously in several nations; such shares are called Euro equities.

8. A foreign bond is a bond sold in an overseas country and in the currency of that foreign country. A Eurobond is a bond in a currency other than that of the nation in which it is sold.

9. Companies issuing bond should take into consideration costs and sizes of bond issues when determining the country of issue.

10. Credit swaps are made between banks and firms. They are also a way of avoiding foreign exchange controls.

11. The relations between banks and companies in Germany, Japan and some other countries may explain the high debt/equity ratios in these nations. However, it does appear in overall from the within-country distinctions in financial structure that industry- and firm-specific impacts on monetary structure are more significant than country effects.

6.6 QUESTIONS

1. How to select project in Capital Budgeting for foreign investment?
2. Write difficulties in evaluating foreign projects?
3. Write a note on Home versus Foreign cash flows.
4. Write a note on Discount rate.
5. Explain reasons of growth of MNCs.
6. Explain problems and benefits from growth of MNCs.
7. Write a note on Equity Financing.
8. Write a note on Bond Financing.
9. Write a note on Bank Financing

6.7 REFERENCE

- Book “International Finance” written by Maurice D. Levi

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7

INTERNATIONAL FINANCIAL INSTITUTIONS - I

Unit Structure

7.0 OBJECTIVES

- To analyze the gold standard system
- To know the working of gold exchange system
- To understand the working of special drawing rights

7.1 INTRODUCTION

For smooth functioning of international financial relations between various countries as well as international institutions, efficient international monetary system is required. The expansion of global trade and economy depends upon this system. The present chapter take reviews of some of the important concepts related to this international monetary system.

During the period from the beginning of the nineteenth century to the World War II, the international monetary system was based on gold. Most of the industrialised nations and their trading partners were operating under a fixed exchange rate system called gold standard. Under this system each country had to define its currency in terms of gold. Exchange rate between two different currencies was decided upon the basis of the equivalency of the gold purchasing value of these currencies. This system had gone through different phases. Based upon the history, this system can be classified as Gold Standard System and Gold Exchange Standard System.

7.2 GOLD STANDARD SYSTEM (1880- 1914)

Gold standard (or also called full-fledged gold standard) was a monetary system, well prevailing before World War I, in which the standard measure of the value of the currency was a fixed quantity of gold or was kept at the value of a fixed quantity of gold. The currency was freely convertible at home or overseas into a fixed amount of gold per unit of currency.

7.2.1 Features of Gold Standard:

The following were the basic features this system:

a) The monetary unit was used to define in terms of gold.

b) Coins made of gold were held as standard unlimited legal tender.

c) Paper money or token money were also in circulation but freely convertible into gold.

d) There was no limit and no cost for making of gold coins.

e) Melting of gold was free and unlimited.

f) The central bank had to buy and sell gold without limit to maintain the internal as well as external value of currency and for this purpose it had to hold gold reserves.

g) There were no restrictions on import and export of gold.

h) As countries used to tie their currencies to gold under a gold standard, official international reserves were of the form of gold.

7.2.2 History of gold standard:

The period of gold standard is considered from 1880 to 1914. The system was first put into operation by United Kingdom in 1819 when the British Parliament revoked long-standing restrictions on the export of gold coins and bullion from Britain. During the 1870s Germany, France, and the United States adopted the gold standard with many other countries following suit. The system remained successful until the World War I.

In order to maintain this system, the participating country had to allow export and import gold without any restriction. But as the World War I broke; the shipment of gold became impossible and cooperation among the central banks of the countries was shattered. Therefore, the world had to leave the gold standard system.

7.2.3 Working of the gold standard:

Under the gold standard system, the central bank of a country had to maintain the gold reserve for two reasons, i. e. to control the money supply in the economy and to maintain the exchange rate of the currency. As the issuance of each note in the circulation was backed by gold, the money supply was automatically controlled due to scarcity of gold.

In order to maintain the exchange rate stable with the money units of different gold standard countries, the country had to freely allow the export and import of gold. The central bank also had to intervene to keep the exchange rate stable. For that purpose, the central bank had to be ready with gold reserves.

7.2.4 External balance under the gold standard:

Under the gold standard, a central bank had to fix the exchange rate between its currency and gold. To keep this gold price, the central bank had to maintain an adequate stock of gold reserves. Therefore, the policy makers were regarding external balance not in terms of a current account target, but as a situation in which the country neither importing excess gold from abroad nor exporting excess gold to foreign countries at too rapid a rate. It means the central bank had to avoid sharp fluctuations in the balance of payments as international reserves took the form of gold during this period. The surplus or deficit in the balance of payments had to be financed by gold shipments between central banks of the countries involved.

7.2.5 Automatic Mechanism (The price-specie-flow mechanism):

The gold standard system had powerful automatic mechanism which led to the simultaneous accomplishment of balance of payments equilibrium by all countries. This mechanism can be understood with the following hypothetical example.

Suppose there are two countries India and Britain. India is having deficit balance of payments and Britain is with surplus balance payments. Both countries are not in equilibrium with balance of payments. The disequilibrium between these two countries will automatically get corrected through the mechanism price-specie-flow mechanism as follows.

1. Gold Movement:

Gold will flow out (Exported) of India with deficit balance of payments and will flow in (Imported) to Britain with surplus balance of payments.

2. Changes in Money Supply:

As the gold is responsible to create money in the economy, the outflow of gold will lead to a reduction in the supply of money in India. Alternatively, the inflow of gold will result in the increase of money supply in Britain.

3. Changes in Prices and Economic Activity:

In India, reduction in money supply will lead to a fall in the prices and the profit margins. This will lead to reduction in investment, income, output and employment in the country. On the other hand, in Britain, increase in money supply will increase prices and profit margins and consequently investment, income, output and employment.

4. Changes in Imports and Exports:

Reduction in prices in India will encourage foreigners' demand for its products. Also, the situation will force the country to curtail its import. Thus, exports will exceed imports. Simultaneously, price rise in country Britain will lead to an increase in import.

5. Equilibrium in the Balance of Payments:

Increase in export and reduction in import will create conditions of favourable balance of payments for India. On the other hand, reduction in export and increase in import will lead to an adverse balance of payments in Britain. Consequently, gold will start flowing from Britain to India and this will finally remove disequilibrium in the balance of payments in both the countries.

The automatic mechanism explained above can be summarised with the following flow chart for your quick revision.

The price-specie-flow mechanism

Disequilibrium in balance of payments (Deficit or Surplus)

movements of gold (Import or Export of gold)

changes in money supply (will increase or will decrease)

changes in prices and incomes (will increase or will decrease)

changes in exports and imports (Export or Import of goods)

equilibrium in the balance of payments.

