Uttarakhand Open University, Haldwani

MS 405

School of Management Studies and Commerce

International Finance

Block I International Financial Environment

Block II International Parity Conditions and Exchange Rate Determination

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Block – I
Block Title- International Financial Environment
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Course Code-MS405

Course Objective: This course aims at providing the students the fundamentals of international finance and its intricacies.

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Suggested Readings:

1. Foreign Exchange Management - H.P. Bhardwaj
2. International Financial Management - P. G. Apte
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4. Multinational Finance - K. C. Bulter
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6. International Financial Management- V.Sharan, Prentice Hall India

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Block I
International Financial Environment

UNIT 1 INTRODUCTION TO INTERNATIONAL FINANCE

1.1 INTRODUCTION

Finance is one of the key considerations for undertaking any business activity and when funds are acquired, utilized, transferred and distributed across international boundaries, they come under the purview of international finance. This unit explores the foundational concepts and functions of financial management. It provides insights into the principles and practices that guide financial decision-making in organizations, setting the stage for more advanced topics in finance.

1.2 OBJECTIVES

After reading this unit you will be able:

- To understand the significance of studying international finance.
- To gain an insight into the components of global financial environment.
- To know about the various types of capital flows and the factors impacting them.
- To appreciate the role of various participants in the international financial markets.

1.3 NEED FOR STUDY OF INTERNATIONAL FINANCE

In order to survive, businesses need to expand. This expansion can come either by introducing new products on a regular basis or expanding the customer base of existing products. While continuously launching new successful products is challenging, taking successful products to newer markets is easier and cost effective. This expansion goes beyond the national boundaries and companies today are competing in what is called as a global market. Finance is one of the key considerations for undertaking any business activity and when funds are acquired, utilized, transferred and distributed across international boundaries, they come under the purview of international finance. As we know, financial management aims at judicious use of funds in order to maximize shareholder wealth. This calls for planning, evaluating and executing financial plans which help in maximizing returns. When this is done at international level, it requires another set of expertise. A study of International Finance enables you to understand about the various markets available, their characteristics, types of products and types of risks involved. For any business that wants to expand globally, it is essential to gain expertise in international finance.

There can be several motives and needs for getting a thorough understanding of international finance, some of which are listed as under:

1.4 CAPITAL FROM GLOBAL MARKETS

The increased expansion of markets and institutions aided by massive improvement in technology has now enabled businesses to raise capital from anywhere in the world. Typically, the developed markets are investing in developing economies for better returns and opportunities. It is well established that international markets allow for cheaper funds due to large variety of options. An in-depth understanding of international financial markets can help a finance manager to decide about the market from where funds should be sourced, the choice of currency, instrument to be used, international regulatory provisions to be followed and minimizing cost of capital.

Manage international risk

Every business has certain element of risk and when an important function like finance is handled at international level, there are many unique risks which need to be managed efficiently. The study of international finance will help to analyze and mitigate risks like foreign exchange risk, interest rate risk and country risk. Various instruments and strategies need to be deployed for handling this which requires specialization. The systematic risk grows manifold while dealing with multiple economies and their different growth patterns.

Investment of surplus funds

International markets provide the opportunity to get attractive returns from a wide variety of choices in terms of markets as well as instruments. Knowledge of international

investment avenues, market movements and their regulatory control is essential in order to achieve the best possible returns from the market. Technology has resulted in creation of various types of instruments which were not available before. It should be the endeavor of finance managers to have a good understanding of these opportunities to achieve a good balance between profitability and liquidity.

Liquidity to investors around the world

In order to achieve a global investor base, the business should be listed in the major markets which require compliance of respective provisions. It is essential to provide liquidity to the investors who provide debt or equity in order to have access to their funds. This requires deeper understanding of international finance. It is so because different markets and economies function in their own unique ways. Market analysis and exploration for best opportunities requires greater levels of specialization. It is also important to comply with the various regulatory norms prevailing in these markets.

Faster movement of funds

Modern telecommunication and computer advancements have replaced physical markets with virtual markets. Fund transfer takes place in seconds and rates change in fraction of seconds. The international fund managers have to take decisions quickly and efficiently. The study of international finance can help the manager to best relocate funds globally in order to ensure their optimum utilization.

1.5 FACTORS AFFECTING INTERNATIONAL TRADE

International finance exists due to international businesses. The factors affecting international trade also affect international financial environment. With global trade expanding each year, businesses are getting exposed to the risks spread across large number of markets. Some of the key factors that have an impact on the financial health of any international business are discussed as under:

Political Environment

The political environment from a business perspective refers to the government outlook towards international businesses which is mostly reflected by its policy towards facilitating trade in its market. The stability of the governing policies is a critical factor to decide upon the risk involved in committing to long term investment in any country. Some countries have a liberal and business friendly business environment while in some cases there might be hostility towards foreign businesses. Many countries impose restrictions in the form of tariffs and other trade barriers for foreign businesses in order to protect the interest of home business firms or restrict foreign trade in a particular product or service. These days, tariffs have become the bone of contention between various countries where political battles are being fought by way of imposing tariffs on products

of each other. Various international trade organisations like the WTO are working with limited impact to provide free access to trade around the world.

Economic Environment

The economic environment has a great bearing upon the financial stability of businesses. Its major components include the economic policies undertaken by the government, the growth rate of the economy, employment rate, growth in per capita income, inflation rate, business cycles, organisation of capital markets, interest rate movements, movement in exchange rate of home currency, spending patterns, investment in infrastructure etc. Any economic uncertainty can have a lasting impact on the performance of a business and put the foreign investment at risk. Interest rates can affect investment and exchange rates can disturb pricing for a firm dealing with imported goods. Many international forums like World Trade Organisation (WTO) have been instrumental in ensuring uniform trading practices around the world, although various differenced still persist.

Social Environment

The socio-cultural environment refers to the value system prevailing in the country, social preferences, attitudes, customs, rituals, fashion etc. The communication strategy, product positioning, employee treatment, pricing, distribution etc have to be in compliance with socio cultural beliefs and practices in the target market. These factors are dynamic and must be accounted for while forming business plans. Sometimes foreign businesses have to face the wrath for not respecting the local cultural norms and sensibilities. Various research firms are engaged by the multinational corporations before deciding upon the right mix of product and service to be offered in a market.

Technological Environment

Around the world, there exists a vast difference in the levels of technological advancement prevailing in the countries. Some countries have adopted most sophisticated technology and the market has the ability to pay for it. Many others are far from modern processes as they do not have the resources to adopt the latest advancements and the customers in the target market might not have the capacity to pay for it. The perception of quality is also different across markets as some quality which is sold in a particular market might not be acceptable in other markets. The technologies are continuously changing and concepts like artificial intelligence, block chain, big data are continuously changing the landscape of financial markets. The feasibility of technology in a market should hence be carefully analysed as investment in technology is generally irreversible.

Legal Environment

The regulatory environment, judicial interventions, taxation provisions, penalties, custody of foreign assets etc need to be carefully examined and followed in international business. The host country laws and judicial system should be strong enough to protect the interests of the foreign investor in the event of any crisis. Sometimes abrupt changes

are made in laws which can create financial contingencies like retrospective amendments in taxation laws can lead to an unforeseen liability for the business.

Along with globalization of trade, there has also been globalization of financial markets. Today capital and investment flows happen on a global level. Exposure and understanding of international finance is essential for successful operation of multinational corporations.

1.6 INTERNATIONAL CAPITAL FLOWS

Capital flows across international borders can be in various forms and for various purposes. These flows may be for the purpose of investment, operations, research, government transactions between countries, and capital market movements into various debt or equity securities across exchanges. Also, a lot of fund movement happens internally between various entities of multinational corporations for business transactions. Each country experiences inflow and outflow of funds on account of business and other transactions.

Location of Capital: When the residents of a country invest in the business ventures abroad, it can be called as overseas home investment. It leads to flight of capital abroad and is a debit item in the country's BoP account. On the other hand, when the foreigners invest in a country's businesses or assets, it is foreign investment which leads to inflow of capital and is therefore a credit entry into the BoP account. Developing economies are always looking for foreign investment for economic development as well as positive contribution to foreign exchange reserves. Apart from investment, international capital flows may also happen for a variety of reasons like aids, grants, remittance etc.

Ownership of Capital: The capital flows can be initiated by governments or private entities. The governments undertake transactions with the help of their Central Banks to borrow or lend from other governments or international institutions. These are done to improve their foreign exchange reserves or fulfill international liabilities. The private transactions by companies, individuals, institutions, agencies may be for borrowing, lending, remittances, investments, taxation or other purposes.

Term of Investment: Majority of international capital flows are undertaken as part of investment activities which may be for short or long term. The investments which normally have a maturity period of one year or less are classified as short term while those extending beyond that are termed as long term. The short term market is also called as money market and has a quick impact on market variables like exchange rate, interest rates etc. Sometimes the central banks might interfere for a course correction. On the other hand, long term investments have far reaching impact on the economy and leads to higher risk for the investor.

Motive for Investment: The foreign investment is undertaken to get returns which are higher than those in the home country. However, the approach or motive for investment

can primarily be of two types- i) Foreign Direct Investment (FDI) and ii) Foreign Portfolio Investment (FPI). The FDI is direct investment into the assets of a country. It leads to ownership and management of asset by the foreign investor. It reflects long term commitment by the investor to the recipient country and is welcomed by the host government. It is seen as a potent way to bring economic development as it leads to employment, quality products and services, import of technology and global management practices, increase in foreign exchange, taxation revenue, development of infrastructure and ripple impact for domestic firms. On the other hand, portfolio investment is an indirect investment into domestic businesses by foreign investors through purchase of securities in capital markets or stock exchanges. Such investment does not give ownership and control to foreigners and it can be quickly liquidated.

The capital movements are influenced by a variety of factors, some of which are as under:

1. There are marked differences in interest rates across the world. They are dependent on variety of economic factors. The investors in countries with low interest rates like to invest in countries with higher interest rate after weighing in the risk factors associated with the concerned market.
2. The consumer market in an economy with potential for expansion decides whether it has the capacity to absorb new investment and provide expected returns.
3. Good economic and political environment also increase the chances of getting foreign investment for a country. Well developed infrastructure, tax incentives for investment, better regulatory environment and peaceful living conditions increase capital flows to the country.
4. If a country has geographical advantage in location and provides lower cost of production (labour, raw material, technology penetration etc), it can attract lot of investment capital for production and supply of goods in the nearby countries.
5. The investment market also runs on speculative activity. Any expectation of change in exchange rates might fuel transfer of funds from one country to another. The market responds better to economies which are not highly regulated in exchange rates.

1.7 INTERNATIONAL FINANCIAL MARKETS

The international finance market is a multi-tier, multi-location, multi-player, multi-instrument market which operates round the clock and plays its role in bringing people and institutions together who are in need of funds or who are willing to part with their funds. The technological advancements and opening up of economies have strengthened these markets.

International Money Market

As discussed earlier, the international money market caters to the need of short term funding i.e. where the maturity is up to one year. Such short term funding is required by governments, institutions and business corporations which are provided by investors including banks, fund houses, retail investors etc. The growth in international business has given rise to the need of currency other than the domestic currency. Here is where the international money market comes into account. The demand may be for paying for imports or to meet short term fund requirement and the borrowers choose markets where interest rates are lower or where the currency is expected to depreciate against home currency. On the other hand, investors look at parking funds for short term where interest rates are higher or currency appreciation is expected. Commercial banks play a great role in this market and US dollar and euro are the most sought after currencies. Deposits denominated in currencies outside of home country known as euro-deposits are dealt by them.

International Credit Market

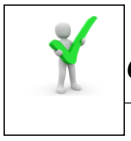
International credit market constitutes the financial institutions and markets which provide medium term funds through term loans to domestic firms and MNCs. Even governments borrow from international credit institutions like the World Bank and International monetary Fund (IMF) to fund their medium to long term credit requirements. Business related funding is arranged by commercial banks. Investment banks with the help of organized and efficient stock markets help business houses to raise funds. Sometimes, in case of large borrowing proposals, banks can form a syndicate (many banks coming together to lend together) which allows them to arrange funds as well as reduce risk to a single entity.

International Bond Market

Another avenue for raising funds is the international bond market where foreign businesses can issue bonds in the local currency. After being issued in the primary market, they are then available for trading in the secondary market. They are attractive as corporate houses can take advantage of prevailing lower rates of interest in a foreign country rather than taking loan at higher rates in the home country. However, if difference in interest rates is not significant then exchange rate risk is also to be taken into consideration. Eurobonds are the bonds which are sold in a foreign country other than the country of the currency denominating the bond. They are popular as a means of attracting funds as they circumvent registration requirements.

International Derivative Market

Derivatives are financial instruments whose value is “derived’ from an underlying asset like stocks, currency, bonds, interest rates etc. They are either traded on organized exchanges (London and Chicago are the biggest exchanges) or over the counter (OTC) which means direct dealing of one party with another. This market is huge and runs into hundreds of trillions of dollars. These instruments are popular in international financial markets as they are used to hedge, invest and increase liquidity.



Check Your Progress-A

1. International financial markets allow an investor to _____the geographical risk.
2. Change in interest rates can impact the _____ activity in any economy.
3. Foreign Direct Investment leads to _____ entry in BoP statement.
4. Borrowing or lending activity on behalf of governments is undertaken by _____.
5. Bonds issued in currency outside of the home country are called _____.
6. FIIs enjoy full _____convertibility of their investment

1.8 PARTICIPANTS IN INTERNATIONAL FINANCE

The global financial market is run by various participants who have their set objectives for dealing with the market. Although not confined to a particular organizational structure, the international finance market has a multi-tier existence. The market consists of players seeking capital and those willing to supply capital. The capital seekers may be businesses seeking working capital, term lending for capital projects or bridge finance for short term. The capital suppliers include banks, retirement, insurance and pension funds and other private equity players. The players may be retail or institutional and their motives may be different. Broadly, there are two categories of participants in the market as per their objective. They are investors or speculators. The investors usually are interested in medium to long term returns and look at fundamentals of the investment proposals while the speculators are interested in making money in the short term through opportunities arising out of temporary changes in the market. The major participants are as under:

Banks and Financial Institutions

Banks play a vital role in international finance as they are the biggest facilitators of international trade. Through their widespread network of own branches and their affiliates, they help international businesses to acquire, transfer as well as invest funds across different markets in the world. They issue letters of credit which help the exporters to deal with customers the world over without taking undue risk on credibility of the other party. They also provide short term to long term credit facilities to businesses as per their need. Fund transfers with deposit accounts in currencies outside of home country

are also provided by them. Commercial banks have specialized branches to cater to the needs of international businesses while there are investment banks offering consultancy in conducting financial transactions across the world.

Foreign Institutional Investors (FIIs)

These refer to foreign institutions which are authorized by market regulators (like SEBI in India) to invest in various types of securities in India. They include various types of insurance, pension, retirement, investment and mutual funds who participate in the market to subscribe to various instruments. They have huge amount of funds at their disposal which need avenues for investment. These funds access the international markets to boost their returns as well diversify their risk. This is due to the fact that economy in different companies behaves differently. These funds invest in both debt and equity instruments and are allowed full capital account convertibility by the regulators. They can have global, regional or country based exposure as per the mandate of their investment. The presence of FIIs in the market is an indication of the strength of its economy and provides impetus to foreign direct investment.

Stock Exchanges

The stock exchanges have a critical role to play as they provide liquidity to the investors. The clearing services offered by them guarantees payment and delivery which is at the backbone of secondary market. All kinds of securities like equity, debt and derivatives are dealt by these exchanges. Listing of securities on these exchanges inspires confidence among the investors regarding the issuer.

Brokers and Security Dealers

The trading activity in an exchange is conducted by the brokers who are authorized for doing sp by the respective exchanges. In addition, they provide their clients all kind of services including purchase and sale of securities, settling dues etc. They execute transactions on behalf of their customers while complying with rules of the exchange. Primary dealers are involved in dealing with government securities in both primary and secondary markets.

Investment Banks

These organisations provide a host of financial services to their banks which includes raising capital, underwriting initial public offers (IPO), managing security issues, obtaining regulatory clearances, advising on mergers and acquisitions, risk management and trading of securities. Most of the big investment banks have a wide network of offices globally with highly qualified personnel who look after the international finance needs of their clients.

Central Banks

The Central banks regulate and control the financial environment in a country to a great extent. They not only decide upon the interest rate (by way of monetary policy) which is crucial for the investment in any economy but also intervene in the foreign exchange

market. They also act as banker to their respective governments. They regulate the functioning of commercial banks and are in a position to influence the exchange rate by pumping in foreign exchange or sucking it out.

1.9 SUMMARY

This unit has invariably introduced the concept of international finance and is aimed to give an understanding of the complexity and dynamics of the forces that govern it. International trade and globalization have touched our lives in a manner, that we cannot separate ourselves from the haunches of the financial forces governing it. International finance deals with the study of the markets, the products and the participants. The financial markets have integrated and are now able to provide funding and investment across the borders. This makes learning about international finance crucial to any international business. The financial markets are impacted by a host of complex environmental factors and are led by players with variety of motives and time horizon of investment.

1.10 GLOSSARY

WTO- World Trade Organisation, an institution aimed at facilitating global trade.

International Tariffs- Taxes imposed on import of goods/services by host country.

Foreign Direct Investment- A long term investment with management control in assets located in foreign country.

Foreign Portfolio Investment- An indirect investment in securities by foreign investors through stock exchanges.

International Money Market- Market for deploying or obtaining short term funds.

International Bond Market- Market for issuance of bonds in foreign currency by foreign businesses.

Foreign Institutional Investment- Investment in capital markets by foreign institutions like pension, insurance or mutual funds.

1.11 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress A

1. Diversify
2. Investment
3. Credit
4. Central Bank
5. Eurobonds
6. Capital Account

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1.14 TERMINAL QUESTIONS

1. Why is a comprehensive knowledge of international finance important for a global business manager?
2. Explain some of the key characteristics of the international financial markets.
3. What are the key relative advantages offered by international finance markets to international businesses?
4. What is the role of Central Bank in influencing financial markets of a country?
5. Explain the role of technology in working of international financial markets.

UNIT 2 INTERNATIONAL FINANCIAL ENVIRONMENT

2.1 INTRODUCTION

The globalization of businesses started after the Second World War and gained momentum during the 70s and 80s of the twentieth century. With the opening up of boundaries for international trade, international finance also took leap and capital flows started taking place across countries. The international financial environment has become quite complex. It comprises of with many institutions, products, markets and technological platforms working round the clock. The trade has become liberal and financial institutions work with greater freedom but technology and speed of communication has also posed new kinds of threats. The increasing inter-linkage of one market with another has led to increased uncertainty and risk. All this makes it very challenging for the modern finance manager to avail increased opportunities on one hand and face increased risks on the other. Various international institutions which are specialized in their domain play a great role in regulating and facilitating financial services around the globe. In this Unit, we will study about the various components of the international financial environment and their role along with the recent developments that have taken place across the globe.