7.2.5 Advantages of the gold standard:

The gold standard system had following advantages.

a) International Medium of Exchange:

Gold is universally demanded commodity. Therefore, it serves the function of the medium of exchange. Exchange rates of the currencies of various countries could be easily determined as their par values are expressed in terms of gold. Gold also can be served as a measure of value for all goods and services, which made a ready comparison of the values of goods in different countries.

b) No requirement of government intervention:

Under gold standard, the monetary system functions automatically. Therefore, the government need not to interfere in the system. As the relationship between gold and quantity of money is strong, changes in gold reserves automatically leaded to corresponding changes in the money supply. Thus, the imbalance in the balance of payment of the country or inflation or deflation situations were used to get corrected automatically.

c) Stability of Exchange Rate:

The great advantage of gold standard was, it provided stability of exchange rates among the countries those were following to it. Gold standard ensured the slight movement of exchange rate up to specie or gold point. This exchange rate stability facilitated the international trade and capital movements during the era.

d) Public Confidence:

Gold standard promoted public confidence in money because people always have trust in gold because of its intrinsic value. This system had no

danger of over-issue currency as total volume of currency in the country was directly related to the volume of gold.

e) Simple to understand:

The system was very simple to understand for common people. It didn't have complications like other monetary systems.

Therefore, the gold standard was very useful monetary system in many ways.

7.2.6 Disadvantages of the gold standard:

The gold standard system had following disadvantages.

a) Monetary policy subjected to international pressure:

The country following the Gold Standard System had to design its monetary policy by keeping the view of international situations. In such conditions the country was being deprived from adopting the particular monetary policy appropriate to her internal requirements.

b) Rigidity in monetary system:

Under the gold standard, the monetary system has less flexibility, because in this system, money supply depends upon the gold reserves. The increment in gold reserves is always not an easy task. Therefore, money supply is not elastic enough to meet the changing requirements of the country.

c) Expensive and Extravagant:

Gold standard is a very expensive monetary standard as the coins consists of expensive metal. It is also a wasteful standard because there is a great depreciation of the precious metal when gold coins are handled by public.

d) Fails during crisis:

The gold standard functions well during normal or peaceful time, but during the periods of war or economic crisis, it always fails. During irregular time like war, the people possessing gold try to hoard it. During the first world war, the gold standard system was suspended as it became difficult to transport the gold across the border.

e) Deflationary:

According to Mrs. Joan Robinson, gold standard usually suffers from an inherent bias towards deflation. Under this standard, the gold losing country have to contract money supply in proportion to the fall in gold reserves.

But the gold gaining country, on the other hand, may avoid to increase money supply in proportion to the increase in gold reserves. Therefore, the

gold standard, which inevitably produces deflation in the gold losing country, may not create inflation in gold receiving country.

f) Economic Dependency:

Under gold standard, normally the economic problems of one country are transferred to the other countries and therefore it becomes difficult for an individual country to follow independent economic policy.

g) Not suitable for Developing Countries:

Gold standard is mainly not suitable to the developing economies as they have adopted a policy of planned economic development with an objective to attain self-sufficiency.

7.3 GOLD EXCHANGE STANDARD (1947-1971)

Gold Exchange Standard is a monetary system under which the currency of a nation can be converted into bills of exchange drawn on a particular country whose currency is convertible into gold at a stable rate of exchange. A country on the gold-exchange standard is therefore able to keep its currency at parity with gold without maintaining a huge gold reserve.

The major difference between Gold Standard System and Gold Exchange Standard System is that under the Gold Standard System all the participating countries had to keep their own gold reserves to defend the external value of their currencies but on the contrary, under the Gold Exchange Standard System one or some of the countries will keep the gold reserves to defend their currencies and all the other participating country will just have to maintain the price of their currency in terms of the value of the gold backing countries currencies. They do not require to keep huge gold reserve.

7.3.1 Features of the Gold Exchange Standard System:

a) The national currency is made of coins with less intrinsic value and paper money. Gold coins are out of circulation.

b) The national currency is not convertible into gold but is convertible at the fixed rate into the currency of the other country which is based on the gold standard.

c) There is no straight association between the volume of domestic currency and the gold reserves of the country.

d) The nation's monetary base is made of foreign exchange and foreign bills along with gold.

e) The government controls the gold market in the economy. Import and export of gold is under the strict regulation.

f) Foreign payments are made either in gold or in currency of a country based on gold.

7.3.2 History and Working of Gold Exchange Standard:

In July 1944 representatives of 44 countries met at out in Bretton Woods, New Hampshire at the United Nations Monetary and Financial Conference to decide what international monetary system to establish after World War II. Because earlier gold stand system faltered between the two world wars and finally collapsed during World War II. The agreement between the participating country at this conference was called as Bretton Woods Agreement.

Under this system, gold was used as the basis for the United States' dollar. The United States was to preserve the price of gold at $35 per ounce of gold. The United States also had to be ready to exchange on demand the dollar for gold at that price without any limitation. The currencies of other countries were linked to the U.S dollar value. These other countries were to fix the price of their currencies in terms of dollars and intervene in foreign exchange market to keep the exchange rate from moving by more than 1 percent above or below the par value. Within the allowed band of fluctuation, the exchange rate was determined by demand and supply forces.

This system, however, came to an end in the early 1970s when the U. S. President Richard M. Nixon announced that the U.S would not exchange gold for U.S currency.

7.3.3 Advantages of Gold Exchange Standard:

Following were the advantages of Gold Exchange Standard:

a) Cost-effective System:

Gold exchange standard was cheaper and economical as it avoids the wastage of gold because of non-circulation of gold coins and the government need not to keep gold reserves for converting domestic currency into gold.

b) Autonomy for Internal Monetary System:

As the domestic currency is not backed by gold reserves in this system, the monetary authority can easily, adjust the money supply to meet the needs of internal trade and industry.

c) Exchange Stability:

Under gold exchange standard, it is government's responsibility to maintain the stability of exchange rate. Exchange stability is needed for the advancement of foreign trade.

d) Advantages of Gold Standard:

All the advantages of the gold standard are available under this standard without putting precious gold coins in circulation.

e) Suitable for Poor Countries:

This standard was particularly suited to the less developed countries with gold scarcity.

7.3.4 Disadvantages of Gold Exchange Standard:

The gold exchange standard has the following weaknesses:

a) Complex System:

This system was complex in its working.

b) Problem of Public Confidence:

Under this system, domestic currency was not directly linked with gold and the currency is not convertible into gold. So, it not easily attracting the public confidence.

c) Not Automatic:

This system was not working automatically. The government intervention was badly needed on regular basis. The government had to manage the external value of its currency.

d) Prone to Inflation:

Under this system, money supply could be increased easily but it was very difficult to reduce money supply. Therefore, the system was prone to inflation.

e) External Uncertainty:

Under this system the domestic currency of a country was connected with the currency of a country having gold standard. The instability of the foreign currency was automatically making the monetary system of the related country insecure and unstable.

7.4 INTERNATIONAL MONETARY FUND (IMF)

The gold exchange standard system was the outcome of the Bretton Woods Conference. The system created at Bretton Woods called for the establishment of International Monetary Fund for the purpose of

1) **Supervision:** If nations followed a set of agreed upon rules of conduct in international trade and finance. and

2) **Borrowing facilities:** Providing borrowing facilities for nations in temporary balance of payments problem.

7.4.1 Formation:

The Bretton Woods Conference (United Nations Monetary and Financial Conference) held in 1944, was attended by 730 delegates of 44 countries. The Bretton Woods Conference had three main outcomes: (1) Articles of Agreement to create the IMF, (2) Articles of Agreement to create the IBRD (World Bank), (3) Other recommendations for international economic cooperation.

The IMF agreement among them was very much important from the point of the operations to be undertaken in establishing new monetary system after the World War II. Its major features were:

- An adjustably pegged foreign exchange rate: Exchange rates were to be pegged to gold. Governments were only supposed to adjust the exchange rate of their currencies to correct only fundamental disequilibrium.
- Member countries were allowed to make their currencies convertible for current account transactions.
- If established exchange rates might not be favourable to a country's balance of payments position, governments can revise them by up to 10% from the initially agreed level (par value) without objection by the IMF.
- All member countries had to subscribe to the IMF's capital. Membership in the IBRD was allowed to only IMF members. Voting in both organizations was allocated according to formulas giving greater weight to countries contributing more capital (quotas).

The IMF came into official existence on 27 December 1945 with 29 member countries. At present it is headquartered in Washington, D.C., consisting of 190 member countries.

7.4.2 Objectives of IMF:

The objectives of the International Monetary Fund are stated in Article 1 of the IMF Agreements are as follows:

1) To promote international monetary cooperation through consultation and collaboration on international monetary problems

2) To promote and maintain high levels of employment, real income and the development of the productive resources of all member countries through facilitating the expansion of stable growth of international trade.

3) To promote exchange stability avoiding competitive exchange depreciation.

4) To assist in the formation of a multilateral system of payments and in the elimination of foreign exchange restrictions obstructing the growth of world trade.

5) To provide member countries the opportunity to correct disturbances in their balance of payments without resorting to measures destructive of national or international prosperity

6) To shorten the duration and lessen the degree of disequilibrium in the international balances of payments of member countries.

7.4.3 Functions of IMF:

Following are the important functions of IMF:

1) The Fund works as a short-term credit institution for member countries.

2) It provides a machinery for the orderly adjustment of exchange rates.

3) It is a pool of the currencies of all the member countries, from which a borrower nation can borrow the currency of other nations.

4) It is a lending institution in foreign exchange. It grants loans for financing current transactions only and not capital transactions.

5) It also provides a machinery for altering sometimes the par value of the currency of a member country.

6) It also provides a machinery for international consultations on various issues related to trade and balance of payments.

7.4.4 Governance Structure of IMF:

The IMF's governance structure have advanced with changes in the global economy, by allowing the institution to retain a central role within the international financial architecture.

IMF is an autonomous organisation affiliated to the U.N.O. Its main office is in Washington and at present the it has 190 members.

1) Board of Governors:

The Board of Governors is the highest decision-making body of the IMF. It consists of one governor and one alternate governor appointed by each member country. The Board of Governors exercises its power in such important matters as to approve quota increases, special drawing right (SDR) allocations, the admittance of new members, compulsory withdrawal of members, and amendments to the Articles of Agreement and By-Laws. The Board of Governors have the power to appoint executive directors and is also the ultimate mediator on issues related to the interpretation of the IMF's Articles of Agreement.

The Board of Governors meets normally once in a year.

2) Ministerial Committees

The IMF Board of Governors is advised by two ministerial committees, the International Monetary and Financial Committee (IMFC) and the Development Committee.

The IMFC has 24 members, selected from 190 governors. Its structure mirrors that of the Executive Board and its 24 constituencies. As such, the IMFC represents all the member countries of the Fund.

The IMFC meets twice a year, mostly during the Spring and Annual Meetings. The Committee discusses matters related to mutual concern affecting the global economy and also advises the IMF on the direction of work.

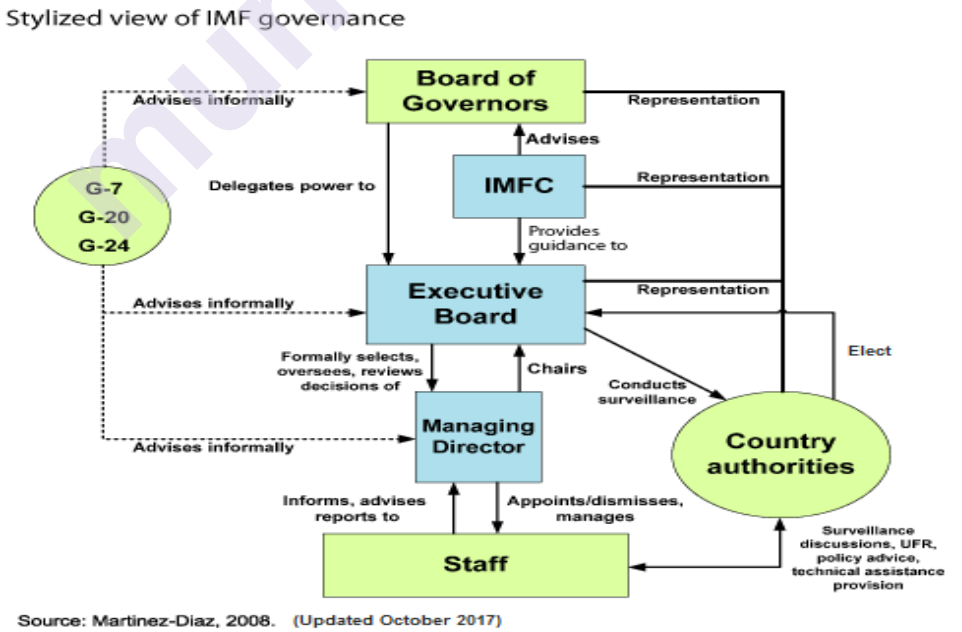
The Development Committee is a joint committee to advise the Boards of Governors of the IMF and the World Bank on issues related to economic development in emerging and developing countries. The committee is having 24 members. It represents the full membership of the IMF and the World Bank and mainly serves as a forum for building intergovernmental harmony on critical development matters.