2.2 OBJECTIVES

After reading this unit you will be able to:

- Understand the significance of the international financial environment.
- Know about the various components and participants in the international financial market.
- Appreciate the role of international finance in economic development of the modern globalised economy.

2.3 ROLE OF MULTINATIONAL CORPORATIONS IN INTERNATIONAL FINANCE

Multinational Corporations or as popularly known as MNCs have been instrumental in creating and expanding the international financial market. As we all know, MNCs are those companies which have operations in various countries. The ratio of their home market revenues to foreign market revenues might be different. While some operate centrally from their home location, many others have controlling offices at various locations across the world. Transnational companies are those which do not have any central controlling location and for whom majority of revenues are generated from outside markets. However, almost all of them own assets abroad which are sometimes even financed from external locations. These firms source raw materials, components and even human resources from multiple locations across the globe. Collaborations in the form of joint ventures, mergers and acquisitions, research and development activities etc are taken at a global level. All these activities require acquisition, investment and flow of funds from one country to another. Hence, they multinational corporations are very actively involved in the international finance market.

As multinationals work in a wide and heterogeneous market, their operating strategy in finance is different from those that of a domestic firm. These companies have to deal with varied political and legal environment which makes the task challenging. The business headquarter has to decide whether to centralize decision making or delegate to local offices regarding issues related to taxation, repatriation of profits, capital structure in joint ventures with local firms etc. The key financial functions become slightly complex in case of international financing.

Investment Decisions: The capital budgeting decisions become complex as the discount rate of cash inflows has to be carefully determined for each market and it could vary drastically from one market to another. The firm has to conduct risk appraisal carefully considering macroeconomic variables applicable to a region/country. Multi-national corporations undertake complex investment decisions in the form of green field investment, acquisitions, joint ventures etc across the markets. There is political and

business risk spread all over these markets. The specialized international financial institutions help them in successful execution of these decisions.

Financing Decisions: After deciding upon the appropriate investment decision for the international markets, the next challenge for the MNCs is to get the best financing mix with the lowest cost of capital. These decisions can be very efficiently managed by global firms due to their access to capital markets across the globe. The company can borrow heavily in high taxation countries to reduce tax liability and lend it to their subsidiaries in countries with lower tax. Similarly, surplus investment can be made in countries with higher rate of interest. Also, if a market is attractive but has high cost of capital, the company can arrange funds by borrowing in home country and lending it to subsidiaries. Lower interest rate financing can be obtained in developed economies to invest in high potential growing economies.

Risk Management: A global finance manager has to deal with foreign exchange risk on a regular basis while sometime there might be instances of political risk. There can be other systematic risks with one market closely affecting the other. Normally, companies have to hedge (which refers to taking an offsetting position to avoid the potential risk) their transactions to overcome foreign exchange risk. However, multinational corporations undertake plethora of transactions in various types of currencies which can offset risk with one another. In order to successfully manage these risks, the manager should have a good understanding of the players and their functioning in the international financial environment.

2.4 COMPONENTS OF INTERNATIONAL FINANCIAL ENVIRONMENT

Broadly, the international financial environment comprises of various types of products, institutions, markets and participants. It is different from domestic financial environment in many ways. This is so because it is impacted by a plethora of external forces which are highly uncontrollable and unpredictable. Over the period of time due to increased globalization, there has been expansion of this market with the emergence of new products and technologies. The participants are also increasing due to increased opportunities as well as convenience owing to technological advancements. The major components of this environment include:

Foreign Exchange Market

This is the most significant component of the international financial environment as one of the primary reasons for existence of the international financial market is the presence of multiple currencies in transactions. It deals with exchange of one currency with

another and provides products with different types of transactions and maturity period. This market comprises of institutional players like banks, corporations on one hand and retail players dealing with customers like foreign tourists on the other. This market helps business houses among others to get required currencies for their trade as well as hedging instruments to cover the unfavourable fluctuations in the foreign exchange rates.

International Capital Market

This includes the presence of a system through which businesses, governments and individuals can borrow, lend or invest funds across boundaries. This is essential as it leads to free flow of funds across the world and hence deficient economies can take funds from surplus economies. There are organized markets, products and institutions which help in acquisition of funds, investment of funds as well as hedging opportunities.

International Institutions

The international finance function is majorly handled my international institutions like global Investment and Commercial Banks, Central Banks, Multinational Corporations, World Bank, International Monetary Fund, European Investment Bank, Regional development banks (like Asian Development Bank/African Development Bank etc), International Financial Corporation etc. These play variable roles in ensuring that there is smooth flow of capital and funds across the world.

Products in International Financial Markets

The international financial markets offer a wide array of financial products and services to all the participants which include products in foreign exchange, loans and advances, grants, guarantees, hedging instruments, derivatives, private equity etc. These products are constantly evolving and are being traded with better speed in settlements.

Government Actions

Various governments undertake transactions from international market through their Central Banks for borrowing, lending, grants, intervening in foreign exchange market etc. They pass regulations, coordinate with institutions like World Trade organisation, promote foreign investment, handle crisis, decide interest rates, influence regional associations etc. They also impose tariffs, sanctions and other restrictive measures which has impact on international capital flows. All these activities make the governments very influential in the international financial environment.

Balance of Payments

International trade, investment and any other kind of international fund flow has an impact on the foreign exchange reserves of a country. The impact of these flows, both short term and long term, is recorded in an account known as Balance of Payments. This account has a reflection of a country's economic strength and impacts the value of foreign exchange rates and is hence crucial to the international financial environment.

2.5 FOREIGN EXCHANGE AND INTERNATIONAL CURRENCY MARKET

This is the most significant component of the international financial environment and has many participants which include the Central banks, commercial banks, brokers, traders, tourists etc. It is primarily aimed at facilitating purchase and sale of foreign exchange. This market is largely unorganized and works 24 hours a day on weekdays as its centres are spread across the world. By unorganized, it means that there are no regulatory authorities to govern the market and deals may be struck between two parties without any interference from anywhere.

This market has demand and supply of all the international currencies but the leading currencies are US dollar, Euro, British Pound and Japanese Yen. It has two components- the wholesale market (between institutions primarily banks and global corporations) and the retail market (catering to the needs of individual). Some of the biggest foreign exchange centres are in New York, Chicago, London, Tokyo and Singapore. The market decides on the price of foreign currencies on the basis of prevailing demand and supply and hence is a key for exchange of value in international trade.

As described earlier, this market has a variety of participants from an individual to large institutions. The Central bank in a country is the custodian of all its foreign exchange and acts in the interest of the nation's economy to keep exchange rates as stable as possible. Depreciation of a currency boosts exports but hurts imports and vice versa. Sometimes, the central bank may interfere in the market by supplying or buying foreign exchange. The commercial banks quote prices and allow for settlement between parties. They provide currency to their clients who may be business corporations or retail clients. The brokerage house or brokers are middlemen who earn commissions by executing deals between buyers and banks.

Various types of transactions like spot, forward, futures, Options etc are undertaken in this market. Spot relates to current market rate for exchange of one currency with another while forward or futures transactions refer to trading activity undertaken for execution at a future date. You will learn more about these in subsequent units. However, this market is subject to a lot of speculative activities. This is so as change in political and business environment leads to speculation leading to anticipatory purchase or distress sale of particular currency which may impact the other countries. The US dollar is considered to be the most widely accepted currency worldwide.

2.6 INTERNATIONAL CAPITAL MARKET

Capital Markets refer to the marketplace which facilitates coming together of entities in need of funds and those with surplus funds. It involves individuals, business houses as well as governments. International Capital markets relates to acquisition and investment

of funds in international markets. This market primarily includes International Banks, International Equity market, Eurocurrency and Eurobond market. The international banks act as investment banks and help business houses to fulfill their funding needs by helping them raise money in foreign currency and foreign locations and get it transferred to the desired location. They have their own international network as well as work as correspondents of other banks. The main advantage of access to international capital market is that it helps reduce the cost of capital as borrowers can choose the markets with the lowest cost and secondly diversification of geographical location and currency can reduce the systematic risk as not all economies or currencies will suffer setback at the same time.

The Eurocurrency market also involves banks. It refers to providing accounts containing deposits in currencies other than that of the home location of the bank branch. For example a US dollar denominated account in a London branch of the bank. This helps the countries or institutions with surplus funds to park them in Eurocurrency accounts in order to earn short term interest income. Rates such as LIBOR (London inter-bank offer rate) are used as benchmark rates for these deposits. Similarly, Eurobond refers to the bond which is sold in a country outside the country of its denominated currency. For example a bond denominated in dollars being sold in United Kingdom will be called a Eurobond. This is a very strong market as it helps businesses to acquire debt outside their home country in the currency of their choice. These bonds are issued by a bank syndicate and provide good liquidity in secondary markets. The market size for these bonds runs into hundreds of trillions of dollars.

The International equity and debt market refers to offering equity or debt instruments in foreign markets to fund local or outside operations. These are primarily underwritten by investment banks. In the recent years, the opening up and growth of developing economies along with advancements in technology has led to better access to international equity markets for the investors. Various multinational corporations get their stock listed across various markets to provide more financing opportunities for their operations. One very popular method of raising funds from outside market is issuance of Global Depository Receipts (GDRs). Under this mechanism, a domestic company can issue shares to a foreign bank who in turn issues depository receipts in the foreign country representing the underlying shares. The investors can buy these depository receipts from the bank and indirectly invest in the foreign business. These GDRs are negotiable instruments and are traded on select exchanges around the world. When issued in US markets, it is known as ADR or American Depository Receipt. The international equity market has helped businesses to increase their investor footprint and increased opportunities for funding.

2.7 INSTITUTIONS IN INTERNATIONAL FINANCE

Various institutions are directly or indirectly involved in the international financial environment and have specific role to play. These are subject to international laws and have their offices in many countries. These are commercial banks, multilateral development banks, regional development banks and Institutions like the International Monetary Fund (IMF), World Bank etc. Some of the key institutions are described as under:

International Commercial/Investment Banks

They are the biggest participants in the international finance market and act as intermediaries between capital markets and intended beneficiaries. They are the key players in international corporate finance, without which there would be no flow of international trade. Right from financing international trade, issuing letter of credit and bankers' acceptances to arranging term lending requirements and remittance of funds; they perform a wide variety of functions. Investment Banking operations also involve underwriting of issues, issuing depository receipts etc. In addition to this, they also provide various deposit accounts and foreign exchange services which are of critical importance for commercial operations of businesses.

Regional Development Corporations/Banks/Multilateral Financial Institutions

Many regional development corporations have been established by various regional groups across the world. Prominent among them are Asian Development Bank, African Development Bank, European Investment Bank, African Development Bank etc which aim at financing developmental projects in specific regions. They provide loans, technical advice and equity for undertaking economic development activities. Also, there are various multilateral financial institutions like the European Commission who work on financing specific projects.

International Monetary Fund

Established in 1945, the International Monetary Fund aims at providing monetary stability to its member countries which constitutes almost all the countries in the world. It undertakes a variety of functions like keeping a watch on the monetary position of various countries, providing them with expertise on economic problems and lending them to overcome short term monetary imbalances. In cases of any crisis, members can approach IMF which provides loans with conditional structural adjustments (guidelines to be followed) which the member country has to undertake to ensure that the problem would not reoccur.

World Bank Group

This international group comprises of five institutions namely the IBRD (International Bank for Reconstruction and Development), IDA (International Development Association), IFC (International Finance Corporation), MIGA (Multilateral Investment Guarantee Agency) and ICSID (International Centre for Settlement of Investment

Disputes). It has 189 member countries and is the largest association formed for economic and social development. IBRD and IDA provide loans and guarantees along with technical advisory services to poor countries in the developing world. Their interest rates are low with long repayment periods to help upliftment of economically backward countries. The IFC works in projects involving private sector participation in developing countries. It raises funds through bonds in international capital market and then lends to private sector in poor countries. MIGA has been established to promote foreign direct investment in developing nations. It does so by providing guarantees to investors against non-commercial risks like political risks. ICSID is an international dispute settlement forum for international investment treaties.

2.8 RECENT DEVELOPMENTS IN INTERNATIONAL FINANCIAL SYSTEM

The International financial environment has witnessed many changes since its inception in the last century. Some of the recent noteworthy developments are as under:

- The process of integration of financial markets has gained acceleration due to increased globalization and the participants and their turnover is sharply increasing.
- Technology has resulted in not only speeding up the transactions but the reaction time on change in macro and micro economic activities has considerably reduced. This has improved convenience but brought increased volatility. Also fears regarding technology abuse by unwanted elements pose considerable risk.
- With increased network of banks geographically and technologically, there has been considerable increase in the amount of international bank fund flows allowing for greater liquidity across the markets. The inter-bank cross border flows although are declining as banks are increasingly dealing with their own branches. However, post financial crisis in 2009-10, many banks from developed countries have also scaled back their operations.
- The derivative market has expanded broadly and led to the emergence of complex derivative products. Advances in financial engineering and techniques of risk management have aided in this phenomenon.
- There has been an increase in political hostility which is leading to trade wars and thereby impacting international businesses. This has increased political risk pertaining to international finance.
- The sub-prime crisis in the last decade which led to the downfall of many well-known international banks revealed that the international financial system has stability issues and that US market can have a deep impact on the world markets. That crisis had an adverse impact on the world economy for a long time and exposed the weakness of regulatory control over the market.

Check Your Progress-A

1. MNCs have the option to _____ in countries with _____ interest rates.
2. Borrowing in international markets leads to _____ interest rates and _____ systematic risk.
3. The currency with highest acceptability across the world is _____.
4. Eurobonds are sold in countries _____ of their denominated currency country.
5. Surplus deposits can be deposited by international entities in _____ accounts.
6. GDR stands for _____
7. IMF helps member countries in overcoming short term _____ crisis.
8. World Bank group consists of _____ institutions.

2.9 INTERNATIONAL FINANCIAL MANAGEMENT

International finance presents various other critical dimensions to the already challenging capital budgeting decisions. These include issues like exchange rate volatility, foreign tax and other changing regulatory provisions and the risks associated with the political environment of the foreign country. In spite of these challenges, the business corporations continue to spread their operations across countries and attract international investors to fund them. This is mainly due to the following three factors:

1. The foreign investments provide comparative cost advantages which are necessary to obtain market leadership.
2. Many foreign destinations provide lucrative tax incentives to attract investment which forms the basis for establishing operations in these countries.
3. Financial diversification across geographies lowers the overall risk for a multinational corporation.

Although we require incremental cash flows for evaluating capital investment proposals but sometimes foreign investments provide various intangible advantages which can be traded in for a lower return. These may include producing better quality products,

reaching out to customers faster, providing better after sales support, providing confidence in the brand due to local presence, learning experience for foreign locations, international exposure to staff etc. These benefits may have a long term impact on cash flows and can also have a positive impact in the form of improving domestic operations and products. However, on the other hand factors like opportunity costs, impact on exports business (which would be replaced by direct investment) etc need to be carefully considered before arriving at the incremental post tax cash flows.

Key Factors Affecting Cash Flows

In comparison to the domestic firms, the international businesses have to take into account certain unique risks due to their presence in foreign destinations. Some of them are described as under:

Tax Impact- One of the most complex issues is that of taxation in the international markets. Apart from the usual tax that is payable on earnings by the foreign subsidiary, some countries impose withholding tax on profits repatriated to the parent company. Then again, the parent subsidiary may be taxed on this income as part of its total income in home country. To avoid this multiple taxation on same income, many countries have signed tax treaties but they are not universal and uniform. Also these are subject to changes with changes in political regime in the host country. A careful analysis is required in order to find out the real impact on taxation on returns.

Exchange Rates- The most uncontrollable factor in international business is the exchange rate fluctuation. In case the host currency weakens, then the amount available for repatriation to the home country will go down which may impact the decision of financial viability of having a foreign subsidiary. This is particularly important for the businesses which repatriate much of their earnings back to home country. Although companies hedge their foreign exchange transactions through various products but many times the volatility maybe more than expected and can have a lasting impact on either the import or export side of the business. Suitable consideration has to be made with regard to volatile economies while deciding upon investing in their markets.

Profit Repatriation- Many countries, particularly those in developing stage, may put restrictions on profit repatriation as they have limited foreign exchange reserves as well as they may want the profits to be reinvested in the host country for some specified time to ensure development. This may be suitable for those firms who have long term expansion plans in the host country as they anyhow need funds and may be rewarded by local governments for increased investment. However, it may have an adverse impact on the firms who wish to repatriate the profits regularly. Some of the alternative methods

employed by MNCs to overcome these restrictions include royalty / license fee payments, overseas loan repayments, inter subsidiary sales etc.

Political Risk- This is emerging as key variable with political environment changing drastically with change in regimes. It can be mild to extreme depending upon the political ideology prevailing in the country. Various restrictions like ensuring local area employment, social and environmental contributions, restrictions on imports, majority ownership by a local partner, restrictions on currency convertibility etc may be imposed by the host nations. Sometimes judicial system can impose restrictions severely hampering the prospects of a business. Another development in recent times is that of the current governments turning down or not honouring the commitments of the previous governments. This can be of severe consequence to investments on foreign soil. Also, sometimes the governments can impose some regulation from retrospective effect which can create an unforeseen liability. Suitable discounting needs to be done to account for these risks while green-lighting foreign investment proposals.

External Commercial Borrowings

The present international financial environment provides ample opportunities to source capital from across the world. The globalization of markets and technological progress is aiding in the phenomenon. External Commercial Borrowings or ECBs refer to raising of commercial borrowings from international markets subject to the regulations issued by respective governments. These borrowings can be short to medium term or long term. They can be denominated in foreign currency or local currency.

The borrowings can be in the form of loans from commercial banks, securities like convertible or non convertible banks, buyers' or suppliers' credit etc. In India, these borrowings are allowed under the two routes- automatic and approval. An automatic route means the proposal can be directly examined by the authorised dealer (an authorized dealer bank) while under the approval route, the permission is to be sought by Reserve Bank of India. These funds can be parked in or outside India depending upon the nature of expenditure which is specified in the issue. These ECBs are also allowed to be converted into equity if the proposal fulfills all the conditions of the prevailing foreign direct investment policy of the country.