3) The Executive Board:

The IMF's 24-member Executive Board is for look after the daily business of the IMF. It exercises the powers delegated to it by the Board of Governors, as well as those powers given to it by the Articles of Agreement. Since January, 2016, all the Executive Directors, are elected by the member countries.

The Board normally makes decisions based on mutual agreement, but sometimes formal votes are taken. A member's quota determines its voting power in executive board.

IMF's present governance structure can be understood by diagram bellow.



Source: https://www.imf.org/external/about/govstruct.htm

7.4.5 IMF Quotas:

The IMF is a quota-based institution. Each member country contributes to the capital of IMF through quotas. Therefore, quotas are the building blocks of the IMF's financial and governance structure. An individual member country's quota broadly indicates its relative position in the world economy. Quotas are finally denominated in Special Drawing Rights (SDRs), the IMF's unit of account.

The IMF's Board of Governors conducts general reviews of quotas at regular intervals. Any changes in quotas must be approved by 85 percent majority of the total voting power, and a member's own quota is not changed without its consent.

7.4.6 International Reserves:

According to Sixth Edition of the IMF's Balance of Payments and International Investment Position Manual a country's international reserves refer to external assets readily available to and controlled by monetary authorities for meeting balance of payments financing needs, for interference in exchange markets to affect the currency exchange rate, and for other related purposes such as maintaining confidence in the currency and the economy, and serving as a basis for foreign borrowing. Reserve assets comprise monetary gold, special drawing rights (SDRs), reserve position in the IMF, and other reserve assets.

7.5 SPECIAL DRAWING RIGHTS

International monetary system after World War II may be characterised as the currency reserve system, in which the U.S. dollar had been serving as reserve asset. But, due to some overriding reasons like the week position of U.S. dollar, speculation in gold, anarchy in Euro-dollar market etc., this system was facing acute difficulties in international liquidity. To resolve these problems a reform in the existing international monetary system was inevitable. Many proposals and plans were being suggested to evolve some alternative system to get rid of the difficulties faced by the current system. In due course, a proposal aimed at limiting the future role of dollar and sterling and broadening the functions of the IMF had been put forward. It is called the scheme of Special Drawing Rights (SDRs) commonly apprehended as Paper Gold.

IMF's annual meeting at Rio de Janeiro in September 1967 approved the SDR system principally. Though, the SDRs system came into practice only since January 1970. Under this scheme, the IMF is empowered to grant member countries Special Drawing Rights (SDRs), on a specified basis, subject to approval. SDRs were regarded as the international reserve, allocated annually by the collective decision of participating members in the IMF. Possession of SDRs entitles a country to obtain a defined equivalent of currency from other participating countries, and enable it to discharge certain obligations towards the General Account of the IMF. The creation SDRs is thus intended to increase the resources

available to IMF members to overcome their temporary foreign exchange difficulties without putting any additional strain on the IMF resources. SDRs are thus a method of supplementing the existing reserve assets in international liquidity.

7.5.1 Working of SDR system:

The features of the Special Drawing Rights Scheme are as follows:

1) The idea of SDRs is drawn from the popular Keynes plan of the creation of ICU and Bancor currency.

2) SDRs are allocated by the IMF to member countries and cannot be held or used by private parties.

3) The allocation of SDRs is to be made on the basis of the quotas of IMF of the individual member countries.

4) SDRs have been created under a Special Drawing Account (SDA) with the IMF. The resources of the new account, SDA, are created by an agreement amongst members as to the percentage of the existing quotas with the IMF to be formed into SDRs.

5) With the introduction of SDR scheme, thus, the accounts of the IMF are divided into: (i) the General Account and (i) the Special Drawing Account.

6) The General Account deals with the ordinary transactions of the IMF relating to subscriptions towards quotas, drawings, repurchases, payment of charges etc. and the SDA deals with the SDR transactions.

7) The value of the SDRs is fixed in gold. As per the scheme, the unit value of SDRs is expressed in terms of gold equal to 0,88671 gram of fine gold or one U.S. dollar prior to August 15, 1971.

8) The scheme provides for regularly creating SDRs in the IMF account which the member countries would accept as reserves and could use for the settlement of international payments.

9) The SDRs themselves are not actual money. SDRs are just like coupons which can be exchanged for currencies required by the holder of SDRs, for making international payments.

10) Under the this scheme, the central banks of the member countries will hold SDRs as their reserves along with gold and key currencies.

11) The SDRs allocated to the members are transferable assets under the designation issued by the IMF subject to certain limits of holding. Consequently, it is mandatory on the part of the participating countries to accept drawing rights from other member country in exchange for an equal amount of convertible currency. Again, this cannot exceed twice a country's allocation.

12) Under the scheme, the use of SDRs would obviously imply a reduction in the reserves of the using country, while the other participating countries which are receiving drawing rights in international settlements would accumulate their SDR holdings.

13) It was also proposed that a modest rate of interest will be payable on SDR holdings.

14) The scheme offers that the decumulation and accumulation of SDRs would be taking place within the Special Drawing Account itself. Over a five-year period, a country shall not use more than 70 per cent of its average net cumulative allocation.

7.5.2 SDR Value:

At present the value of the SDR is determined by the basket created by IMF. Currently this basket contains five major currencies, those are, Chinese yuan, Euro, Japanese yen, U.K. pound, U.S. dollar. The value of the SDR is calculated on the basis of daily market exchange rates of these currencies. The SDR currency value is calculated daily (except on IMF holidays or whenever the IMF is closed for business) and the valuation basket is reviewed and adjusted every five years.

7.5.3 Advantages of SDR Scheme:

Following are the merits of SDR system introduced:

1) Simplicity and flexibility:

The SDRs are a system of reserve assets which are appropriate for consider into the countries reserves. SDR also a form of international credit creation. Moreover, the scheme is based on pure fiduciary reserve creation, increases its flexibility.

2) Liquidity as per requirement:

The scheme may help the IMF to increase the volume of world liquidity as per requirements. The IMF need not to depend upon the weak supply of monetary gold' or increasing the obligations of the reserve currency countries. The scheme consequently seeks to create unconditional liquidity in international reserves.

3) Suitable for member countries:

The drawing against SDRs would be unconditional as no change needed in the domestic economic policies to restore balance payments equilibrium by the country using SDRs.

4) Easy to implement:

The implementation of the SDR system avoids any sort of change in the existing reserves of the members. It doesn't need transfer of the quotas to the new Special Drawing Account (SDA) because the resources of the

new account SDA are to be created by an agreement amongst the members as to the percentage of their existing quotas formed into SDRs.

7.5.4 Disadvantages of SDR Scheme:

The SDR system is criticised on the following grounds:

1) Probability of distrust: The scheme is purely fiduciary in nature. Therefore, there is possibility of distrust in the new reserve assets (SDRs).

2) Problem of persistent payment deficits: SDR scheme is convenient and flexible reserve instrument of short-term international liquidity but it cannot be used to finance persistent payment deficits. In such condition the use will lead to a universal inflation problem.

3) The scheme to support the dollar: According to some critics, the whole scheme of SDRs appears to be a rescue operation for the dollar. It is a collective effort to rehabilitate the dollar through international action, because the value of the SDR is prescribed to be equal to the current official gold value of the dollar.

4) Disadvantageous to the poor nations: The scheme is much in favour of USA. but highly disadvantages especially to the poor nations. According to critics the scheme would have beneficial to the poor nations if the value of SDR is kept in parity with the market value of the U.S. dollar not in parity with the artificially over-valued dollar.

7.6 SUMMERY

For smooth functioning of international financial relations between various countries as well as international institutions, efficient international monetary system is required. The 20th century witnessed highly fluctuating era in connection with eco-political events. The shifting of gold standard system to gold exchange standard system by international community was the impact of these political events. Finally, the world abandoned the gold exchange system also. The study of these systems gives good acquaintance to understand the eco-political events of this 20th century.

7.7 QUESTIONS

a) What is Gold Standard? Discuss the working of Gold Standard system?

b) What is Gold Exchange Standard? Differentiate between Gold Standard and Gold Exchange Standard.

c) How the IMF have helped in solving the exchange liquidity problem during the last quarter of the 20th century? Explain.

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8

INTERNATIONAL FINANCIAL INSTITUTIONS - II

Unit Structure

8.0 OBJECTIVES

- To know the theory of Optimum Currency Area
- To understand the concept of currency board
- To analyse the concept of financial crises

8.1 INTRODUCTION

The Euro, intended single currency for European Union virtually came into existence on 1 January, 1999. Actual notes and coins came into circulation in 2002. Single Currency for more than one nation concept was coming into reality with the existence of Euro. But far before that, the economists had started the discussion regarding single currency. In the present chapter we will discuss the theoretical background of the single currency concept and also, we will discuss the concepts related to financial crisis.

8.2 THEORY OF OPTIMUM CURRENCY AREA

The theory of the optimum currency area was pioneered in the 1960s by Canadian economist Robert Mundell. He put forward his theory in the paper published in The American Economic Review, of September 1961. Although the credit of this theory goes to Mundell as the designer of the idea, but the theorist like A. P. Lerner, Kenen (1969) and McKinnon (1963) were also the contributor and further developers of this idea.

The original theory describes the optimal characteristics for the merger of currencies by keeping the fixed exchange rate between the currencies of the members or the creation of a new currency. The theory is used often to argue whether a particular region is ready to become a currency union or not. A Currency Union is considered as one of the final stages in the theory of economic integration.

8.2.1 Optimum Currency Area (OCA) Concept:

An optimum currency area (OCA) or optimal currency region (OCR) is considered as the final stage of economic integration where an entire geographical region shares a single currency to maximize economic efficiency of the region. According the theory the specific geographical area not bounded by national borders may be better off using the same currency instead of each country within that geographic region using its own currency. An optimal currency area is often larger than a country.

8.2.2 Criteria for a successful OCA:

For a successful optimum currency area, the region needs to fulfil following criteria.

a) Labour mobility:

A geographical area needs to have integrated labour market so that workers will move freely throughout the area. This will also help to minimise the unemployment problem in any single zone. Free labour mobility indicates three things. One is physical ability to travel freely for that, rules related to visas, workers' rights, etc. need to be reformed. Second is lack of cultural barriers to free movement. Cultural barriers such as different languages etc will create obstacles to free migration. Third is

requirements related to certain institutional arrangements. Such as the ability to have pensions transferred throughout the region etc.

b) Openness of the economies:

There should be capital mobility across the region. Capital mobility will help to eliminate the imbalance of balance of payments as well as imbalance in the distribution of capital and interest rates.

c) Price and wage flexibility:

Price and wages flexibility across the region will help to clears the money and goods markets in the economy. The market forces of supply and demand will automatically distribute money and goods to the area needed. In practice perfect wage flexibility is hard to find. Therefore, this idea does not work perfectly.

d) A risk sharing arrangement:

In order to eradicate the problems of the particular region's sufferings there should be risk sharing arrangement like common fiscal policy. In such policy, suffered area can be helped through taxation policy and public expenditure.

e) A joint central bank:

Participant countries may have alike business cycles. When one member country involves in a boom or recession, other countries in the union are most likely to follow. The common central bank will be able to promote growth in downturns and to contain inflation in booms. If a particular country in a union has individual business cycles, then optimal monetary policy may diverge and union participants may be made worse off under a joint central bank.

8.2.3 Application of the theory:

There are two examples largely discussed in relation to this theory. Those are:

European Union:

OCA theory has been normally applied to the Eurozone and European Union as both has attained the highest level of economic integration. But many have criticised the idea as the EU did not actually meet the criteria for an OCA at the time the euro was accepted. EU has lesser labour mobility due to language and cultural differences. Fiscal federalism is also not attained in EU.

United States:

United States is considered as good example of OCA as she has integrated labour market and consolidated fiscal policy. But Michael Kouparitsas found the USA not fit into an optimal currency area. He considered the United States as divided into the eight regions. By using a statistical

model, he found that two out of eight regions of the country do not satisfy Mundell's criteria to form a single Optimal Currency Area.

8.2.4 Criticism:

The idea of monetary solidarity without fiscal unity is largely criticized by Keynesian and Post-Keynesian economists. They argue that fiscal incentive in the form of deficit spending is the most powerful method of fighting unemployment during a liquidity trap. Such policy may not help if member states in a monetary union are not allowed to run sufficient deficits in their fiscal policies.

According to some of the critiques of the theory some of the OCA criteria are not given and fixed, but rather they are economic outcomes determined by the creation of the currency union itself.