Overseas Issues

Host nations can bring in capital from foreign locations in the form of two popular mechanisms- the Foreign Currency Convertible Bonds (FCCBs) and the Global Depository Receipt (GDR) or the American Depository Receipt (ADR). These two are also allowed in India. FCCB is a debt instrument subscribed by a foreign national in foreign currency which is convertible into equity on a future date. It is a lucrative

investment opportunity for foreign investors who want to invest in growth led economies. They can thus participate in providing debt capital o businesses abroad. GDR or ADR are receipts issued by foreign banks to their country investors in respect of underlying shares from foreign country. For example suppose an Indian company wants to raise equity from a foreign market, it will approach a bank in that market. The investors in the foreign country have faith and identify with their home country institution (bank). This bank will take equity from the Indian company and issue ADR to American investors on the basis of an Indian company's equity. Such receipts outside of US are called GDRs. The ADR or GDRs are listed in foreign stock exchanges or over the counter exchanges and hence provide liquidity to their owners. Any company desirous of issuing FCCB or equity shares through the GDR/ADR route has to take prior permission from the Department of Economic Affairs, Ministry of finance in the Government of India.

2.10 SUMMARY

This unit has given an overview of the international financial environment. Multinational Corporations deal with revenues, assets and liabilities across the world and are hence are the most significant player in international finance. International finance manager has to acquire, manage and control funds on a global basis. The assessment of investment opportunities in international arena is more complex due to the involvement of taxation, exchange rate fluctuations and political risks inherent with them. The global financial network comprises of commercial and investment banks, retail brokers, exchanges, institutions and governments. It has a large variety of products in foreign exchange, money market, capital market, derivatives etc.

It has a very active primary and secondary market. The International equity and debt market helps to acquire capital at lower cost and provides opportunity to tap a larger base of investors. Instruments like Eurobonds and GDRs have become popular modes of arranging funds internationally. Indian Companies like many other from developing nations are allowed to bring foreign capital through Foreign Currency Convertible Bonds and Depository Receipts. Various Commercial and developmental institutions like Investment Banks, IMF, World Bank etc play an important role in economic upliftment and monetary stability in the world.

2.11 GLOSSARY

Transnational Corporation: Multinational Corporations having control centres, assets and registrations in multiple countries.

Foreign Exchange Market: Global over the counter market for exchange of foreign currencies where market exchange rates are determined.

International Capital Market: The global network of financial markets providing investment and borrowing opportunities for international participants.

Eurocurrency: Deposits denominated in foreign currencies.

Eurobond: Debt instrument issued in a country outside of the country of its denominated currency.

GDR: Global Depository Receipts- issued by banks in respect of underlying shares of a foreign company.

IMF: International Monetary Fund- World's biggest institution providing short term lending and technical assistance on economic stability to over 190 member countries.

2.12 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress A

1. Borrow, low
2. Lower, higher
3. US dollar
4. Outside
5. Eurocurrency
6. Global Depository Receipt
7. Monetary
8. Five

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2.15 TERMINAL QUESTIONS

1. List some of the factors which have led to the growth of international financial markets.
2. What are the unique risks associated with international financial markets for the investor?
3. Discuss the opportunities available in the international capital market for acquiring capital.
4. What are some of the unique risks associated with appraisal of international investment proposals in comparison to the domestic investment?
5. Bring out the role of some of the prominent institutions in international financial environment.

UNIT 3 FOREIGN EXCHANGE MARKET

3.1 INTRODUCTION

The increased integration of world business, trade and investment has led to rapid development of foreign exchange market. This market refers to the trade of international currencies and is considered as the world's largest financial market. The daily trade volumes in these markets run into trillions of dollars. It is an over the counter as well as exchange traded market whose participants i.e. buyers and sellers are located across various international financial centres across the world. These participants majorly involve importers and exporters (who require foreign exchange for trade of goods and services), international investors (who require foreign currency to execute their trading transactions related to financial instruments like bonds and shares) and currency traders (who undertake foreign exchange trade i.e. buying and selling currencies to make money from differences in price value). Some of the world's major currencies constitute

majority of this market. These are the US dollar, Euro, Japanese Yen, Pound Sterling, Australian dollar, Swiss franc etc.

3.2 OBJECTIVES

This Unit aims at the following Objectives;

- To understand the structure and scope of the international foreign exchange market.
- To know about the various types of transactions undertaken in the forex market.
- To understand the risks associated with exchange rates and strategies for their mitigation.

3.3 COMPONENTS OF FOREIGN EXCHANGE MARKET

The global foreign exchange market is the biggest financial market and far exceeds the stock markets in terms of volumes. It is the most important component of international trade. It operates round the clock and round the year. The currency exchange rates are fixed by this market. Broadly, this market has two levels. The first is the inter-bank market which has limited players but which accounts for bulk of the turnover carried in the market. The sheer scale of this market is mind boggling as the turnover runs into trillions of dollars a day. Due to this, the market rates are influenced by this segment. The banks normally use the SWIFT (Society for Worldwide Inter-bank Financial Telecommunications) network for settling international transactions. The second level belongs to the OTC market which has retail transactions carried out by traders, corporations etc. This has large number of players but the volume is very low as compared to the Inter-bank market. Due to this, this market has limited ability to influence exchange rates. In addition to this, there are various exchanges which offer currency trading. The Central Banks of various countries also participate in this market by certain policy announcements and market interventions as per the requirements of their respective economies.

Global distribution of OTC foreign exchange turnover												
Net-gross basis,[2] daily averages in April, in billions of US dollars and percentages												
Country	2001		2004		2007		2010		2013		**2016**	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	**Amount**	**%**
India	3	0.2	7	0.3	38	0.9	27	0.5	31	0.5	**34**	**0.5**

Source: BIS (bis.org)

The above table shows that India's share in global OTC turnover is a miniscule 0.5%.

The market has various players across the globe and has different motives and different clients to serve. They can primarily be classified as under:

- ***Central Banks*** **–** Normally the central bank is a banker to the government and tries to intervene in the market by releasing or withdrawing foreign currencies in case the market moves in an abnormal fashion.
- ***Commercial Banks*** **-** They receive deposits in foreign exchange at their designated branches as well as make foreign exchange transfers in respect of their clients.
- ***Multinational Corporations*** **-** Normally with the help of commercial banks, they participate in foreign exchange market as they need foreign exchange for their international operations. They also undertake various hedging instruments to minimize the exchange rate risk on their transactions
- ***Investment and Hedge Funds*** **-** They undertake various investment and hedging activities on behalf of their clients.
- ***Brokerage Firms*** **-** These are firms which earn commission over undertaking transactions by bringing two trading parties together.
- ***Individuals*** **–** These are people who require foreign exchange money transfers for tourism, purchases, fee payments, remittances etc.

3.4 FOREIGN EXCHANGE RATES

A large part of international finance is concerned with the exchange rate system and hence the study of exchange rate is critical to the functioning of the financial manager. The exchange rate is simply defined as the price of one currency in other. For example 1 US$ = Rs.67 denotes the exchange rate between Indian rupees and US dollar. In case, the rate is expressed between two currencies neither of which is a home currency, such a rate

is called as Cross Rate. These rates are very dynamic and sometime fall or rise drastically to impact an entire economy. The system is so dynamic that a variety of exchange rates exist for the same currencies. Strong home currency makes it difficult for exporters as their products or services become costly and hence less competitive in the international market. On the other hand, a weak home currency can make life difficult for importers as they have to pay higher prices for foreign goods and services.

Ask and Bid Rates

There are two types of rates which are quoted in the foreign exchange market. The rate at which the bank or foreign exchange dealer is willing to give you foreign currency in exchange for home currency is called as the *ask rate* or selling rate. If you want to buy foreign currency, this is the price which needs to be paid in home currency. Similarly, the rate quoted by the bank or foreign exchange dealer when you want to sell the foreign currency to acquire home currency is called as the *bid rate* or the buying rate. As we can foresee, the ask rate will always be more than the bid rate as the seller would always charge more than the price he would pay for purchase. The difference between the bid and ask rate is called as the ***Spread.*** The spread can be small or high depending upon the nature of the currency involved. Normally, currencies with higher trade volumes have lower spread while those with lower volumes have higher spread due to their holding cost.

Foreign Banknote market

Various banks provide currency exchange windows especially for foreign visitors. Their spread (difference between selling and buying rate) is usually higher as they hold inventory of currencies which have an opportunity cost associated with them. There is also an operational risk as sometimes there might be forged bills traded by some customers which are detected later on. This is the retail market where banks deal with individual customers. Other than the banks there are various brokerage houses who participate in the retail market. However, there is another market which is called as the wholesale market in which the banks operate. Here they can conduct currency exchange operations with other players and the transaction sizes are far bigger. The spread in the wholesale market is quite lower and volume of transaction is high. This market operates through a communication network called SWIFT or Society for Worldwide International

Financial Telecommunication. It is a network through which financial institutions can pass messages in the form of codes to securely undertake transactions or transmitting instructions. Each institution is given a unique SWIFT code for the purpose and the messages are encrypted in codes.

3.5 TYPES OF FOREIGN EXCHANGE TRANSACTIONS

There are various types of transactions which happen in the foreign exchange market. They are explained as under:

Spot Transaction

This is the fastest way to transact in the foreign exchange market. It is meant for immediate settlement. Under this market, the buyers and sellers settle their payments within two days of the agreement or in case of few currencies, it happens on the same day. There is no need to sign any contract and normally the agreed rate is the one prevailing at the time of the deal. The exchange rate is known as **Spot Rate** and the market for such transactions is called as **Spot Market**. The spot exchange rates are determined by the supply and demand of the currencies being exchanged in the magnanimous market. The market functions round the clock and is overwhelming by the pace and scale it operates and is the foundation of the lightning speed of the financial system.

Forward Transaction

This refers to the type of foreign exchange transaction where the parties agree to buy or sell currencies at a mutually fixed rate on a specified future date. The purpose of entering into such a contract is to protect against future adverse fluctuation in the price of the currency. The rate at which the contract is executed is called as **forward exchange rate** and the market at which such deals are done is called as **forward market.** The buyers of such contracts are supposed to be taking long position while the sellers are said to be taking short position. When the price of the currency rises, the buyer makes money while when the price of the underlying currency falls, the seller makes profit. These contracts are not traded on any exchange and hence the sizes of deals are not standardized and depend upon the needs of the concerned parties. The can normally be cancelled only by

the mutual consent of both the parties involved. It helps to budget precisely for the future as the size of payment is known. The forward rates generally depend upon four key variables namely: (a) present spot rate (b) interest rate of home currency (c) interest rate of foreign currency and (d) period of contract. Normally forward contracts are available for up to 12 months in case of major currencies.

Future Transaction

These are similar to forward transactions in the sense that they are also undertaken to settle a foreign exchange transaction at a fixed rate in future but are different in the following ways:

a) They are standardized contracts of fixed sizes as compared to forward contracts which are customized as per needs of the client. The size and duration of the contracts are fixed and can be chosen by the client as per need.
b) They are traded on designated exchanges and are hence much liquid in nature as compared to forwards. The default risk is there in case of forwards as there is no exchange to guarantee settlement like the futures contracts.
c) The settlement of a forward contract is done on maturity date while futures contracts are to be settled on a daily basis.
d) Forward contracts do not require any margin money while futures contract require payment of initial margin at the trading exchange which acts as collateral.

Futures contracts are also undertaken to serve the purpose of speculation or hedging against possible adverse price movements.

Global OTC foreign exchange turnover						
Net-net basis,[1] daily averages in April, in billions of US dollars						
Instrument	2001	2004	2007	2010	2013	**2016**
Foreign exchange instruments	1,239	1,934	3,324	3,973	5,357	**5,067**
Spot transactions	386	631	1,005	1,489	2,047	**1,652**
Outright forwards	130	209	362	475	679	**700**

Foreign exchange swaps	656	954	1,714	1,759	2,240	**2,378**
Currency swaps	7	21	31	43	54	**82**
Options and other products[2]	60	119	212	207	337	**254**

Source: BIS (bis.org)

Swap Transactions

This relates to transactions under which simultaneous borrowing and lending is done between two parties over different currencies. Under currency swap transaction, one party borrows a fixed sum from the other party at the prevailing spot exchange rate. Simultaneously, it lends the corresponding amount to the same party based upon the prevailing forward rate. During the duration of the contract, the interest is paid to each other in the received currency. At the end of the contract period, the principal would be paid back. Hence both spot and forward transaction are being used. For example, an Indian party will borrow 1million USD from an American party and at the same time lend Rs. 67 million to it, assuming 1USD = Rs.67 exchange rate. If the contract period is one year, then the Indian party will pay interest in dollars to US party on money borrowed while receive interest in Indian rupees on money lent. At the end of one year both will return the principal amount. This can lead to offsetting exchange rate risk. However, cross currency swaps also exist which can be used to eliminate both exchange rate and interest rate risk. Sometimes it may also be forward-forward swap under which two separate currencies may be traded on a future date.

Option Transaction

Under these types of foreign exchange transactions, the investor has the right but not the obligation to exercise the contract. Hence, the investor is not compelled to buy or sell a currency at an agreed price on an agreed date. To avail this right, he has to pay a premium to the seller of the contract which depends on the size and time duration of the contract. This helps in hedging against foreign exchange rate risk. The option under which the investor gets the right to purchase the currency at a fixed rate in future is termed as **Call Option**. This is purchased when the investor believes that the market price of the currency would go up. However, in case the market price falls down on due

date, then the option would not be exercised. On the other hand, the option under which the investor gets the right to sell a currency at a fixed price in future is called as a **Put Option.** It would be purchased when the investor fears depreciation in the exchange rate. In case, the exchange rate goes up, the option would not be exercised.

3.6 RISKS ARISING FROM EXCHANGE RATE

With businesses becoming increasingly global and small businesses also looking forward to expand through exports, exchange rates risks are to be managed properly. Some of the prominent risks arising out of change in foreign exchange rate are detailed as under:

Transaction Risk

This refers to the risk arising out of change in exchange rate between the time of transaction and the time of its settlement. Suppose you supply goods on 1st July for USD 10 million, when the exchange rate is Rs. 65 per USD. The payment is received for goods on July 20 after they have been received and confirmed by the buyer. On July 20, the exchange rate becomes Rs.63 per USD. This means you will lose Rs.20 million on the deal. It can also be vice versa as an increase in the value of dollar can impact the importers. In order to tide over this risk, business houses go for hedging against the given exposure. Hedging relates to reduction in the risk component of an asset by investing in an instrument which can compensate for adverse price movement.

Economic Risk

This type of risk refers to the long term implications of change in exchange rate on the investment made in any country. If the home currency (which refers to the currency of the investor country) does not move in sync with the customer currency (which refers to the currency where product/service is provided) then it may affect the competitiveness of the business firm. For example, if US dollar appreciates with respect to Indian rupee constantly over a period of time then it would lead to American products being expensive and thus uncompetitive. This would drive out the business in the long run. The economic risk is medium to long term and is therefore difficult to forecast and mitigate.Normally,

big companies adopt the strategy of diversification to overcome this threat. They have multiple locations for production, sourcing of materials as well as financing.

Translation Risk

This type of risk is significant for businesses which have large number of overseas operational units or subsidiaries. The financial statements of an overseas subsidiary are translated into the currency of home country to consolidate results. In case the home currency appreciates then it would decrease the value of business existing in the foreign location. Although this is merely a conversion exercise and has no impact on cash flows since no actual exchange takes place, the impact on balance sheet can be seen. This should be taken care of by the company if such depreciation is affecting the market value of shares.

3.7 TECHNIQUES FOR MANAGING EXCHANGE RISKS

Businesses can employ various internal and external strategies to avoid or minimize the risk arising out of the movement in the exchange rates. Some of the techniques which are usually employed by the businesses are as under:

Fixing the Invoice Currency

If we are expecting the foreign currency to be highly volatile, them the simplest way to deal with it is to fix the invoice currency. A prior deal may be reached with the customer that all invoices would be raised in the currency of home country. This would easily transfer the risk to home country in case of adverse exchange rate fluctuations. However, this strategy can be adopted only when the buyer has strong bargaining power as the risk is being shifted from the seller to the buyer which the latter may not like.

Delaying or Advancing Payment

Under this strategy, the business can decide upon payment timing based upon the market exchange rate conditions. In case the foreign currency is depreciating the importer would like to delay payments as it would reduce its liability. On the other hand, it may decide to advance payment in case the home currency is depreciating as it would increase its

liability. Similarly, the exporter would delay or advance receipts based upon the ongoing trends in the foreign exchange rate. This delay or advancing strategy can work out only when such conditions are mentioned in the contract.

Matching Receipts with Payments

This strategy simply refers to matching your receipts and payments in foreign currency so that the net impact of any fluctuation in exchange rate is nil. This is so as the adverse impact in one transaction will be equally offset by the benefit in the other. For example, a company can exporting majorly to American firms can arrange for finance in dollars from American market. By doing this the exchange rate risk gets limited to only the unmatched portion of total foreign exchange exposure. However, for this strategy to succeed, perfect timing is required between receipts and payments which could be very challenging.

Wait and Watch

Under this approach the exchange rate risk is left to the market forces which are believed to be bringing equilibrium in the long run. For currencies with strong home economies, stable political environment and global acceptability it is assumed that in the long run the gains and losses would offset each other. The advantage derived in this approach is that transaction costs are minimized which would otherwise exist on hedging the exchange rate risk. This approach may be found suitable only for those businesses that do not panic due to short term fluctuations and have sufficient cash reserves.

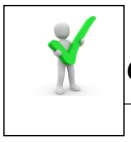
Currency Risk Sharing

This approach is based upon the premise that the risk related to exchange rate fluctuations, especially which are not perceivable during the short run, should be shared by both the parties to the transaction. Under this strategy the concerned parties sign an agreement to revise the prices in case of an unprecedented change in exchange rate. This adjustment or revision in price reduces the exchange rate risk specific to one party.

Hedging Transactions

Hedging refers to insuring against adverse price movement of any asset by undertaking reverse position in any other asset. Various types of hedging instruments (as discussed

earlier) like Forwards, Futures, Options and Swaps are used the world over to mitigate exchange rate risks. These can be availed through organized markets or customized between two parties. Currency swaps are also popular under which two companies can borrow in two different markets and then exchange the proceeds. This helps them to get the best deal possible from the markets.



Check Your Progress-A

1. The rate quoted by the bank for purchase of a currency is called the _____ rate while the rate quoted for sale of a currency is called as _____ rate.
2. SWIFT stands for _____
3. The transaction for immediate settlement is called as a _____transaction.
4. Forward contracts which are standardized and sold on exchange are called _____ contracts.
5. Transactions involving two opposite deals are called _____.
6. Risk related to change in exchange rate between time of transaction and its settlement is called _____.
7. Insuring against adverse future price movements by undertaking prior contracts is called _____.

3.8 TRENDS IN FOREIGN EXCHANGE MARKET

The foreign exchange market is indeed the world's biggest trading market by volumes whose turnover runs into trillions of dollars a day. It is highly liquid, sensitive and facilitates trade by providing a large number of choices to international businesses for managing exchange rate risk. However, with the increase in size of the market there is an ever stringent regulatory control in place. These controls have been put by various governments, international institutions and market regulators across the world.