8.3 INTERNATIONAL POLICY COORDINATION

International Policy Coordination is much discussed but rarely seen topic in the history of mankind. When there is a calamity, to avoid the spill overs effects national cooperate each other on various levels but during the peace time coordination is rarely seen. The world had failure on economic as well as political ground many times due to lack of cooperation and coordination. The Gold Standard System as well as Gold Exchange Standard System failed due to absence of coordination among the participating countries.

According to Benes J. etc all (2013) the term international policy coordination describes a situation where, due to well-designed incentives or penalties, a group of countries manages to move away from individual Nash policies to a set of policies that internalizes some cross-border externalities, and that is therefore Pareto superior.

8.3.1 Need of the policy coordination:

It is impossible to have a single policy on a global level. The economic policies are concerned with the problem and prospectus of a region or people living in a particular geographical area. Those are designed to address the local problems. But on the contrary on global level the problems need to tackle level collectively. As the countries have joined their hands to encourage the global trade, the vulnerability towards the economic as well as physical problems have increased drastically. To tackle this the cooperation on global level is badly needed. This outcome based global cooperation only can be through the coordination of the policies among nations.

8.4 A CURRENCY BOARD

A currency board is a type of exchange rate system based on the full convertibility of a local currency into an internally accepted currency of another nation. This system uses a fixed exchange rate regime and 100

percent coverage of the monetary supply supported up with foreign currency reserves. It is an extreme form of a pegged exchange rate.

8.4.1 Working of the Currency Board:

When a country is on a currency board, the administration of the exchange rate and money supply are given to a monetary authority designated for it. That board have to decide about the value of a nation's currency. Mostly, this authority has to back each unit of domestic currency in circulation with foreign currency. With this 100% reserve obligation, a currency board functions like a strong form of the gold standard. The currency board is set free to the unlimited exchange of the domestic currency with foreign currency. Nation's central bank can print money as per the requirements, but a currency board have to back extra units of currency with extra foreign currency. A Currency Board have to keep the reserve of foreign currencies upon which it can earn interest. Therefore, domestic interest rates typically imitator of the prevailing rates in the foreign currency.

Some of small countries are using Currency Board System. Hong Kong has effectively used a currency board to back up her money with the U.S. dollar since the early 1980s. Bulgaria, Estonia, Latvia and Lithuania all used currency boards to speedily break strong inflation.

8.4.2 Advantages of a Currency Board

Currency board regimes are admired for :

- rule-based nature.
- stable exchange rates,
- promote trade and investment.
- restricts government actions.
- irresponsible governments cannot simply print money to pay down deficits.
- keeping inflation under control.

8.4.3 Disadvantages of a Currency Board:

Currency boards have some disadvantages as:

- imports much of the foreign country's monetary policy.
- can create serious issues during business cycle.
- can cause even more damage during crisis.
- banking crisis can get worse fast because currency boards is unable to act as a lender of last resort.

8.5 INTERNATIONAL FINANCIAL AND CURRENCY CRISIS

8.5.1 Financial Crisis:

A financial crisis can be defined as a situation where one or more significant financial assets – such as stocks, real estate, etc – suddenly and unexpectedly drops a considerable amount of their value.

According to Eichengreen and Portes (1987) financial crisis a situation creating a disturbance to financial markets, associated typically with falling asset prices and insolvency amongst debtors and intermediaries, which ramifies through the financial system, disrupting the market's capacity to allocate capital.

According to Schularick and Taylor (2012) financial crisis is a condition where bank runs sharp increase in default rates accompanied by large losses of capital that result in public intervention, bankruptcy or forced merger of financial institutions.

From the above definitions it is clear that financial crisis is an adverse economic phenomenon where a financial system falls in to serious trouble.

8.5.2 Types of Financial Crisis:

As per the source of the crisis the financial crisis can be of following types:

- **Currency crisis:** Where currency of a country loses its nominal value. The exchange rate with another currencies goes down and down.
- **Balance of Payments (BoP) crisis:** Where Balance of Payment Account have fundamental long run deficit.
- **External debt crisis:** Where country is unable to repay her external debt and declare herself bankrupt
- **Sovereign debt crisis:** Sovereign debt refers to the amount of money borrowed by a country's central government. This is the situation when the government is unable to repay even the interest on this sovereign debt.
- **Banking crisis:** It is the situation where the banking system of a country have miserably lost the value of its capital assets.
- Corporate debt crisis: When the majority corporate institutions of the country are lost in debt traps
- **Household debt crisis:** When the majority common households of the country are not in position to repay their debts.
- **Oil crisis:** When the oil supply of the world drastically declines and affects the trade and commerce of the world.

- **Real estate crisis:** When the real estate sector of the country continuously loses its assets value on large scale.

8.5.3 Some Examples of Financial Crisis:

Financial Crisis are very common. We will find so many incidences in the history inclined towards financial crises. Some of them are as follows:

Tulip Mania (1637):

It was a period during the Dutch Golden Age when contract prices for some tubers of the fashionable tulip reached unusually very high. The prices started rising in 1634 and then melodramatically collapsed during February 1637. It is normally considered to have been the first recorded speculative bubble in history.

Credit Crisis of 1772:

It was originated in London and spread over Europe within a short period of time. After a period of speedily expanding credit, this crisis started in March/April of 1772 in London. Alexander Fordyce, an eminent Scottish banker, centrally involved in the bank run on Neale, lost a huge sum shorting shares of the East India Company and fled to France to avoid repayment. Panic led to a run-on many English banks that left large banks either bankrupt or stopping payments to depositors.

Stock Crash of 1929:

This was also called as great wall street crash, started on Oct. 24, 1929, saw share prices downfall after a period of wild speculation and borrowing to buy shares. This was a starting point of the Great Depression, which was felt worldwide for more than ten years. Its impacts lasted far longer. A drastic oversupply of commodity crops triggered this crash, which finally led to a steep decline in prices. A wide range of regulations and market-managing tools were introduced as a result of the crash.

1973 OPEC Oil Crisis:

Organisation for Petroleum Exporting Countries members started an oil production cut in October 1973 targeting countries that supported Israel in the Yom Kippur War. By the end of this restraint, the prices of oil plunged four times at international level. As all the modern economies were depending on oil, the higher prices and uncertainty led to the stock market crash of 1973–74.

Asian Crisis of 1997–1998:

This crisis started in July 1997 with the collapse of the Thai currency. Due to constant currency devaluations, led to stock market fluctuations and asset price decline. The crisis spread to much of East Asia, also hitting Japan, as well as a huge rise in debt-to-GDP ratios of most of the east Asian countries.