Adherence to these norms leads to increase in costs of foreign exchange transactions. This is likely to grow in future as increasingly the markets are aiming at increasing transparency and stability. Most of the markets are now imposing tougher compliances and heavy penalties for non compliance. These are aimed at bringing best practices in the foreign exchange business.

The table below shows the market share of various currencies in the world. The total share adds to 200% as in any transaction, two currencies are involved.

Currency	Market Share
USD	87.60%
EUR	31.30%
JPY	21.63%
GBP	12.80%
AUD	6.90%
CAD	5.10%
CHF	4.80%
CNY	4%
SEK	2.20%
MXN	2.20%
NZD	2.10%
SGD	1.80%
HKD	1.70%
NOK	1.70%
KRW	1.60%
Emerging Market Currencies	21.20%

Source: BIS (bis.org)

Advances in technology are leading to greater automation and digitization of processes as well as transactions. The future will surely be the age of electronic trading as it brings operational efficiencies as well as reduces operational risks. With mobile apps coming in plenty, real time quotes from multiple sources are now available which help the customers to discover the best price available for them. Deals can now be executed and changed in few seconds and newer developments in software and communications technology are making the markets faster and more efficient. This has also led to stiffer competition among market participants to attract customers with latest technological upgrades. For brokers it requires capital investment for constant upgradation in technology. The technological progress has also helped the market participants to expand

their geographical reach. The crypto-currency boom has also added to the role of technology in modern currency trade. Various governments have not given recognition to these digitally encrypted currencies but their popularity is on the rise and the future could see their increased acceptance.

Present State of Indian Foreign Exchange Market

The foreign exchange market is impacted by a host of country specific and international factors. For developing countries like India, it is more sensitive as it is subjected to factors like domestic economy performance, political environment stability, direction of international investment in emerging economies etc. The growth stagnation in developed economies gave opportunities to growing economies like India to attract investment but as we are witnessing economic rebound in advanced nations, there is an inherent threat of flight of capital back to origin countries. This creates continuous pressure on the economy to sustain or outperform expected growth rates.

India is one of those emerging market economies which normally have significant current account deficit (CAD) and whenever oil prices go up or there is any major international disruption, the foreign exchange market faces lot of volatility. Although, India had comparatively better stability as compared to its developing peers with high CAD due to effective macro management by RBI and consistent policy initiatives by the government. India always had problems with its trade balance as its exports have not grown to the desired level and imports have been steadily increasing. However, continuous flows in capital account through foreign direct investment and foreign portfolio investment have sustained the market. RBI has also liberalized external commercial borrowings mechanism for various sectors in the economy so that domestic firms can easily bring in debt from attractive markets outside India. However, hedging has been made mandatory on these exposures so that any turbulence in market does not have a severe impact on the businesses.

The foreign exchange market has considerably expanded in terms of number of players, the products available and the turnover generated. The overall controls have been liberalized and procedures have been simplified to allow for better and larger participation in the market. The present average daily turnover in the market is close to USD 60 billion which has almost doubled in the last ten years. The OTC as well as

exchange traded market is significantly growing providing for better investment and hedging opportunities. By large, the country's macro -economic environment is considered stable by international investors. The foreign exchange reserves have also crossed 400 billion USD in 2018. Moreover, the ratio of short term debts has gone down in these reserves making them more stable. This has happened as government has restricted portfolio investment in short term government securities. Although the gains occurred during oil price drops are getting reversed due to present era of increasing oil prices, the resilience of the economy to face any systematic risk arising out of international phenomena has grown stronger.

The fintech (financial technology) sector is growing tremendously in the country riding the wave of innovations and cheaper operational cost. Real time transactions with smartphone and web applications are increasingly being adopted by a large number of customers. Big data, artificial intelligence, machine learning, Blockchain, internet of things etc are some of the disrupting technologies which are increasingly taking the market with newer ecosystems. The digital wave will bring out newer challenges of security and control for the government and market participants.

3.9 SUMMARY

The foreign exchange market is a multi trillion market which works round the clock to serve trade, investment and personal requirements. The major participants in this market include commercial banks, investment funds and brokers. The various types of transactions include the spot, forwards, options, swaps with multiple type of innovative instruments designed to cater to the needs of the various types of customers. The foreign exchange market provides instant liquidity and is highly technologically driven with rates changing within fraction of seconds. These markets provide the facility to mitigate exchange rate related risks which helps in free flow of trade around the globe as well as free movement of people around the world.

3.10 GLOSSARY

Spot Rate- The exchange rate prevailing at the time of execution of the deal.

Forward Contract – The agreement to buy or sell a currency at pre agreed rate on a fixed date in future.

Futures Contract- Standardized forward contracts which are purchased and sold at an organized exchange.

Swap – Undertaking two inverse transactions in spot and forward market.

Options – The agreement which gives the buyer the right but not the obligation to execute the contract.

Hedging – The strategy of insuring against adverse exchange rate movements by buying pre-determined rate contracts.

3.11 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress A

1. Bid, Ask
2. Society for Worldwide International Financial Telecommunication
3. Spot
4. Futures
5. Swaps
6. Transaction
7. Hedging

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3.13 SUGGESTED READINGS

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3.14 TERMINAL QUESTIONS

1. Explain the Significance of the International Foreign Exchange Market.
2. List and explain the types of contracts available in the international foreign exchange market.
3. Explain some of the risk associated with changes in exchange rate.
4. How has technology influenced the international foreign exchange market?

UNIT 4 BALANCE OF PAYMENTS

4.1 INTRODUCTION

As you all know, financial transactions undertaken by any organization are recorded through a process called Financial Accounting. Similarly, a country also undertakes various economic transactions with other countries across the globe. A record of all these transactions appears in a statement called Balance of Payments or the BoP. These transactions can be undertaken by individuals, business organizations or the government. Hence, it can be said that BoP is a statement which records all receipts and payments arising out of all international economic transactions undertaken by the government, organisations or people of a country. A BoP statement thus will show how a country transacts economically with the rest of the world. It is an accounting statement where all receipts or inflow of money is shown as credit while all payments or outflow of money is shown as debit. The statement is usually an indicator of how financially or economically strong a country is and helps governments in policy making for strengthening the economy. The statement is produced quarterly or yearly as required by various stakeholders.

4.2 OBJECTIVES

After reading this unit, you will be able to understand:

- The concept and importance of balance of payments for a country
- Various components of the balance of payment statement
- The impact of BoP position on the economic position of a country

4.3 SIGNIFICANCE OF BOP STATEMENT

The BoP statement reveals various important insights of the economic strength of a country. As you know that every country has some items to export while it needs some others to import. This goes true even for services. In order to pay for the products or services from other countries, we need foreign exchange. The BoP statement can tell us how strong a country is in its trade vis-à-vis the world. It can tell us if we have enough foreign exchange to pay for imports. A deficit or surplus in the BoP statement can have serious economic repercussions for an economy. While a short term deficit may not harm much as sometimes the country might take debt from other countries to pave future growth, sustained and increasing long term deficit can create trouble. Similarly, a short term surplus would mean increased opportunities for investment at home and abroad but at the same time would make it heavily dependent on external markets. The Balance of Payments statement is significant due to the following reasons:

1. It shows the size, composition and trends in a country's international trade.
2. It shows the foreign exchange reserves earned by a country and helps in determining the foreign exchange requirements of the country
3. It is an indicator of the economic health of a country and hence determines its credit worthiness in the international market.
4. It helps in preparing short to long term business and economic forecast of the country.
5. It helps the government to form its economic and industrial policies with respect to foreign trade.

4.4 COMPONENTS OF BALANCE OF PAYMENTS

The Balance of Payments account consists of three main components namely the Current Account, Capital Account and Financial Account. The nature of transaction will determine the category to which it will be classified. The various broad classifications for these accounts are as under:

Current Account: It includes all items of trade in both goods and services i.e. exports & imports and other unilateral transfers (receipts and payments). Here transfers refer to receipts or payments made for various income and expenditure items by individuals or organisations. This component is often the biggest component of the BoP account.

Capital and Financial Account: This account takes records of all transactions pertaining to transfer of ownership of financial assets or in other words export and import of capital. It may include transfer of shares, physical assets, loans or other securities. The transactions here represent direct or indirect investment undertaken in or by the country. The ownership transfers are included in financial account while income and expenditure is included in capital account.

Official Reserve Account: This account primarily deals with sale and/or purchase of government assets like gold, SDR etc undertaken by the Central Bank.

Format of BoP account (without sub heads)		
1	**Current Account (1.A+1.B+1.C)**	
1.A	**Goods and Services (1.A.a+1.A.b)**	
1.A.a	**Goods (1.A.a.1 to 1.A.a.3)**	
1.A.b	**Services (1.A.b.1 to 1.A.b.13)**	
1.B	**Primary Income (1.B.1to1.B.3)**	
1.B.1	Compensation of employees	
1.B.2	Investment income	
1.B.2.1	Direct investment	
1.B.2.2	Portfolio investment	
1.B.2.3	Other investment	
1.B.2.4	Reserve assets	
1.B.3	Other primary income	
1.C	**Secondary Income (1.C.1+1.C.2)**	
2	**Capital Account (2.1+2.2)**	
2.1	Gross acquisitions (DR.)/disposals (CR.) of non-produced nonfinancial assets	
2.2	Capital transfers	

3	**Financial Account (3.1 to 3.5)**	
3.1	**Direct Investment (3.1A+3.1B)**	
3.2	**Portfolio Investment**	
3.3	**Financial derivatives (other than reserves) and employee stock options**	
3.4	**Other investment**	
3.5	**Reserve assets**	
3	**Total assets/liabilities**	
Of which: (by instrument):		
3.0.1	Equity and investment fund shares	
3.0.2	Debt instruments	
3.0.3	Other financial assets and liabilities	
4	**Net errors and omissions**	

4.4 CURRENT ACCOUNT

The Current Account forms the bulk of Balance of Payments account and it includes all short term receipts and payments in respect of trade and unilateral transfers. The trade items include import and export of goods (known as visible trade) and services (known as invisible trade). The exports of goods are recorded as credits while the imports are recorded as debits. Similar treatment is done for the services. The balance of these two items is what is known as Balance of Trade. This is very significant as it shows whether a country has trade surplus or deficit with rest of the world. A surplus would indicate that the country has more money flowing in than what it sends out while a deficit would mean that the country has to pay more than what it is earning from the rest of the world. The other item i.e. unilateral transfers involve amounts of money that are received by citizens/organisations from other countries or are sent by people/organisations to other countries. These may be on account of any income on investment, grants, aids, gifts etc. We call these unilateral as they are one sided which means they do not involve flow of goods or services in return for money received or paid. To summarise, the Current Account has these following broad subparts:

1. Trade in Goods or Visible Trade – Exports are Credit (shown as +) while Imports are Debits (shown as -)
2. Trade in Services or Invisible Trade – Same treatment as Goods
3. Income from International Investments and Remittances from abroad
4. Transfers made (Receipts and Payments like international aid)

Hence the summation of Balance of Trade and Unilateral Transfers (net amount) will lead to what is called as Balance of Current Account.

Current Account Balance = X – M + NY + NCT

Where X= Amount of Exports of Goods and Services

M= Amount of Imports of Goods and Services

NY = Net Income Abroad

NCT= Net Current Transfers

This account may show a deficit or surplus. We can also look at current account with respect to all countries. We may have surplus i.e. positive balance with some countries and deficit i.e. negative balance with others. Current account deficit is not entirely a bad thing until it is manageable. It is always the aim of the government to maintain a favourable Balance of Trade.

4.5 IMPACT OF CURRENT ACCOUNT BALANCE

So far we have understood that the current account depicts the trade in goods and services through exports and imports, incomes received from investment made abroad and the net transfers (receipts and payments). The balance in current account has important ramifications. A surplus or deficit in the trade balance shows the strength of the economy and its reliance on exports or imports. A surplus figure shows robust demand for the country's products/services in international markets. This leads to higher foreign exchange reserves available for investment. If there is a deficit in the current account it is balanced by surplus in the capital or financial account. The following might be the reasons for deficit in the current account of any country:

a) Imports are more than the exports which need to be financed by capital expenditure.
b) Consumption levels have increased beyond domestic supply.
c) Exports are not competitive in the international market.
d) Exchange rate has led to cheaper imports.
e) There are major international capital account investments in the country from which income is going out.

The deficit in the current account has to be analysed well to understand its impact. A short term deficit in balance of trade might be acceptable as due to increase in market base or launch of technologically advanced products by international businesses or

importers, the demand might go up leading to increase in imports. However on sustained market potential, the product might later be produced locally leading to opportunities in employment and development of economy in the long run. On the other hand, if the deficit is fuelled by decreasing exports due to their uncompetitive nature or internal crisis then it may lead to serious ramifications. It might stress the foreign exchange reserves and make it difficult for the country to obtain credit at low costs in international market. Default possibility might create panic among international investors leading to overall gloom in the economy.

TOP CURRENT ACCOUNT SURPLUS COUNTRIES (in billion USD- As of January 2018)

Germany	*295*
Japan	*174*
China	*162*
Korea, South	*85*
Netherlands	*82*
Taiwan	*79*
Switzerland	*67*
Singapore	*59*
Italy	*52*
Thailand	*44*
Russia	*41*
Spain	*24*
Denmark	*23*
Norway	*21*
Iran	*21*
Sweden	*21*
Macau	*17*
Israel	*14*
Ireland	*11*

Hong Kong	*10*

TOP CURRENT ACCOUNT DEFICIT COUNTRIES (in billions USD- as of January 2018)

Kazakhstan	*-8*
Lebanon	*-9*
South Africa	*-10*
Oman	*-10*
Pakistan	*-11*
Colombia	*-11*
Iraq	*-12*
Indonesia	*-17*
Mexico	*-20*
Egypt	*-20*
Australia	*-21*
Argentina	*-22*
Algeria	*-23*
France	*-29*
Brazil	*-29*
India	*-33*
Turkey	*-39*
Canada	*-55*
United Kingdom	*-91*
United States	*-462*

The deficit caused by net international transfers can be the result of increased investment activity where lot of money comes from abroad as investment in the capital account and then it is repaid in installments which appears as outflow in current account. This might not be bad for the economy as it brings in long term benefits to the productivity of local

economy and thereby boosting its exports in the long run. Till the time the deficit is financed by core investment activity, the short term deficit is acceptable. However, if it is funded by loans or grants which are mismanaged or portfolio investment (which might lead to flight of capital), it runs the risk of adverse circumstances for the economy. Many developing countries are taking fresh loans to repay old loans which can be dangerous and lead to collapse of the domestic currency. Many developed economies like the United States and United Kingdom also run deficits on current account but they have huge assets abroad which can take care of any eventuality. Hence, while looking at deficit in current account we have to find the source of such deficit and the measures taken by the country to overcome it. We can thus say that the current account is a reflection of where a country's economy stands with respect to the rest of the world and its state of comparative advantage.

4.6 CAPITAL AND FINANCIAL ACCOUNT

This part of the Balance of payments account records the flow of funds relating to transfer of ownership of assets and capital movements. While the current account is a reflection of the earnings made by a country, the capital and financial account is an overview of the change in movement of capital and ownership of assets through international foreign exchange transaction. This can be due to movement in shares, properties, loans, government securities or debt etc. These transactions can be of short term or long term depending upon maturity. The capital account equation can be expressed as under:

CAPITAL ACCOUNT = TOTAL CAPITAL RECEIPTS – TOTAL CAPITAL PAYMENTS

[CREDIT] [DEBIT]

FINANCIAL RECEIPT= FOREIGN DIRECT INVESTMENT + FOREIGN PORTFOLIO INVESTMENT + OTHER INVESTMENT (BORROWINGS) + DECREASE IN FOREIGN EXCHANGE RESERVE

FINANCIAL PAYMENTS = INVESTMENT IN FOREIGN ASSETS + LENDING TO FOREIGN COUNTRIES + INCREASE IN FOREIGN EXCHANGE RESERVE

Foreign Direct Investment (FDI) – This relates to the amount of foreign exchange that comes to the country when foreign individuals/organisations invest in the physical assets of the country. This represents their long term interest in the economy of the country and is usually marked by purchase of assets like land, buildings, plant and machinery, industrial equipments etc. It is one of the most sought after form of investment in the developing countries as it brings two very crucial things to the economy- capital and technology which is lacking in such countries. There might be some ill effects of FDI like if lot of repatriation of profits happens later it may again lead to huge current account deficit. However, it is considered vital to provide investment in an economy which leads

to expansion of market, increased employment opportunities for local residents, introduction of newer technologies, scope to increase exports and providing better products for consumers. It is also an indication of the confidence of the international investment community into the economy of the country. Various incentives and facilities are provided by the government to attract higher amounts of FDI into the country. The inflow of fund is shown as credit to the BoP account. Any income that arises and flows out of the country from the investment under this category will be shown as debit in the current account.

Foreign Portfolio Investment (FPI) – This refers to the flow of foreign exchange when foreign institutions / individuals buy shares or bonds from the host country's capital market. It is also called as Foreign Indirect Investment. Similar to FDI, the inflow of funds leads to credit while the outflow leads to debit in the BoP account. Any income that arises and flows out of the country from the investment under this category will be shown as debit in the current account. This differs from FDI in the sense that it does not refer to a long term commitment as well as it does not create any new assets in the economy. This type of investment can be liquidated very quickly as the transaction is done swiftly through stock exchanges. It is not as much favored as the FDI but is complementary as any country with economic potential would receive both kinds of investment.

Other Investment

This part of the BoP account relates to the movement of loans among various countries. Loans can be received by the host country or can be given outside country and thus will result in flow of capital. These flows can be short or long term. Receipts will be shown as credits while payments will be shown as debits. They may be in the form of external assistance by international funding agencies or normal commercial borrowings undertaken by various businesses or organsiations. The Banking Capital which shows foreign assets and liabilities of Commercial Banks also fall under this category.

YEAR	FDI CAPITAL INFLOWS	FPI CAPITAL INFLOWS	TRADE BALANCE
2007	23	308	-79.21
2008	35	661	-126.20
2009	42	-458	-92.29
2010	38	1426	-123.88
2011	35	1464	-161.56
2012	46	937	-192.87
2013	34	1683	-150.53

2014	**36**	**516**	**-140.22**
2015	**45**	**2774**	**-125.42**
2016	**55**	**-181**	**-97.06**
2017	**60**	**484**	**-148.87**

All figures in US billion dollars.

The above figures show how the current account deficit is financed by capital flows. However, the flows are more in portfolio type of investment which is not considered stable.