Global Financial Crisis2007-2008:

It is supposed that this financial crisis was the worst economic disaster since 1929. It started in USA with a subprime mortgage lending crisis in 2007 and expanded into a global banking crisis with the collapse of investment bank Lehman Brothers in September 2008. The whole world shaken from this crisis.

8.6 CURRENCY CRISIS

A currency crisis is a type of financial crisis. It is a situation in which the central bank of a country loses trust on a very serious ground that whether it has sufficient foreign exchange reserves to maintain the country's fixed exchange rate. The crisis is often followed by a large-scale speculative attack in the foreign exchange market of a country.

A currency crisis normally involves the following steps….

- central banks inability to maintain sufficient reserves
- To maintain fixed exchange rate becomes difficult
- Speculative attacks in foreign exchange market of the economy
- sudden and drastic devaluation in a nation's currency
- Markets become more volatile
- faith in the nation's economy is lost
- Devaluation of the currency becomes inevitable

A currency crisis normally results from long-lasting balance of payments deficits, and therefore also called a balance of payments crisis. Often such a crisis ends in a devaluation of the currency of the country.

8.6.1 Causes of a Currency Crisis:

Many internal as well as external factors are responsible for a currency crisis in a country. Some of them may be as follows.

a) Inflation:

Inflation always remains the biggest threat to the internal value of the currency. Normally, central bank is assigned to maintain price stability in the economy. But there are so many factors contributing to start to creep the inflation higher. Inflation in the economy devaluates the internal value of the currency resulting in decreasing export and increase in import. Such inflationary situation leads to deficit in the balance of payments of the country.

b) Debt:

Heavy external debt can put pressure upon the foreign exchange reserve while repaying it. Such situation also may hamper the credit ratings of the

economy at international level. This will turn in lowering the external value of the currency.

c) Political Issues:

The issues like political instability in the country may hamper the image of the government and finally of the country at international level. This can lead to lowering the external value of the domestic currency.

d) Loss of confidence in the central bank:

Adverse monetary policy of the central bank can create panic the foreign exchange market. Investors trust upon the central bank may decline in such situation. The foreign investors may start to withdraw their investments which will drain out the valuable foreign exchange from the country. This situation may lead to continuous devaluation of the domestic currency.

e) Poor performance of the economy:

Poor performance of the economy may lead to loss of confidence by investors. Foreign investors may start leaving. This will create flight of investments.

8.7 INTERNATIONAL DEBT

The term international debt is also referred as foreign debt or external debt. External debt is the loans raised through foreign lenders. There foreign lenders can be foreign commercial banks, foreign governments, and international financial institutions.

The total liabilities of a country which normally include debt securities, such as bonds, notes and money market instruments, as well as loans, deposits, currency, trade credits and advances due to non-residents, is called as foreign debt. The debt may be issued with different maturity outlines by the general government, banks, and other sectors.

Foreign debt is raised and also repaid in internationally accepted currencies.

8.7.1 Types of International Debt:

International debt is classified on following various ground.

a) Long- and Short-Term Debt:

This classification is based on the time period of maturity of the debt raised at international level.

The debt with an original maturity of more than one year is called as long-term debt. Short term debt can be defined as debt which is to repaid on-demand or with maturity of one year or even less.

b) Multilateral and Bilateral Debt:

This classification is based on the sources of debt.

When the debt is raised from multilateral institutions like the International Development Association (IDA), International Bank for Reconstruction and Development (IBRD), Asian Development Bank (ADB), BRIKS Bank etc is considered as multilateral creditors.

When the debt is raised by the government of a country from the government of another country (one-to-one loan arrangement), such debt is called as bilateral debt. And the creditor in such procedure are bilateral creditors. India's bilateral creditors are Japan, United States, France, Germany etc.

c) Sovereign and Non-Sovereign debt:

Sovereign debt is also referred to as government debt, national debt, public debt, or country debt. It is the debt which is raised by government of a country. It The sovereign foreign debt of a country consists of all its debt liabilities to foreign creditors. Theoretically, the sovereign debt of a country is a liability of the government rather than a direct liability of the citizens of that country.

Non-Sovereign debt is the rest of the components of external debt i.e., Trade/Export Credits, External Commercial Borrowings etc. Non-Sovereign debt is the primary responsibility of the individual borrower, may be an individual, a company or an institution.

d) Gross foreign debt and Net foreign debt:

The gross foreign debt of an economy is the total outstanding amount of its actual current liabilities that require payment of principal amount and/or interest to non-residents at some point in the future.

The net foreign debt is obtained by subtracting the gross foreign debt assets from the liabilities. The gross foreign debt assets here mean the lending by residents of the country to non-residents and official reserve assets held by the central bank.

8.7.2 India's External Debt: Creditor-Wise:

In the following table India's external debt (Creditor-Wise) is given. The table will help to understand the India's current external debt position as well as the components of the external debt for a country.

				Absolute Variation	**Percentage Variation**
Item	Mar 2020	Mar 2021	Mar 2022	Mar-22 over Mar-21	Mar 22 over Mar 21
I. Multilateral	59.9	69.7	72.8	3.0	4.4

II. Bilateral	28.1	30.9	32.3	1.3	4.3
III. International Monetary Fund	5.4	5.6	22.9	17.2	305.7
IV. Trade Creditors	7.0	6.3	3.4	-2.9	-46.3
V. Commercial	219.5	217.1	227.8	10.7	4.9
VI. Non-resident Depositors (above one-year maturity)	130.6	141.9	139.0	-2.9	-2.0
VII. Rupee Debt	1.0	1.0	1.0	0.0	-1.5
VIII. Short-term Creditors	106.9	101.1	121.7	20.6	20.4
a) Trade related creditors	101.4	97.3	117.4	20.1	20.7
GROSS EXTERNAL DEBT POSITION (I to VIII)	558.4	573.7	620.7	47.1	8.2
A. Total Long-term Debt	451.6	472.6	499.1	26.5	5.6
B. Short-term Debt	106.9	101.1	121.7	20.6	20.4

Source: INDIA'S EXTERNAL DEBT A STATUS REPORT 2021-22, GOI Report
https://www.dea.gov.in/sites/default/files/India%27s%20External%20Debt%20-%20A%20Status%20Report%202021-22.pdf

8.8 MEASURES OF INDEBTEDNESS

Indebtedness for a country is the state of being in debt, or owing money to someone else. As far external debt is concerned the indebtedness is a situation where a country is liable to repay the amount to her creditor, it may a country or any international institution or a company or a person.