Reserve Assets

This class of assets represents transactions undertaken by the Central Bank of a country like that of RBI in India. The Central Bank has foreign currency reserves which might see movement during various occasions depending upon the extent of intervention undertaken by them. It also includes transactions related to the SDRs issued by the International Monetary Fund (IMF). Large inflows of foreign currency along with surplus emerging in current account could lead to appreciation in the home currency while big outflows along with rising deficit in the current account could lead to depreciation in the value of home currency. Many times such transactions are done in order to offset the impact of the market conditions. When the Central Bank (like RBI in India) buys foreign exchange from the market (leading to increase in its reserves) it leads to decrease in available foreign exchange and hence is recorded as debit while when the Central Bank supplies the foreign exchange to the market (leading to shortfall in its reserves) it leads to increase in foreign exchange and is hence recorded as credit entry in the account. This is however not done too frequently as it is not in the best interest of a country's economy to manipulate currency for a long time.

4.7 IMPACT OF CAPITAL & FINANCIAL ACCOUNT BALANCE

The Capital account may show a deficit or a surplus. A deficit in the financial account primarily shows that the residents of that country are investing more than the foreign investment coming to home country. This will lead to an increase in net asset position of a country. On the other hand, a surplus in the financial account shows that investment or borrowing coming from abroad is more than the investment or lending being made by residents to foreign countries. This would lead to a net decrease in asset position of the economy. Hence a deficit in current account is a desirable position as compared to the financial account in which a surplus is desired. Similarly, a surplus in current account is not desirable for large amount of time. The surplus in current account fuelled by foreign direct investment may be welcome as it boosts the country's capacity to improve its earnings. However, if the surplus has arisen due to borrowings from foreign countries

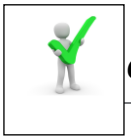
which is done to finance the current account deficit then it may result in economic crisis. Many developing economies have surplus in their capital accounts due to investment opportunities available for foreign countries. However, this investment would soon lead to flight of capital later if it is not used in boosting exports. Another reason to worry is excessive portfolio investment which can lead to depletion of reserves as well as shake the capital market when the outflow takes place. In today's dynamic scenario, this can happen in quick time.

Standard Presentation of India's Balance of Payments (US$ Million)

Source: rbi.org.in

		Apr-Jun 2017			**Apr-Jun 2016**		
		Credit	**Debit**	**Net**	**Credit**	**Debit**	**Net**
1	**Current Account (1.A+1.B+1.C)**	**140509**	**154834**	**-14324**	**124969**	**125351**	**-382**
1.A	**Goods and Services (1.A.a+1.A.b)**	**119575**	**142582**	**-23007**	**105999**	**114089**	**-8090**
1.A.a	**Goods (1.A.a.1 to 1.A.a.3)**	**73659**	**114881**	**-41222**	**66618**	**90453**	**-23835**
1.A.b	**Services (1.A.b.1 to 1.A.b.13)**	**45916**	**27701**	**18215**	**39381**	**23636**	**15745**
1.B	**Primary Income (1.B.1to1.B.3)**	**4792**	**10585**	**-5793**	**3665**	**9977**	**-6312**
1.B.1	Compensation of employees	1,143	544	598	912	700	212
1.B.2	Investment income	2724	9874	-7149	2286	9042	-6756
1.B.2.1	Direct investment	1549	4681	-3132	1401	4017	-2616
1.B.2.2	Portfolio investment	70	2298	-2228	31	2039	-2009
1.B.2.3	Other investment	186	2894	-2708	52	2985	-2933
1.B.2.4	Reserve assets	919	0	919	803	1	802
1.B.3	Other primary income	925	167	759	467	236	231
1.C	**Secondary Income (1.C.1+1.C.2)**	**16142**	**1667**	**14475**	**15304**	**1284**	**14020**
2	**Capital Account (2.1+2.2)**	**114**	**105**	**8**	**221**	**62**	**159**

2.1	Gross acquisitions (DR.)/disposals (CR.) of non-produced nonfinancial assets	75	39	35	32	8	24
2.2	Capital transfers	39	66	-27	189	54	135
3	**Financial Account (3.1 to 3.5)**	**155119**	**141165**	**13954**	**128947**	**128913**	**35**
3.1	**Direct Investment (3.1A+3.1B)**	**15410**	**8174**	**7236**	**14173**	**10291**	**3881**
3.2	**Portfolio Investment**	**77299**	**64847**	**12452**	**57941**	**55838**	**2103**
3.3	**Financial derivatives (other than reserves) and employee stock options**	**4737**	**5946**	**-1209**	**6861**	**3878**	**2983**
3.4	**Other investment**	**57672**	**50793**	**6880**	**49973**	**51937**	**-1964**
3.5	**Reserve assets**	**0**	**11405**	**-11405**	**0**	**6969**	**-6969**
3	**Total assets/liabilities**	**155119**	**141165**	**13954**	**128947**	**128913**	**35**
Of which: (by instrument):							
3.0.1	Equity and investment fund shares	77510	70647	6863	67745	57143	10602
3.0.2	Debt instruments	76248	58073	18175	58735	62252	-3517
3.0.3	Other financial assets and liabilities	1361	12445	-11085	2466	9517	-7050
4	**Net errors and omissions**	**362**		**362**	**189**		**189**



Check Your Progress-A

1. BoP statement records economic transactions of a country with _____.
2. The trade of goods and services is recorded in _____ account in the BoP.
3. The deficit in current account is compensated by the _____ account.
4. The difference between value of a country's exports and imports is called as balance of _____
5. Foreign Investment through capital market is referred to as _____
6. Investment by foreign investors in physical assets of a country is called _____
7. International remittances from residents working abroad will create _____ in Current account.
8. Increase in imports will lead to _____ in current account.

4.9 IMPORTANCE OF BALANCE OF PAYMENTS

The BoP data is looked upon by governments, investors, economists, financial institutions etc as it conveys important indicators about the country. It can be considered significant in the following ways:

1. The BoP statement reflects the economic strength of a country as compared to rest of the world and individual countries. It can indicate the purchasing power of the economy for products and services produced by rest of the world. It is also an indicator of the strength of the market of the country.
2. The exchange rate of domestic currency also gets influenced by a country's surplus or deficit position in the BoP statement. Heavy pressure on foreign exchange may bring down the value of domestic currency and invite regulatory control. The international community can judge the solvency position of a country through this statement. The stability of foreign exchange rate can also be analysed through this statement.
3. The government can take critical economic and business related policy decisions based upon inputs received from the balance of payments. The external receipts and payments can be budgeted only by considering this data.

4. The BoP statement can indicate a country's ability to raise capital from international markets at the desired cost. International institutions like the IMF always use this data to set lending terms for a country.
5. Important economic forecasts about a country, especially for the short run, can be made by examining the trends emerging from the BoP statement.

RECENT TRENDS IN INDIA'S BOP POSITION

Indian economy is growing at an impressive pace and is considered to be one of the fastest in the world. In terms of purchasing power parity, it is third largest in the world. However, while there are lots of opportunities for growth, India needs lot of resources from other countries which may adversely impact the balance of payments position. Some of the key highlights of India's BoP position are as under:

- Traditionally, India has been running a current account deficit due to its huge import bill. The deficit stood at 2.4% of GDP as of end of September 2018. This has risen from 1.9% in the same period last year. This has primarily been due to increase in oil as well as non oil / non-gold imports. Weakening rupee against the dollar and rising oil prices have added to the problem. During the period from 2014 to 2017, falling oil prices led to narrowing the deficit but the resurgence in oil prices is expected to bring it back to the old levels.
- Inflation has been in a state of control as it has fallen down from double digits in 2013 to around 4% in 2018. This has led to sustained demand for consumption which has pushed stable growth in the economy. This has led to favourable position for foreign direct investment and thereby improving capital account balance. Various incentives, reforms and policy interventions from the Government and RBI have helped in this cause. The FDI limits in various sectors like telecom, retail, defence etc have been increased to attract greater foreign investment.
- Although the capital and financial account have shown an increase in surplus but the amount was inadequate to compensate for the wide gap in current account. The forex reserves have also taken a dip and the portfolio investment has seen a net outflow. This has been primarily due to strengthening of the US economy and various crises engulfed emerging economies. The FDI has marginally increased which needs to grow significantly to fund the widening current account deficit.
- India's foreign exchange reserves have grown impressively in the last 15 years. With a kitty of 54 billion USD in 2002, it now has reserves exceeding USD 424 billion. These are the eighth largest in the world behind China, Japan, Switzerland, Saudi Arabia, Taiwan, Russia and Hong Kong. This is significant because most of the other countries with high foreign exchange reserves have a current account surplus. Barring few years (2008-09 and 2011-12), the capital flows have exceeded the current account deficit by a good margin. However, it will be beneficial only if this investment increases India's capability in manufacturing and trade.

4.10 SUMMARY

From the above discussion, we can conclude that Balance of Payments is an important economic statement which is a kind of accounting record of all the financial transactions undertaken by the country with rest of the world. Its classification of transactions in current and capital or financial account gives important indications about flows of trade, services, investment, remittances, payments and receipts. A deficit in BoP may not be an indicator of economic distress and nor does a favourable balance in BoP be a definite conclusion of economic prosperity. However, the reasons behind these balances should be examined and corrective actions taken if required so that the country does not face any crisis in meeting any of its international liability.

4.11 GLOSSARY

Balance of Payment: Accounting record of a country's economic transactions with the rest of the world.

Current Account: Part of BoP which undertakes recording of international transactions related to trade in goods and services, investment income, remittances and transfers.

Capital Account: Part of BoP which undertakes recording of movement of capital and change in ownership of assets in international transactions.

Reserve Assets: Transactions undertaken by Central Bank for overcoming short term fluctuations.

Foreign Direct Investment: Investment by foreign investors in physical assets representing long term interest.

Foreign Portfolio Investment: Indirect Investment undertaken by foreign investors by participating in Capital Markets.

4.12ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress A

1. Rest of the world
2. Current
3. Capital
4. Trade
5. Foreign Portfolio Investment
6. Foreign Direct Investment
7. Credit/surplus
8. Deficit

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4.15 TERMINAL QUESTIONS

1. What do you understand by Balance of payments?
2. What are the key constituents of the Current Account?
3. What conclusion can you draw from the balances of current account?
4. Bring out the components of financial account.
5. Draw a specimen of the BoP account.
6. What is the significance of BoP account in evaluation of the economy of a country?
7. How and in what matters can the government make use of the BoP statement?

UNIT 5 EXCHANGE RATE SYSTEM

5.1 INTRODUCTION

Globalization of businesses has opened the doors and windows to international products, foreign investments, foreign businesses, government investments and transactions. All this has led to increased flow of funds from one country to another. This involves exchange of one currency for another and necessitates the determination of rate of one currency for another. Since each country has different currency, it is very important to understand the exchange rate mechanism and its impact on businesses. Financial newspapers are replete with headlines pertaining to currency and its fluctuations. Jargons like Rupee gaining, Euro holding steady, Pound strengthening are commonplace. The exchange rate system is the key towards the functioning of the foreign exchange market. Understanding this mechanism would enable us to better analyze the various developments in this market. Although various theories are available regarding determination of exchange rates, there is no particular mechanism which can be used to forecast the movements in exchange rates. The international business environment is dynamic and more often than not various issues emerge across markets which have a severe impact on the exchange rates.

5.2 OBJECTIVES

This unit aims at the following objectives:

- To understand the concept of foreign exchange rate
- To discuss the various factors determining exchange rates
- To understand the reasons behind movement of exchange rates

5.3 THE EXCHANGE RATE

Foreign exchange rate or exchange rate refers to price of one nation's currency with respect to or in terms of units of another currency. It is the rate at which one country's currency exchanges for another currency. It can also be defined as the number of units of one country's currency required to purchase one unit of the other country's currency. The nominal exchange rate is quoted in terms of one currency with respect to other. It is referred to as currency quotation.

For example: EUR/USD= 1.24

In this example the first currency EUR is the base currency while the second currency USD is called as the quote currency. Suppose the rate EUR/USD is 1.24 then it means that for every euro 1.24 dollars need to be paid.

There are two types of nominal currency quotations namely Direct and Indirect.

Direct quotation: It is expressed as the amount of local currency which is exchangeable for one unit of foreign currency. It is also referred to as the European currency quotation. For example, 66 Rs/USD means that 66 rupees can be exchanged for a US dollar.

Indirect quotation: It is expressed as the amount of foreign currency which can be exchanged for one unit of local currency. It is also referred to as the American currency quotation. For example, $0.051 for a rupee.

The direct quotation can be converted into an indirect quotation by taking the reciprocal. The currency quotes can be divided into 2 components. One of them is the "base currency" and the other is "counter currency''. In the direct quote the foreign currency is the base currency and the local currency is the counter currency whereas in the indirect quote the foreign currency is the counter currency and the local currency is the base currency. The general convention is to use the direct quote where dollar is the base currency and the local or other currencies are the counter currencies due to the dominance of the dollar.

5.4 EXCHANGE RATE REGIMES

The monetary authority of a country, which is generally the central bank, adopts a system to control and establish an exchange rate system and determines the value of domestic currency with respect to the foreign currency. The country is free to adopt the exchange rate system which it considers optimal and is determined by the fiscal and monetary policies of the country. The primary distinction in between the regimes can be categorized as **fixed** and **floating** exchange rate system.

In practice, countries adopt exchange rate regimes in between these two extremities.

Floating Exchange Rate System

In this regime the forces of supply and demand of currency in the FOREX market are the key determinants of the currency price and exchange rate. The interference of the government or the central bank in the system is negligible. Large and emerging market economies follow this exchange rate regime. The name implies to the fluctuating interest rate wherein the value of currency is allowed to change and fluctuate in response to the foreign exchange market mechanisms. The currency which follows this regime is referred to as floating currency.

Fixed Exchange Rate System

In this regime the government exercises maximum control over the value of currency. The government and the central bank of the country is the key stakeholder in pronouncing the value of domestic currency with respect to a foreign currency or a basket of currencies. This intervention which produces an exchange rate which is different to the rate which the FOREX market would have produced, it is said to have established a peg and the rate is called pegged exchange rate system.

In lieu of maintaining the fixed exchange rate system, the government and the monetary authority of the country has to make committed efforts to defend the peg by accepting to buy the foreign reserves when the market demand is less and sell the foreign reserves when the market demand is more. Thus, in order to maintain the predetermined parity, the central monetary authority, pays a cost at the times of market adversities.

Comparison between Fixed and Floating Exchange Rate System

Advantages of fixed exchange rate system

1) This regime facilitates the international flow of trade by reducing market fluctuations and currency related risks which can fetter foreign trade and investments.
2) Helps control inflation to an appreciable extent by establishing discipline over a country's monetary policy.
3) It helps in encouraging international investments by projecting a conducive environment.

4) As creating a peg creates a demand for maintaining an adequate amount of foreign exchange reserves so that it can intervene in adverse market conditions which in turn enhances the credibility of the government's monetary policy.

Disadvantages of fixed exchange rate system

1) A constant risk associated with this is that it is susceptible to the foreign currency revaluing or devaluing the currency.
2) From a macro standpoint, the fixed exchange rate system makes the country and the MNC more susceptible to economic conditions in different countries.

For instance, consider two countries, The United States and the United Kingdom, and consider that they trade frequently in a fixed exchange rate system. If the U.S. experiences high rates of inflation than the United Kingdom, consumers from the U.S would buy more of U.K. goods and British consumers would reduce the consumption of U.S. goods. This would aggravate unemployment in the U.S. Now this would also create a pressure on British economy due to an excessive pressure in demand and limited supplies. Thus, British economy becomes susceptible to changes in the U.S. economy.

Advantages of floating exchange rate system

1) Floating exchange rate is argued to be more efficient and transparent as it enables the FOREX market to create the imbalances created due to varying forces of supply and demand without any interference from the central bank and the monetary authority of the country. There is no need to maintain any mechanism for managing currency.
2) Vice versa, it allows the central bank of the country to independently formulate its policies without any interference from the foreign markets. The Central bank interferes only when the situation is extreme.
3) The obligation which a central bank has to intervene in the market in conditions of market adversity, when there is a peg established is rare, and therefore the central bank does not have any pressure to maintain high foreign reserves.
4) Since the changes in currency prices happen quickly, there is little room for any speculative interference or attacks

Disadvantages of floating exchange rates

1) Since the currencies have a totally free run, there might be great volatility in the market which would go unchecked. With real time movements, it would be difficult for traders or companies to prevent their losses from adverse price movements.
2) Since there is no certainty about price movements it is difficult to formulate any strategy. Normally, rising rates help imports while falling rates support exports but when the movements are rapid in both directions, it will be difficult to plan.

3) If the economy is not strong with robust control mechanisms, then free float could ruin the financial health.

Therefore, it can be said that floating exchange rate creates market insecurities and volatility and thus gives a scope for policy flexibility but ensures less monetary stability. On the other hand, fixed exchange rates enhance monetary stability but lack policy flexibility.

Nominal Exchange Rate versus Real Exchange Rate

Nominal exchange rate refers to the rate discussed above i.e. it simply represents the value of one currency with respect to the other. But when the prices of goods and services in both the countries are constantly varying in the dynamic market environment, the nominal rate is incapable to give the rate of change of one currency with the other. Therefore, an exchange rate which incorporates this variation is required.

In simple terms, the real exchange rate can be defined as "how many" of a good or service in that country which can be traded for "one" unit of the good or service in the foreign country.

Mathematically, it can be calculated as: -

Real Exchange Rate= Nominal Exchange Rate X domestic price index/foreign price index

Cross Exchange Rate

This refers to the situation when the exchange rates are quoted in terms of currencies either of which are not the official currencies of the country. Suppose there are three countries A, B and C. If the exchange rate between A and B is fixed on the basis of exchange rate between A and C and that between B and C then it can be termed as cross rate. In the market normally quotes are available for major currencies. In order to find exchange rate between relatively lesser known or traded currencies, cross rates are used.

5.5 DETERMINATION OF EXCHANGE RATES

Financial managers, investors and all the major stakeholders of the FOREX continuously monitor exchange rates and anticipate the future implications of it. Therefore, it is very important to understand the foundations of determination of exchange rates which is the central theme for risk management and policy making for the agents of foreign exchange.

Exchange rates vary substantially due to a host of factors like change in the condition of economy, introduction of a policy, government controls, inflation rates, interest rates, speculation, country's balance of payments, recession, political stability etc. Some of these will be discussed in the later part of this chapter.

We start with explaining the depreciation and appreciation of a currency's value. As evident from the terminology, a fall or decrease in the value of currency is referred to as depreciation whereas a rise or increase in the currency value is referred to as appreciation

of currency. For example, if 1USD (United States Dollar) = 63.97INR (Indian Rupee) as on 20/12/2017 and 1 USD = 64.96INR as on 27/2/2018 we can infer that on 20/12/2017 it took 63.97 INR to buy a dollar whereas on 27/2/2018 it required 64.96 INR to buy the same unit of dollar. Hence we say that the rupee as depreciated. On the other hand we can also notice that it directly implicates that the dollar has appreciated against the rupee. Sometimes, the countries deploy some artificial pressures to depreciate their currency in order to boost up their exports. This may include hoarding foreign exchange reserves and limiting its supply in the market. Indian rupee has seen considerable fluctuations as can be seen in the table below which includes exchange rate of rupee with respect to US dollar and the Euro since 2001.

Table: RUPEE EXCHANGE RATE WITH US DOLLAR AND EURO

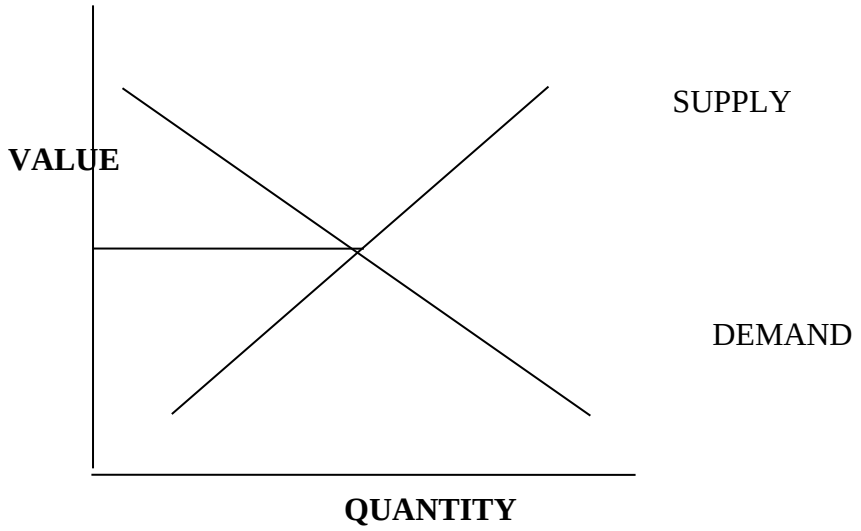
Year	USD exchange rate	EURO exchange rate
2001	47.19	42.25
2002	48.61	45.92
2003	46.58	52.61
2004	45.32	56.30
2005	44.1	54.81
2006	45.31	56.84
2007	41.35	56.42
2008	43.51	63.61
2009	48.41	67.36
2010	45.73	60.59
2011	46.67	64.89
2012	53.44	68.60
2013	56.57	77.93

2014	**62.33**	**81.04**
2015	**62.97**	**71.20**
2016	**66.46**	**74.37**
2017	**67.79**	**73.53**

Source: IMF

Exchange Rate Equilibrium

The basic law of demand also applies in case of foreign exchange rates which means that the rates are a function of demand and supply. Every currency has a certain demand in the market which is based upon various factors like trade volumes in the currency, market acceptability, state of economy etc. Similarly, there is a certain amount of supply for each currency which is a function of the market conditions.



Like other goods, the demand falls with increase in price while the supply increases as shown in the above diagram. According to the theory, the exchange rate will be set at the rate where demand is equal to the supply. This is also referred to as Equilibrium exchange rate.

Demand for a currency

The demand for a foreign currency may depend upon factors like:

a) demand for imported goods and services,

b) purchase of foreign assets,

c) gifts and remittances abroad,

d) payment for international trade,

e) business investments abroad etc.

Supply for a currency

The supply for a foreign currency is triggered by factors like:

a) exports of products and services,

b) foreign direct investment in home country,

c) foreign tourism in home country,

d) remittances from foreign countries.

5.6 FACTORS AFFECTING EXCHANGE RATE

It is evident from the above discussion that equilibrium exchange rate will change when the forces of supply and demand of currency change. The factors that cause these demand and supply dynamics to change forcing a parallel shift in exchange rate are explained here.

e = f (INF', INT', INC', GC', EXP') **where,**

e= percentage change in the spot rate

INF'=change in the differential between the inflation rate of both nations

INT'=change in the differential between the interest rate of both nations

INC'=change in the differential between the income level of both nations

GC'=change in government controls

EXP'=change in expectation of future exchange rates

Some of the factors impacting the exchange rate are discussed as under:

Current Account Deficit

This relates to the deficit in the receipts and payments in foreign exchange in the account books of a country which primarily are the result of transactions in trade, remittances and interest related transactions. When there is net outflow among the aggregate values of these transactions, there is a current account deficit. This obviously means that the country requires more foreign exchange than it is earning. In case it is supplemented by foreign investment in the country (capital account), then it might be offset in the short run. However, if the current account deficit is being met by borrowings, then the situation would lead to depreciation in the home currency. Talking about India, whenever the international oil prices increase, it leads to increase in current account deficit as oil is the major component of our imports.

Relative Inflation Rates

Inflation can have an impact on exchange rates. Suppose two countries are providing same products/ services which can freely flow into each other. A country with low inflation will have lower prices for products and services as compared to the country with higher rate of inflation. Due to this, the demand for products from low inflation country will increase leading to higher demand for its currency. This will create a supply gap leading to higher price of the currency with lower rate. Although in practice, many other variables will come into play but relative inflation will impact the exchange rate. Still, the relationship is complex because interest rates and inflation have a relationship that is delicate. When interest rates are low, there is not much incentive to save which might spur consumer spending. The inflation will not increase unless the demand does not outweigh the supply. However, foreign investors might not like this scenario as low interest rates do not provide earning potential. On the other hand, high inflation would lead to decrease in demand for goods and services thereby discouraging foreign investment which is a source of inflow of foreign exchange. The Central bank of a country has to take a call on balancing inflation and interest rates. The table below shows the rate of inflation in India over the last ten years

Relative Interest Rates

When interest rates rise, the investment flow will increase in the host country. This increased investment can exert pressure or increase demand for the currency of the host country which will push up the exchange rate. Also, the host country can get much required foreign exchange. However, this would help the economy in the long run only these interest rates are sustainable and the economy continues to grow. If there is turbulence, then there might be extreme volatility in these rates. Sometimes, high interest rates bring foreign portfolio investment which can help in boosting reserves but it can quickly go away if the economy shows any signs of weakness.

Relative Income Levels

Countries with increasing income levels would see more demand for imported goods which would push the demand for foreign currency. In the present era of liberalization, goods and services flow freely and governments have little control over trade. In such a scenario, the imported goods demand can lead to increased demand for foreign currency leading to its increase in price. Also increased income levels push up demand for domestic goods and services which makes the home market lucrative for foreign investors. In such a scenario, there might be an increased inflow of foreign exchange leading to favourable movement in exchange rate.

Government Controls

Since government forms various regulations related to business and economy, it has the ability to influence exchange rates by way of relaxing or imposing trade barriers, creating foreign exchange regulations, influencing economic macro variables like interest rates and inflation, intervening in the foreign exchange market through Central Bank etc. Such measures might impact exchange rates majorly at least in the short run. Many countries

accuse each other of indulging in foreign exchange manipulation in order to boost their international trade.

Speculation and Future Developments

Any news having future implications have an elemental effect on the foreign exchange market. The news of future inflation, political unrest, policy changes etc can create both upward as well as downward pressure on the currency. The increased complexities in the international business environment make it difficult indeed to even predict near future scenarios. Events like announcements of trade tariffs, overturning policies of predecessors and change in political strategy can create havocs in markets. The participants in the markets who are present solely for investment gains take their decisions based upon their evaluation of future events in a country's economy.

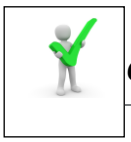
Interaction of factors

The above factors do not work in isolation. The foreign exchange system spans the wide reaching markets of trade related foreign exchange and financial flows. Though trade related foreign exchange is less sensitive to speculation as compared to financial flows which are very responsive. Some factors play to create an upward pressure on the market whereas some others are responsible for a downward pressure. The intrinsic gamble of these factors has given way for a highly expert and risk susceptible market.

Impact of Exchange Rates on Economy

Continuous or sharp fluctuations in the exchange rate can have strong macroeconomic impact on a country. Some of the crucial changes resulting due to exchange rate fluctuation are as under:

- Appreciation in exchange rate leads to reduced prices of imports while depreciation would lead to reduced price of exports. Many countries that are export centric tend to favour depreciation of their currencies.
- A fall in the value of currency can be utilized to fuel demand for exports and thereby increasing foreign exchange reserves as well as attracting investment in the sector.
- However, in case the global demand is weak it may lead to crisis when exports do not match up to the desired level while the imports become expensive. This may make it difficult for the government to fund the deficit.



Check Your Progress-A

1. The two types of currency quotations are _____ and _____
2. The regime where currency prices are fixed by market forces is called _____ rate system.
3. Nominal exchange rate when multiplied by ratio of domestic to foreign price index can give us the _____ exchange rate.
4. The rate which is set at the point where demand for a currency equals its supply is called _____ rate.
5. Higher inflation would generally _____ the value of currency.
6. Relative Interest rates can help us to find _____ opportunities for exchange rate risks.
7. The phenomenon of taking advantage of market inefficiency is termed a _____.

5.7 ARBITRAGE

Arbitrage is an important concept when it comes to the foreign exchange system. It is a method by which the traders earn money by exploiting the market inefficiency. The players in the foreign exchange market can earn profits by discovering the differential in prices between the pairs of currencies with different dealers or banks. Arbitrage opportunities are exploited by traders due to the fact that the constantly fluctuating exchange rates are not adjusted by all the markets so frequently. The profit is made due to the undervalued price of the stock in the foreign market as compared to the price in the local market. This temporary difference in interest rates is a simple and riskless way for investors to earn profit.

Therefore, the absence of a perfect market becomes the reason for a huge trading ground. But just a mere discrepancy in prices between two exchange rates is not enough to create an arbitrage opportunity. The related transaction costs associated can turn the potential arbitrage opportunity into a profitless transaction. Another conspicuous element of arbitrage is that it drives the prices to align. Price would rise in the market where demand is high and it would fall in the market where supply is less. The concept of arbitrage is applied to the international money market in the three forms

1) Locational arbitrage
2) Triangular arbitrage
3) Covered interest arbitrage

Generally, commercial banks quote the same rates on currencies at a particular time but if the demand and supply condition vary among the markets, the banks quote different rates at different markets and the market forces cause realignment. Such a condition where earnings can be made through buying a currency at a lower priced location and selling it at a higher priced location immediately is referred to as locational arbitrage. This is feasible for banks that can track real time prices across various markets and take decisions. As evident from this explanation, the profits made from such arbitrage is related to the amount used to capitalize on the exchange rate discrepancy and the difference in the quotes. This type of arbitrage helps in making gains without locking up substantial capital. However, in this era of integrated and fast information flows, such opportunities are far and few and do not last for long. When there is a pricing discrepancy between three different currencies, there is an opportunity for probable earning. This happens when a quoted exchange rate is not equal to the market's cross-exchange rate. It is however important to reiterate that the difference between the exchange rates in a triangular arbitrage is merely a small fraction of a currency unit and a large amount of capital is required to earn a huge amount of profit. Covered interest arbitrage opportunity arises when a forward contract is made in order to hedge the foreign exchange risk. This happens when an investor uses a higher yielding currency (due to interest rate differential) to set off the gains against a probable risk arising out of adverse movement in exchange rate risk.

5.8 SUMMARY

The exchange rate of currencies has a tremendous impact not only on the financial institutions but the economy has a whole. It provides an insight to a host of factors like inflation, unemployment, export and import dynamics etc. The rates are monitored continuously by businesses which have international operations as movements in exchange rates have a bearing on their business model. The exchange rates are set at equilibrium between demand and supply of a currency which in turn depends upon a lot of macroeconomic factors relating to the host country as well as international market. Relative interest and inflation rates, government controls and income levels are key determinants of exchange rates. For future assessment of foreign exchange rates, a careful assessment of all the factors is essential and players in financial markets keep close eye on these to exploit investment and hedging opportunities.

5.9 GLOSSARY

Foreign exchange rate - The price of one nation's currency with respect to or in terms of units of another currency.

European currency quotation- The amount of local currency which is exchangeable for one unit of foreign currency. Also called as direct quote.

American currency quotation- The amount of foreign currency which can be exchanged for one unit of local currency. Also called as indirect quote.

Floating Exchange Rate System- The regime where exchange rate system is decided by market forces.

Cross Exchange Rate- The exchange rate quoted in terms of currencies either of which are not the official currencies of the country.

Exchange Rate Equilibrium- The exchange rate set at the price where demand is equal to the supply.

Arbitrage- A method by which the traders earn money by simultaneous purchase and sale in different markets.

5.10 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress A

1. Direct, Indirect
2. Floating
3. Real
4. Equilibrium
5. Reduce
6. Hedging
7. Arbitrage

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5.13 TERMINAL QUESTIONS

1. Explain the advantages and disadvantages of fixed and floating exchange rate system.
2. What do you understand by equilibrium rate of exchange?
3. Discuss the factors which can impact the value of a currency in the forex market?
4. Why is the foreign exchange risk an integral part of the risk assessment for a multinational firm?

Block II
International Parity Conditions and Exchange Rate Determination

UNIT 6 INTEREST RATE PARITY

6.1 INTEREST RATE PARITY (IRP)

It is a basic principle in the international finance world and foreign exchange markets, creating an important connection between interest rates and exchange rates among various nations. Fundamentally, the Interest Rate Parity (IRP) defines that the disparity in national interest rates for financial instruments with comparable risk and maturity must correspond to the difference between the forward exchange rate and the prevailing spot exchange rate. This equilibrium condition is based on the premise that arbitrage opportunities do not exist, enabling the smooth adjustment of exchange rates to counterbalance variations in interest rates. The IRP is essential for advising investors and policymakers by providing insights into prospective returns on overseas investments while accounting for currency volatility. Interest rate parity sustains financial market stability and influences investment decisions in a globally interconnected economy by maintaining the effective allocation of capital flows.

Fundamentally, the expected change in the exchange rates of the two countries is equal to the difference in their respective interest rates. If two nations have differing interest rates,

the exchange rates between them will adjust to bring about interest rate parity in an efficient market. This will cancel out the apparent interest rate differentials and prevent any possibility of arbitrage.

- ❖ Proposition 1: Interest rates that are now in effect in two nations have an impact on the exchange rate that exists between the currencies of those countries. The exchange rate between the dollar and the rupee will be determined by factors such as interest rates in India and the United States, for example.
- ❖ Proposition 2: When market forces lead interest rates and exchange rates to adjust in such a way that covered interest arbitrage is no longer practicable, the result is a condition of equilibrium that is referred to as interest rate parity (IRP).

6.2 OBJECTIVES OF THIS UNIT

After reading this unit, students will learn about:

- How to determine the exchange rate?
- What is arbitrage? How can one explore arbitrage opportunities?
- Risk Management
- Concept of IRP
- Variation in forward rate premium across maturities and over time.

6.3 DERIVATION OF INTEREST RATE PARITY

To determine the relationship between a forward premium (or discount) of a foreign currency and the interest rates that are representative of these currencies according to IRP, the following formula can be used:

"Consider a US investor who attempts to engage in covered interest arbitrage." The investor's returns can be calculated from the following information:

- The amount of the domestic currency (USD) that is initially invested (A_h)
- The spot rate (S) in dollars when the foreign currency is purchased
- The "interest rate on the foreign deposit" (i_f)

- The forward rate (F) in dollars at which the foreign currency will be converted back to US dollars.

With this strategy, the amount of domestic currency received at the end of the deposit period is:

$$\mathbf{A_n = (A_h/S)(1+ i_f)F}$$

As F is simply S multiplied by 1 plus the forward premium p, we can rewrite this equation as **:**

$$\mathbf{A_n = (A_h/S)(1+i_f) [S(1+P)]}$$

$$\mathbf{=A_h(1+i_f)(1+p)}$$

*F= [S(1+p)]

The rate of return from this investment (called R) is calculated as follows

$$\mathbf{R = A_n\text{-}A_h/A_h}$$

Replacing A_n with the above equation

$$\mathbf{= \{[A_h(1+i_f)(1+p)]\text{-}A_h\}/A_h}$$

$$\mathbf{= (1+i_f)\ (1+p) – 1}$$

If IRP exits, then the rate of return R achieved from covered interest arbitrage should be equal to the rate available in the home country:

$$\mathbf{R = i_h}$$

Now, substituting into the original expression for R, we obtain**:**

$$\mathbf{(1+i_f)(i+p) – 1 =i_h}$$

After rearranging terms, we can determine what the forward premium of the foreign currency should be under IRP**:**

$$\mathbf{(1+i_f)(1 +p) \text{-}1 = i_h}$$

$$\mathbf{(1+i_f)(I +p) = 1 +i_h}$$

$$\mathbf{1+p= (1 +i_h)/ (1+i_f)}$$

$$\mathbf{p = (1 +i_h)/1+i_f) – 1}$$

Example:

Assume the Indian rupee exhibits a six-month interest rate of 6% and the US dollar exhibits a six-month interest rate of 5%. From a US investor's perspective, the US dollar is the home currency. According to IRP, the forward rate premium of the Rupee concerning the US dollar should be:

$$P = [(1 + .05)/(1+.o6)] – 1$$

$$P = -0.0094,or -.94\%(not annualized)$$

Thus, a month forward contract on the rupee is a discount of approximately 0.94 percent. In other words, US investors would receive0.94 percent less when selling the rupee six months from now (based on a forward sale) than the price they pay for Rupee today at the spot rate. Such a discount would offset the rupee's interest rare advantage. If the rupee spot rate is $0.10, then a forward discount of 0.94 percent results in the following calculation of the six-month forward rate:

$$F = S (1 + p)$$

$$\$0.10 (1+-.0094)$$

$$=\$0.09906$$

Use the information on the spot rate, the six-month forward rate of the rupee, and India's interest rate from the preceding example to determine a US investor's return from using covered interest arbitrage. Assume the investor begins with $1,000,000 to invest.

Step-1 on the first day US investor converts $1,000,000 into Indian rupee at $0.10

$$\$1,000,000 = Rupee\ 1,000,000/0.10 = 10,000,000$$

Step -2 On the first day, the investor also sells the rupee six months forward. The number of rupees to be sold forward is the anticipated accumulation of rupees over a six-month period, which is estimated as:

$$10,000,000 * (1+ .06) = 10600000$$

Step -3 After six months, the investor withdraws the initial deposit of rupees along with the accumulated interest, amounting to a total of 10600000. The investor converts the rupee into dollars according to the forward contract agreed upon six months earlier. The forward rate was $0.09906, so the number of US dollars received from conversion is:

$$Rupee\ 10600000 * (\$0.09906\ per\ rupee)= \$1050036$$

In this case, the investor's covered arbitrage achieves a return of approximately 5 percent. Rounding the forward discount to 0.94 percent causes a slight deviation from the

5 percent return. Thus, using covered interest arbitrage under these circumstances generates a return that is roughly equivalent to what the investor would receive by investing domestically. This result confirms that covered interest arbitrage is not worthwhile if IRP holds.