Following are the measurements used to measure the indebtedness of a country:

a) External Debt to GDP Ratio:

The ratio of the external debt stock to GDP is derived by scaling the total outstanding debt stock (in rupees) at the end of the financial year by the GDP (in rupees at current market prices) during the financial year.

b) Debt Service Ratio:

Debt service ratio is measured by the proportion of total debt service payments (i.e. principal repayment plus interest payment) to current receipts (minus official transfers) of Balance of Payments (BoP). It designates the claim that servicing of external debt makes on current

receipts and is, so, a measure of strain on BoP due to servicing of debt service commitments.

c) Ratio of Foreign Exchange Reserves to Total Debt:

It is the proportion of foreign exchange reserve in the hands of central bank to the total external debt of a country. It is considered to know whether the foreign reserve funds are adequate to meet the international payment obligations or not.

d) Ratio of Total External Debt to GDP:

The debt-to-GDP ratio is usually used in economics to gauge a country's ability to repay its debt. Simply it is the ratio of a country's total debt to its gross domestic product (GDP) of a particular year. Expressed as a percentage, the debt-to-GDP ratio compares a country's public debt to its annual economic output.

e) Ratio of Concessional Debt to Total Debt:

Usually, a loan is defined as 'concessional' when it is entitled to a grant element of 25 per cent or more. In India, loans from multilateral sources (the International Development Association (IDA), International Fund for Agricultural Development (IFAD)) and bilateral sources (including rupee debt that is serviced through exports) is categorized as 'concessional', based on their terms of long maturity and less-than-market rate of interest charged on them. This ratio is considered to know the burden of the external debt in near future.

f) Ratio of Short-term Debt to Foreign Exchange Reserves:

Immediate liability of the country to repay short term debt for which foreign exchange is needed. To judge the current foreign debt position of the country Ratio of Short-term Debt to Foreign Exchange Reserves is calculated. The ratio lower than one, indicates country's is capable enough to repay her current liabilities.

g) Ratio of Shor term Debt to Total Debt:

This ratio gives the percentage of current external liabilities of the country.

8.9 INTERNATIONAL DEBT CRISIS

Debt crisis is a situation where a country finds it difficult to pay back its government debt. Normally a country enters into a debt crisis when the revenue of the government is less than its expenditure for a persistent period.

Normally taxation is the important way to finance the public expenditures for any government. If tax revenue becomes inadequate, the government can fill up the differences by issuing its treasury bills in the open market. The investment institutions as well as general public purchase such bills as an investment instrument.

When the government has a good record of repaying debt or has a very little debt, it doesn't face any difficulty in raising new loans from the market. But if the government is burdened with heavy debt and become helpless to repay her debt, the trust of the investors is lost. Such government face difficulties in raising new loans. This debt trap for the country is called as debt crisis. When the debt crisis is related to only the government of the country not to the individuals or institutions, such debt crisis is called as sovereign debt crisis.

There are many examples of debt crisis for the various countries. Two of the famous debt crises examples from the history are discussed below.

8.9.1 Sovereign Debt Crises in the 1980s:

This crisis the first major external financial crisis since the Great Depression of 1929, that directly affected emerging market countries and also endangered the international economic and financial system.

During the decade of 1980s, the Latin America and other developing regions become highly indebted. The problem started in August 1982 as Mexico declared incapability to service its foreign debt. Soon thereafter, Brazil and Argentina were also dropped in the same situation. By spring 1983, about 25 developing countries were unable to make regularly scheduled payments and started negotiation for rescheduling with creditor banks. These countries accounted for 66% of the total debt owed to private banks by those developing countries that do not produce oil.

This crisis involved long-term commercial bank debt which was accumulated in the public sector. The governments of developing countries were unable to repay the debt and started requesting for help, so financial rescue operations became necessary.

Anatomy of the crisis was as follows:

- Initially during 1960s there were growth and investment opportunities in these countries, because economies started to open and to rise in the second half of the 1960s.
- In 1973-74s oil shock, skyrocketed the current-account deficit of the borrowing nations, accelerated bank loans to these countries.
- During the oil shock of 1973s, the higher oil prices escalated the problem of inflation and unemployment for the world
- world recession followed the oil shock where many developing countries began to incur large balance-of-payments deficits during the early 1980s, because the worldwide recession of 1979-82 compelled industrial countries to reduce their imports from developing countries.
- capital flight, prompted by political and economic uncertainty, caused the debt crisis. The World Bank estimated the capital flight, from Latin American debtor countries to industrial countries, as exceeded $70 billion between 1979 and 1982.

8.9.2 European Sovereign Debt Crisis of 2008:

During the European sovereign debt crisis several European countries experienced the collapse of financial institutions and high government debt. The crisis began in 2008 when the banking system of Iceland got collapsed. Initially in 2009, this spread to Portugal, Italy, Ireland, Greece, and Spain. It led to a loss of trust in European businesses and economies.

The crisis was finally controlled by the financial guarantees of European countries as these were under horror of the collapse of the euro and financial contamination, and also by the help of International Monetary Fund (IMF).

The structure of this debt crisis was as follows:

- During 2007 to 2008 the financial crisis originated in US spread to Europe and then to whole world.
- The Great Recession followed during 2008 to 2012, the real estate market crisis and property bubbles in several countries.
- By the end of 2009, the exterior Eurozone member states of Greece, Spain, Ireland, Portugal, and Cyprus expressed their inability to repay or refinance their government debt.
- In 2009, Greece revealed the underreporting of its budget deficit by its previous government, signifying a violation of EU policy. It prompted the fear of euro collapse via political and financial infection.
- 17 Eurozone countries voted to create the EFSF in 2010, specifically to address and assist with the crisis.
- The debt crisis peaked between 2010 and 2012.
- Increasing fear of excessive sovereign debt, creditors demanded higher interest rates from Eurozone states. Due to high debt and high deficit levels, it became difficult to these countries to finance their budget deficits when they were facing with low economic growth.
- international credit rating agencies downgraded the sovereign debt of some of these countries, including Greece, Portugal, and Ireland to junk status. This again led to worsening investor fears.

8.10 SUMMERY

An optimum currency area (OCA) or optimal currency region (OCR) is considered as the final stage of economic integration where an entire geographical region shares a single currency to maximize economic efficiency of the region. For a successful optimum currency area, the region needs to fulfil some of the criteria. High level policy coordination

at international is needed. This single currency area is also highly vulnerable for the financial irregularities as each member nation is open to import it from others. European Union Sovereign Debt Crisis is a good example of this.

8.11 QUESTIONS

a) Discuss the theory of Optimum Currency Area.

b) What is international debt? Explain the types of international debts.

c) What do you mean by financial crisis? Discuss the concept of currency crisis with example.

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