Understanding the Basics: Before going into the Indian context, it's essential to understand the core concept of Interest Rate Parity (IRP). It suggests that the difference in interest rates between two countries should equal the expected change in their exchange rates

The IRP Formula

The basic IRP formula is:

$(1 + i_h) = (1 + i_2) * (F/S)$

Where:

- it is the domestic interest rate (e.g., India)
- i_f is the foreign interest rate (e.g., US)
- F is the forward exchange rate
- S is the spot exchange rate

EXAMPLE OF INTEREST RATE PARITY

Assumptions:

- **Spot Exchange Rate (INR/USD):** 80
- **Indian Interest Rate:** 7%
- **US Interest Rate:** 3%
- **Time Period:** 1 year

Scenario:

An Indian investor has 80,000 INR. They have two options:

Option 1: Invest in India

- Invest 80,000 INR at 7% interest.
- After one year, the investor will have: 80,000 * (1 + 0.07) = 85,600 INR.

Option 2: Invest in the US

- Convert 80,000 INR to USD: 80,000 INR / 80 INR/USD = 1,000 USD.
- Invest 1,000 USD at 3% interest.
- After one year, the investor will have 1,000 USD * (1 + 0.03) = 1,030 USD.

For IRP to hold, the investor should be indifferent between the two options.

To make the second option comparable to the first, we need to convert the final USD amount back to INR. However, we don't know the future exchange rate. This is where the forward exchange rate comes into play.

Forward Exchange Rate:

The forward exchange rate is the exchange rate agreed upon today for a transaction that will take place in the future.

- **Calculation of Forward Exchange Rate:**
  - Using the IRP formula: $\mathbf{p = (1 + i_h)/1+i_f) - 1}$)
  - P = [(1+.07)/(1.03)]-1
  - P = .0388
  - Solving for F, we get F = 80 * (1+.0388)
  - = 83.104 approx

Converting US Investment back to INR:

- Convert 1,030 USD to INR using the forward exchange rate: 1,030 USD * 83.I04NR/USD = 85597.12 INR.

As you can see, the investor ends up with the same amount of INR (85,600) regardless of whether they invest in India or the US. This is the essence of Interest Rate Parity.

6.4 COVERED INTEREST RATE PARITY (CIRP)

According to the Covered Interest Rate theory, the exchange rate forward premiums (discounts) cancel the interest rate differentials between two sovereigns. In other words, covered interest rate theory says that the difference between interest rates in two countries is nullified by the spot/forward currency premiums so that the investors cannot earn an arbitrage profit.

Example :

Assume IBM., the U.S.-based multinational, has to pay the British employee in Pound in two months' time. IBM can manage this in two ways,

First: one of which is given below − IBM can buy Pound forward a 2 month (60 days) to lock in the exchange rate. Then it can invest this money in dollars for 60 days after which it must convert the dollars to Pound. This is known as covering, as now IBM will have no exchange rate fluctuation risk.

Second: IBM can also convert the dollars to pounds now at the spot exchange rate. Then, it can invest the Pound money it has obtained in a British bond (in Pounds) for 2 months (which will have an equivalent loan of Pounds for 60 days). Then IBM can pay the obligation in pounds after two months. Under this model, if IBM is sure that it will earn interest, it may convert fewer dollars to Pound today. The reason for this is the Pound's

growth via interest earned. It is also known as covering because by converting the dollars to Pound at the spot rate, IBM is eliminating the risk of exchange rate fluctuation.

6.5 UNCOVERED INTEREST RATE PARITY (UIP)

Uncovered Interest Rate theory says that the expected appreciation (or depreciation) of a particular currency is nullified by lower (or higher) interest.

In the given example of covered interest rate, the other method that IBM can implement is to invest the money in dollars and change it for Pound at the time of payment after two months.

This method is known as uncovered, as the risk of exchange rate fluctuation is imminent in such transactions.

6.6 DETERMINE THE FORWARD PREMIUM

In interest rate parity theory, a forward premium denotes the disparity between the present spot exchange rate and the forward exchange rate of a currency. The forward premium is determined by the interest rate gap between the two countries. A forward premium arises when the interest rate in a high-interest-rate nation exceeds that of a low-interest-rate nation. Consequently, investors are motivated to lend in the high-interest-rate nation and invest in securities of the low-interest-rate nation, leading to an appreciation of the exchange rate in the foreign exchange market**.**

Calculating Forward Premium

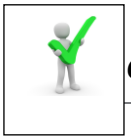
The formula for calculating forward premium is:

Forward Premium = ((Forward Rate - Spot Rate) / Spot Rate) * (360 / Number of Days)

Example:

- Spot INR/USD: 80
- 3-month forward INR/USD: 81
- Number of days: 90

Forward Premium = ((81 - 80) / 80) * (360 / 90) = 0.045 or 4.5%



Check Your Progress-A

Q1. What Is Arbitrage? How Can One Explore Arbitrage Opportunities?

Q2. What do you mean by Covered Interest Rate Parity?

Q3. How do you determine the Forward Premium?

6.7 CHALLENGES IN USING FORWARD PREMIUM

Using forward premiums in the foreign exchange market presents several challenges for traders and businesses. Here are some of the main challenges**:**

1. Market Volatility:

Exchange Rate Fluctuations: Exchange rates can be quite volatile, and a forward premium does not guarantee that future rates will coincide with initial assumptions. This is because exchange rates are extremely unpredictable. Suddenly occurring market fluctuations have the potential to make a forward rate that was previously advantageous less favorable.

2. Interest Rate Differentials:

Forward premiums are driven by interest rate differentials between two currencies, which is a misalignment with the fundamentals of the economy. It is possible that the forward

premium will not accurately reflect future spot rates if these differentials shift as a result of economic developments.

3. Liquidity Concerns:

The forward rates may be dramatically impacted by large trades in markets with limited market depth because of limited market depth. If there is a lack of liquidity, the bid-ask spread may get wider, which will make it more expensive to enter or exit positions.

4. Counterparty Risk:

Credit Risk: When you sign a forward contract, you take on counterparty risk, which is the chance that the other party will not keep their end of the deal. A trader might not get the agreed-upon amount of cash if the other party fails.

5. Transaction Costs:

Costs of Hedging: There are often fees or other transaction costs that come with using forward contracts. These can cut into possible profits and make it harder to use forward premiums for hedging.

6. Hedging Imperfections:

Not Perfectly Aligned with Exposure: Forward contracts may not perfectly match the time or amounts of cash flows, which could cause losses if they are too or too little hedged.

7. Economic Indicators:

Changes in the economy: Forward rates are based on how the market is doing right now. If political situations, economic data, or other big events change, it can affect how the market sees future currency moves and how reliable forward premiums are.

8. Expectations and Behaviors:

Behavior: What people in the market expect and how they act could change the demand for currencies, which would mean that forward prices would not always be accurate.

9. Misinterpretation of Data:

Complex Models: To correctly understand and use forward premiums, you need to know a lot about complicated economic data and financial models, which can be hard for traders who aren't very experienced.

10. Regulatory Risk:

Changes in the Rules: If the rules for dealing with currencies change, it could mean that using forward contracts comes with new risks or costs.

6.8 IS INTEREST RATE PARITY RATIONAL?

We can hold a comparison between the forward rate (and discount) and the interest rate quotations that are occurring at the same time to ascertain with absolute surety whether or not IRP is rational. There is a possibility that the results will be somewhat contorted if the forward rate and interest rate quotations are not made at the same time. On the other hand, due to limits on data access, it is not possible to collect quotations that are accurate representations of the same incident.

A large number of research studies have been conducted on interest rate parity throughout several periods. It is generally accepted that IRP is supported by the real relationship that exists between the forward rate premium and interest rate differentials. While it is correct that deviations from IRP do occur, the majority of the time, these deviations are not essential enough to justify covered interest arbitrage, as we will now analyze in greater detail.

6.9 VIOLATION IN IRP

If interest rate parity is violated, then an arbitrage opportunity exists. The simplest example of this is what would happen if the forward rate was the same as the spot rate but the interest rates were different.

Then investors would:

• Take out a loan in the currency that has the lower interest rate.

• convert the cash at spot rates

• enter into a forward contract to convert the cash plus the expected interest at the same rate

• invest the money at a higher rate

• convert back through the forward contract

• repay the principal and the interest, knowing the latter will be less than the interest received.

6.10 SUMMARY

Given the premise, that there exist various exchange rates for the same currency provided by the different banks, different banks' country arbitrage may exist. Thus, an expectation exists that such a practice of country arbitrage will lead to an adjustment of the foreign exchange quotations positioned at different banks from one another. Following this, country arbitrage will cease.

For the simple reason that cross-exchange rates are associated with triangular arbitrage, they confirm that the cross-exchange rates refer to three different countries. Cross-exchange rates involve three countries. It particularly includes any cross -exchange rate including two base currencies trading against a third currency involving two currencies above. Triangular arbitrage is a strategy that can be applied against a situation when one of the currencies exchanges crosses with another on a rate below or higher than that of the target supporting currency. The more people use triangular arbitrage, the more the exchange rate goes up to where it should be making it self-correcting. This very limit of triangular arbitrage gets eliminated as in this case; everybody is active in exploiting arbitrary opportunities themselves.

Arbitrage of this nature utilizes the correlation between the forward rate premium and interest rate differentials. A currency's forward rate should either be at a premium or a discount properly which coincides with the interest rates of the two countries being in question. In this case, if the external interest rate is greater than the US interest rate, it is usual for the forward rate of the external currency to carry a discount.

In such an event where the forward premium is good enough to be viewed defined some geographical distance away from the interest rate differential, covered arbitrage is also an option. This particular type of arbitrage today involves investing in a foreign currency for a brief period and then selling that foreign currency forward to mitigate the exchange rate risk. This way the investment remains sheltered from the adverse movements of such a foreign currency.

As per the interest-rate parity theorem (IRP) the level of forward premium i.e. the period during which there is no risk of loss arising on the price at time T, should be a reflection of the interest rate differentials between the two countries in question. If the interest parity is not maintained it will eliminate any possibility of Covered interest arbitrage as any excess interest for that country will be eaten away forward rate discount. This is due to the fact that the forward rate discount will be imposed. Hence returns from covered interest arbitrage will not be as high as returns from making investments in that country.

6.11 GLOSSARY

IRP: This theory says that the difference in two nations' interest rates is equal to the expected change in the exchange rate between the two nations.

Arbitrage: It is a situation in which there exists a difference in values in two different markets, It includes the simultaneous purchase and sale of the same asset in different markets to profit from very small difference differences in the assets of two different places

Forward Discount: when the forward rate is less than the spot rate. The expectation of depreciate the currency.

Forward Premium: when the forward exchange rate is higher than the spot rate. Expectation of the appreciation in currency value

Locational arbitrage: It is acted to exploit the minor exchange rate differences for a given currency pair between multiple banks for generating a profit.

Covered Interest Rate Parity: Covered interest rate parity refers to a theoretical condition in which the relationship between interest rates and the spot and forward currency values of two countries are in equilibrium.

Uncovered Interest rate parity: when IRP does not use a forward contract to hedge risk.

Spot Exchange Rate: The current exchange rate of two currencies.

Forward Exchange rate: The agreed rate for purchasing a currency at a future date, often used in a forward contract.

6.12 REFERENCES

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6.13 SUGGESTED READINGS

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6.14 TERMINAL QUESTIONS

1. What is Interest Rate Parity?
2. What are the types of IRP?
3. How is the Interest rate parity formed?
4. Why is IRP Important?
5. What is the practical implication of IRP?
6. Is interest rate Parity always true?
7. What factors can cause deviation from Interest Rate Parity?

UNIT 7 SPECULATION AND RISK IN THE FOREIGN EXCHANGE MARKET

7.1 INTRODUCTION

In this unit, we will explore the intricate dynamics of the foreign exchange (FOREX) market, focusing on the factors that influence exchange rates and the risks involved in currency trading. We will begin by examining the fundamental economic, political, and market-based elements that drive currency values, such as interest rates, inflation, political stability, and market sentiment. Understanding these factors is crucial for predicting currency movements and making informed trading decisions. Additionally, we will delve into the role of speculation in the FOREX market, highlighting the strategies

used by speculators and their impact on exchange rates and market stability. We will also discuss various types of risks associated with FOREX trading, including exchange rate risk, interest rate risk, credit risk, and liquidity risk, and explore effective risk management techniques. By the end of this chapter, readers will have a comprehensive understanding of the complexities and challenges of the FOREX market, equipping them with the knowledge to navigate and manage currency risks effectively.

7.2 OBJECTIVES

After reading this unit you will be able to;

- Describe key factors influencing exchange rates in the FOREX market.
- Explain the strategies and role of speculation in the FOREX market.
- Identify different types of risks associated with FOREX trading.
- Apply risk management techniques in currency trading.

7.3 FOREIGN EXCHANGE MARKET

Currency trading takes place on the dynamic and intricate global foreign exchange (FOREX) market. Being among the world's biggest and most liquid financial markets, it is essential to global investment and trade. The goal of all those involved in this market, from governments and multinational companies to lone speculators, is to manage and profit from exchange rate changes. A multitude of factors, such as market emotion, geopolitical events, and economic data, influence the complex dance of currency values. Financial managers, investors, and legislators must comprehend the numerous risks associated with the FOREX market as well as the mechanics underlying speculation.

Trading currencies in the FOREX market with the intention of making money off of projected changes in exchange rates is known as speculation. Speculation, which is predicated on forecasts of future currency movements, is intrinsically riskier than hedging, which aims to reduce risk. Through their trading operations, speculators can affect exchange rate dynamics and add to market liquidity. Their activities, nevertheless, may potentially result in heightened volatility and even market instability.

There are various aspects of risk associated with the FOREX market, such as exchange rate risk, interest rate risk, credit risk, and liquidity risk. These risks result from the market environment's quick changes and underlying uncertainties. Using efficient risk

management techniques is essential to reducing possible losses and maintaining financial stability. This chapter explores the nature of risk and speculation in the FOREX market, looking at the tactics used by speculators, the kinds of risks that market player's face, and the ways in which these risks are managed. By thoroughly examining these ideas, we hope to provide readers a thorough grasp of the difficulties and complexities present in the foreign currency market, giving them the tools they need to successfully handle this crucial component of global financial management.

7.4 OVERVIEW OF THE FOREIGN EXCHANGE MARKET

Currency purchases and sales take place on the large, decentralized foreign exchange (FOREX) market. It is open five days a week, twenty-four hours a day and helps with currency exchange, which is necessary for investment in business, travel and trade internationally. The FOREX market is the leading and most liquid financial market in the world, with trading volumes reaching $6.1 trillion daily.

Central and commercial banks, financial institutions, hedge funds, businesses and individual investors are among the players in the FOREX market. Central banks trade currencies in order to manage their country's monetary policy and preserve the value of their national currency, in addition to facilitating customer transactions, financial institutions and commercial banks engage in proprietary trading.

Companies use the foreign exchange market (Forex) to trade in order to reduce the currency risk involved in doing business abroad. Currency trading is a strategy used by hedge funds and individual investors to profit from fluctuations in exchange rates. The option market, forward market, spot market, and future market are some of the trading sites around which the market is organized. Currency is delivered immediately at the going rate of exchange in the spot market. Although the futures market provides standardized contracts for trading currencies, buyers and sellers are not required to buy or sell currencies at predetermined prices; instead, future dates are assigned. Players on the options market can fix exchange rates for upcoming transactions to traders by using the forward market.

7.5 FACTORS INFLUENCING EXCHANGE MARKET

Exchange rates, the prices at which one currency is exchanged for another, are influenced by a variety of factors. These factors can be broadly categorized into economic, political, and market-based influences. Understanding these factors is crucial for predicting currency movements and making informed decisions in the foreign exchange (FOREX) market.

1. Economic Factors:

- **Interest Rates:** One of the most significant drivers of exchange rates is the differential between interest rates set by central banks. Higher interest rates offer better returns on investments denominated in that currency, attracting foreign capital and causing the currency to appreciate. Conversely, lower interest rates can lead to depreciation as capital flows away in search of better returns.
- **Inflation Rates:** In comparison to countries with higher inflation rates, currencies from those with lower inflation tend to appreciate. Low inflation supports a stable currency value, while high inflation erodes purchasing power, leading to depreciation.
- **Economic Growth:** Strong economic performance, indicated by GDP growth, often leads to currency appreciation. A growing economy attracts foreign investment, increasing demand for the domestic currency. Conversely, economic stagnation or recession can weaken a currency.
- **Trade Balances:** A country's trade balance (the difference between exports and imports) impacts its currency value. A trade surplus, where exports exceed imports, typically results in currency appreciation as foreign buyers need the domestic currency. A trade deficit, where imports exceed exports, can lead to depreciation.
- **Employment Levels:** High employment levels are generally indicative of a healthy economy and can positively affect currency value. Conversely, high unemployment can signal economic problems and may lead to currency depreciation.

2. Political Factors

- **Political Stability:** Countries with stable political environments are more attractive to investors. Political stability reduces uncertainty and risk, leading to stronger currency values. Political instability or uncertainty, on the other hand, can result in currency depreciation as investors seek safer assets.
- **Government Policies:** Fiscal and monetary policies can influence exchange rates. Expansionary policies, such as increased government spending or tax cuts, can lead to currency depreciation if they result in higher budget deficits and increased inflation. Conversely, contractionary policies can support currency appreciation.
- **Geopolitical Events:** Events such as wars, elections, or diplomatic conflicts can create uncertainty and affect currency values. Negative geopolitical developments often lead to currency depreciation as investors move their assets to safer currencies.

3. Market-Based Factors

- **Market Sentiment:** Investor perception and market sentiment can drive short-term currency movements. Positive sentiment towards a country's economic outlook or political situation can lead to currency appreciation, while negative sentiment can cause depreciation.
- **Speculation:** Currency traders and speculators can influence exchange rates through their trading activities. Large speculative trades can cause significant short-term fluctuations in currency values as traders react to perceived opportunities or risks.
- **Capital Flows:** The movement of capital into and out of a country affects its currency value. High levels of foreign direct investment (FDI) and portfolio investment can lead to currency appreciation as foreign investors purchase the domestic currency. Conversely, capital outflows can result in depreciation.

4. External Factors

- **Global Economic Conditions:** Global economic trends and conditions, such as international commodity prices and global financial crises, can impact exchange rates. For example, fluctuations in oil prices can affect currencies of oil-exporting and oil-importing countries.
- **Currency Pegs and Exchange Rate Regimes:** Countries that maintain fixed or pegged exchange rates may experience stability in their currency values relative to the peg. However, changes in the peg or shifts to floating exchange rate regimes can lead to significant currency adjustments.

A complex web of interrelated external, political, market-driven, and economic factors affects exchange rates. Making strategic decisions in the FOREX market and predicting currency movements are made easier when one is aware of these influences. Exchange rate dynamics are influenced by a number of factors, including global conditions, political stability, market sentiment, interest rates and inflation and economic indicators.

7.6 FUNDAMENTALS OF THE FOREIGN EXCHANGE MARKET

FOREX - The foreign exchange market is a huge and decentralized global marketplace where currencies are traded. It operates five days a week, 24 hours a day and is the biggest and most liquid financial market in the world. The FOREX market enables international trade and investment by facilitating currency conversion and plays a vital role in global economic stability. Its participants include commercial banks, central banks, financial institutions, business, hedge funds, and individual investors.

Understanding the function and structure of the FOREX market it is essential to know how this complex market operates and impacts the global economy. This chapter explores into the details of the FOREX market, providing a foundational understanding of its components.

Structure and Function of the FOREX Market

FOREX market is a huge and decentralized global marketplace where currencies are traded. The FOREX market unlike centralized exchanges such as stock markets, operates through a network of financial institutions, brokers, businesses and individual traders, all interconnected via telecommunication networks, electronic trading platforms, and over-the-counter (OTC) transactions.

Structure

1. **Spot Market:** The spot market is where currencies are traded for immediate delivery. Transactions are delivered "on the spot," typically within two business days. It is the most straightforward form of currency trading and forms the basis for the FOREX market.
2. **Forward Market:** Participants in the forward market sign contracts to buy or sell currencies at a fixed exchange rate at predetermined future date. These contracts are negotiable and customizable, consenting for tailored risk management strategies.
3. **Futures Market:** It is similar to the forward market. Future market is an auction market to buy and sell currencies on a specified future date. These are exchange traded derivatives contracts that lock in future delivery of currencies at a price set on a specified date reducing counterparty risk and providing transparency in the process.
4. **Options Market:** Options market is a marketplace which gives traders the right, but not the obligation, to buy or sell currencies at a predetermined price within a specified period. This process allows investors to speculate on the future movements of the stock market.
5. **Swap Market:** Swap market is an OTC as swaps are not exchange traded tools; they are customized contracts that private parties exchange. Swaps can be used for hedging and arbitrage purposes, allowing participants to manage long-term exposure to currency fluctuations, refinancing debt and reallocating capital structure.

Function

The primary functions of the FOREX market include:

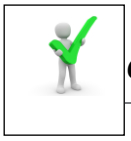
1. **Facilitating International Trade and Investment:** The FOREX market supports global commerce and capital flows by enabling the exchange of commodities.

2. **Price Discovery:** The FOREX market reflects the economic fundamentals and market sentiment by determining exchange rates based on supply and demand dynamics.
3. **Risk Management:** The FOREX market allows participants to hedge against adverse currency movements through various tools and strategies.
4. **Providing Liquidity:** The FOREX market's huge size and continuous process ensure liquidity, allowing parties to buy and sell currencies with ease.

Key Players

1. **Banks:** Investment and Commercial banks are the largest contributors in the FOREX market, facilitating transactions for parties, engaging in proprietary trading and providing liquidity. They act as market makers, quoting bid and ask prices for currency pairs.
2. **Governments and Central Banks:** They participate in the FOREX marketplace to implement monetary policy, stabilizing their currency, and manage foreign exchange reserves.
3. **Corporations:** A multinational corporation engages in the FOREX market to hedge currency risk linked with international procedures, manages overseas cash flows, and elevates the financial performance. They use forward, spot and options contracts to alleviate exposure to exchange rate fluctuations.
4. **Speculators:** Speculators anticipates the movements in exchange rates and trade currencies to gain more profit. They provide liquidity and also facilitate price discovery and their activities can also contribute to market volatility. They use various strategies, such as arbitrage and technical analysis to explore market efficiencies and trends.

The FOREX market's structure, key players, and exchange rate mechanisms are integral to its function as a global financial marketplace. Understanding these fundamentals is essential for navigating the complexities of currency trading and managing the associated risks effectively.



Check Your Progress-A

Q1. What is the primary function of the FOREX market?

Q2. Explain the types of markets within the FOREX market and briefly describe each.

Q3. MCQs

1. Which of the following is a key political factor influencing exchange rates?

a) Interest Rates

b) Political Stability

c) Inflation Rates

d) Trade Balances

2. What is the term for the risk associated with adverse currency movements?

a) Credit Risk

b) Liquidity Risk

c) Exchange Rate Risk

d) Interest Rate Risk

3. Who are the largest participants in the FOREX market?

a) Individual Investors

b) Central Banks

c) Commercial and Investment Banks

d) Corporations

Q4. Fill in the Blanks with appropriate word or words.

1. The _____ market is where currencies are traded for immediate delivery.
2. _____ risk arises from changes in exchange rates that affect the value of financial transactions.
3. In the _____ market, participants agree to buy or sell currencies at a predetermined future date and exchange rate.
4. _____ trading involves predicting future movements in currency values to make a profit, often leading to increased market volatility.
5. A _____ market provides traders with the right, but not the obligation, to buy or sell currencies at a predetermined price within a specified period.

7.7 SPECULATION IN THE FOREIGN EXCHANGE MARKET

Speculation in the FOREX market is the practice of trading currencies with the primary objective of profiting from anticipated movements in exchange rates. Unlike hedging, which aims to mitigate risk, speculation involves deliberately taking on risk in hopes of achieving significant returns. Speculators play an important role in the FOREX market by increasing liquidity, enabling price discovery, and improving market efficiency. However, their efforts may contribute to greater volatility and possibly market instability. Understanding the nature of speculation, the numerous speculative methods used, and how they affect exchange rates and market dynamics is critical for financial managers, investors, and policymakers navigating the FOREX market's intricacies. This chapter investigates the various aspects of speculation, providing insights into the motivations, tactics, and outcomes of speculative trading in the global currency market.

FOREX speculation is the practice of trading currencies with the primary goal of benefitting from expected exchange rate fluctuations. Unlike hedgers, who aim to reduce risk, speculators actively take on risk, wagering on price movements to create rewards. Individual traders, hedge funds, financial institutions' proprietary trading desks, and other market participants use a variety of tactics to capitalize on market inefficiencies and trends.

Role of Speculators

1. **Liquidity Provision:** Speculators provide market liquidity by frequently buying and selling currencies, allowing other market participants to complete trades effectively.

2. **Volatility:** While speculation can improve liquidity and price discovery, it can also increase market volatility since huge speculative trades can produce significant price movements.
3. **Market Efficiency:** Speculators contribute to market efficiency by identifying and exploiting arbitrage possibilities.
4. **Price Discovery:** Speculators contribute to the price discovery process by trading and establishing market prices that reflect current supply and demand dynamics.

7.8 SPECULATIVE ACTIVITIES AND STRATEGIES EMPLOYED

Types of Speculative Activities

1. **Arbitrage:** Arbitrage involves taking advantage of price discrepancies in different markets or instruments. Arbitrageurs simultaneously buy and sell the same asset in different markets to profit from price differentials, thus ensuring prices remain aligned across markets. In the FOREX market, arbitrage can involve trading currency pairs across different exchanges or using instruments like forwards and futures to lock in risk-free profits.
2. **Carry Trade:** The carry trade technique is borrowing in one currency at a low interest rate and investing in another at a higher interest rate. The speculator earns from the difference in interest rates between the two currencies. However, carry trades are risky because they are highly sensitive to changes in interest rates and exchange rates. If the higher-yielding currency depreciates significantly, the speculator could incur substantial losses.
3. **Momentum Trading:** Momentum traders capitalize on the continuation of existing market trends. They buy currencies that are rising in value and sell currencies that are falling, based on the assumption that these trends will persist. This strategy relies heavily on technical analysis and market sentiment. Momentum trading can amplify price movements, contributing to short-term volatility.

Strategies Employed by Speculators

1. **Technical Analysis:** Speculators use technical analysis to predict future price movements based on historical price data, chart patterns, and trading volumes. Common tools include relative strength index (RSI), moving averages, and Fibonacci retracements. This analysis helps speculators in identifying entry and exit points for trades.
2. **Fundamental Analysis:** This strategy involves analyzing economic indicators, interest rates, geopolitical events, and other macroeconomic factors

to forecast currency movements. Speculators using fundamental analysis aim to understand the underlying factors driving exchange rates and position themselves accordingly.

3. **Algorithmic Trading:** Algorithmic trading entails employing computer programs to conduct transactions based on predetermined criteria. These algorithms can scan enormous databases, make trades quickly, and exploit market inefficiencies. High-frequency trading (HFT) is a subset of algorithmic trading in which a large number of orders are executed in very short time periods.
4. **Sentiment Analysis:** Sentiment analysis gauges market sentiment through news, social media, and other sources to predict currency movements. Speculators use sentiment analysis to understand market psychology and 1. position themselves in line with prevailing trends or to anticipate reversals.

7.9 IMPACT OF SPECULATION

1. **Exchange Rates:** Speculation can significantly influence exchange rates, as speculative trades often involve large volumes of currency transactions. When speculators anticipate changes in economic conditions or geopolitical events, their trades can cause substantial fluctuations in exchange rates.
2. **Market Liquidity:** By providing liquidity, speculators make it easier for other market participants to execute their trades, contributing to market efficiency. However, during periods of high volatility or market stress, speculators may withdraw liquidity, exacerbating price movements.
3. **Volatility:** Speculation can lead to increased volatility, especially when large speculative positions are unwound rapidly. This can result in sudden and sharp movements in exchange rates, posing challenges for hedgers and other market participants who seek stability.
4. **Market Stability:** While speculation can enhance market efficiency and liquidity, it can also destabilize markets if speculative activities lead to excessive volatility or if speculative bubbles form and burst. Central banks and regulatory authorities monitor speculative activities to mitigate systemic risks and ensure market stability.

Speculation plays a crucial role in the FOREX market by providing liquidity, aiding in price discovery, and promoting market efficiency. However, it also introduces risks of increased volatility and potential market instability. Understanding the types of speculative activities and their impacts is essential for navigating the complications of the FOREX market and managing related risks effectively.

7.10 RISK IN THE FOREIGN EXCHANGE MARKET

Risk in the FOREX market is an essential aspect of trading and investing in global currencies. The FOREX market, being the biggest and most liquid financial market in the world, is subject to a variety of risks that can considerably impact the participants. These risks includes credit risk, exchange rate risk, liquidity risk, and interest rate risk, each arising from the volatile and dynamic nature of commodities movements. Understanding and managing these risks is essential for market participants, including, policymakers, financial institutions, investors, and multinational corporations. Effective risk management strategies are essential to mitigate potential losses and safeguard financial stability. This chapter digs into the various types of risks in the FOREX market and the techniques used to measure and manage those risks.

Risk management is an essential aspect of navigating the complications of the FOREX market, where participants face various forms of financial exposure due to fluctuations in currency values. The FOREX market is integrally volatile, with exchange rates influenced by several factors such as geopolitical events, economic indicators and market sentiment. To protect the financial interests and maintain stability understanding and mitigating these risks is critical for investors, businesses and financial institutions.

Types of Risks

1. **Exchange Rate Risk:** Exchange rate risk, also known as currency risk, arises from fluctuations in the value of one currency relative to another. These fluctuations can impact the profitability of international transactions, investments, and operations. For example, if a U.S. company has receivables denominated in euros and the euro depreciates against the U.S. dollar, the company will receive less in dollar terms, leading to reduction in its profit margins. Exchange rate risk is mainly important for importers, exporters, multinational corporations and investors holding foreign-denominated assets.
2. **Interest Rate Risk:** In the FOREX market this risk is related to changes in the interest rates that can affect the value of currencies and interest-bearing instruments. When interest rates change, they influence the attractiveness of a currency. Higher interest rates typically attract foreign capital, leading to an appreciation of the currency, while lower interest rates may result in depreciation. Interest rate differentials between countries can also affect currency values and impact investment decisions, borrowing costs, and the overall economic environment.
3. **Credit Risk:** Credit risk, or counterparty risk, arises when one party in a financial transaction fails to fulfill its obligations, leading to a financial loss for the other party. In the FOREX market, this risk is prevalent in forward contracts, swaps, and other OTC transactions. If a counterparty defaults, the other party may be exposed to significant financial losses. Managing credit

risk involves assessing the creditworthiness of counterparties, using collateral arrangements, and diversifying exposures.

4. **Liquidity Risk:** Liquidity risk refers to the risk of being unable to buy or sell a currency quickly at the desired price due to insufficient market liquidity. In highly liquid markets, participants can execute large transactions with minimal price impact. However, in less liquid markets or during periods of market stress, liquidity can dry up, leading to wide bid-ask spreads and significant price volatility. Liquidity risk can affect the ability to enter or exit positions, manage cash flows, and execute hedging strategies effectively.

Measurement of FOREX Risk

Accurate measurement of Forex risk is essential for effective risk management in the foreign exchange market. Given the inherent volatility and unpredictability of currency movements, market participants must employ robust techniques to quantify potential exposures and assess their impact on financial performance. Various methods are used to measure Forex risk, including Value at Risk (VaR), which estimates potential losses over a specified period with a given confidence level, and stress testing, which evaluates the effects of extreme market conditions on a portfolio. Scenario analysis complements these methods by exploring the outcomes of different hypothetical situations. By leveraging these measurement tools, traders, investors, and financial institutions can better understand their risk profiles, make informed decisions, and implement strategies to mitigate potential adverse effects from currency fluctuations.

1. **Value at Risk (VaR):** VaR is a statistical measure that evaluates the potential loss in value of a portfolio or position over a specified period, given a certain confidence level. VaR quantifies the maximum expected loss under normal market conditions, providing a benchmark for risk management. For example, a one-day VaR at a 97% confidence level of $1 million means that there is a 97% chance that the portfolio will not lose more than $1 million in a single day. VaR is widely used by financial institutions to assess market risk and determine capital reserves.
2. **Stress Testing:** Stress testing involves evaluating the resilience of a portfolio or financial institution under extreme but plausible market scenarios. These scenarios can include sharp currency devaluations, interest rate spikes, or geopolitical events. Stress tests help identify vulnerabilities and potential losses that may not be captured by normal market environment. Stress testing, which simulates unfavorable situations, helps to assess the impact of extreme events on FOREX exposures and informs risk mitigation techniques.
3. **Scenario Analysis:** Scenario analysis is a forward-thinking technique for determining the impact of numerous hypothetical events on a portfolio or position. Unlike stress testing, which focuses on severe occurrences, scenario analysis considers a wide range of potential outcomes based on various

assumptions about market conditions, economic trends, and geopolitical events. This strategy provides a more nuanced understanding of risk by taking into account various scenarios, each with different probabilities and outcomes. Scenario analysis aids strategic planning and decision-making by identifying potential risks and opportunities under various market scenarios.

In the FOREX market understanding and managing the various types of risks is critical for ensuring financial stability and meeting corporate objectives. Exchange rate risk, interest rate risk, credit risk, and liquidity risk all present unique issues, but with effective measurement methods like Value at Risk, stress testing, and scenario analysis, market players may better predict and mitigate these risks. Financial managers, investors, and policymakers can understand the FOREX market's intricacies and protect themselves from potential losses by using strong risk management measures.

7.11 HEDGING STRATEGIES

Hedging strategies are crucial tools used by financial institutions, businesses and investors to mitigate the risks associated with fluctuations in interest rates, currency exchange rates and other financial variables. In the FOREX market, hedging involves taking positions that offset potential losses from adverse currency movements, thereby protecting the value of international transactions and investments. By employing various financial instruments such as forwards, futures, options, and swaps, market participants can create effective hedging strategies tailored to their specific risk exposures. Understanding and implementing these strategies is crucial for maintaining financial stability, ensuring predictable cash flows, and achieving long-term business objectives in an increasingly volatile global market. This section delves into the different hedging techniques, their applications, and their benefits in managing FOREX risk.

Importance of Hedging in FOREX Risk Management

Hedging is a critical component of risk management in the foreign exchange (FOREX) market, designed to protect businesses, investors, and financial institutions from adverse movements in currency exchange rates. As global operations and investments expose entities to fluctuations in currency values, hedging provides a way to lock in exchange rates or reduce the impact of volatility. By using hedging strategies, organizations can stabilize cash flows, protect profit margins, and achieve greater financial predictability. Effective hedging helps to minimize potential losses, manage financial risk, and safeguard against unforeseen market shifts, thereby enabling more accurate budgeting and strategic planning.

Hedging Instruments

Hedging instruments are critical tools in the foreign exchange market used to mitigate the risks associated with currency fluctuations. These instruments provide market participants with various methods to protect against adverse movements in exchange rates, thereby stabilizing cash flows and safeguarding financial outcomes. Key hedging instruments include forward contracts, which lock in exchange rates for future transactions; futures contracts, standardized agreements traded on exchanges; options, which offer the right but not the obligation to buy or sell currencies at specified rates; and currency swaps, which involve exchanging principal and interest payments in different currencies. Each instrument has distinct characteristics and benefits, allowing entities to tailor their hedging strategies to their specific risk exposures and financial goals. By effectively utilizing these tools, market participants can manage their currency risks more proactively and achieve greater financial stability.

1. **Forward Contracts:** Forward contracts are unique agreements between two parties to exchange currencies at a predetermined rate on a future date. These contracts are arranged directly between the parties and do not trade on exchanges. Businesses routinely utilize forward contracts to lock in currency rates for future transactions, so offering cost and income certainty. They can be tailored to match the exact amount and timing of the underlying exposure, making them a flexible tool for hedging against currency fluctuations.
2. **Futures Contracts:** Futures contracts are standardized agreements that are traded on exchanges and commit the buyer and seller to purchase and sell a certain amount of currency at a defined rate on a future date. Futures, unlike forward contracts, are standardized and demand margin payments. They offer more liquidity and transparency due to their exchange-traded nature. Futures contracts are used to hedge against expected changes in exchange rates, providing a standardized method for managing FOREX risk with clear contract terms and reduced counterparty risk.
3. **Options:** Currency options provide the holder the right, but not the duty, to purchase or sell a currency at a particular strike price within a given time frame. Options are classified into two types: call options, which grant the right to buy, and put options, which grant the right to sell. Options provide flexibility, allowing hedgers to protect against unfavourable currency movements while retaining the potential to benefit from favorable shifts. The cost of purchasing options, known as the premium, is a consideration, but options can be valuable for managing uncertainty and capturing potential upside.
4. **Currency Swaps:** It involve the exchange of principal and interest payments in one currency for equivalent payments in another currency. These agreements typically consist of two transactions: an initial exchange of currency amounts at the spot rate and a reverse exchange at a future date. Currency swaps are used for managing long-term currency exposures,

funding needs, and interest rate differentials. They can be particularly useful for companies with ongoing foreign currency cash flows or those looking to adjust their currency exposure over time.

Effectiveness of Hedging Strategies

The effectiveness of hedging strategies depends on several factors, including the accuracy of risk assessments, the appropriateness of the hedging instruments used, and market conditions.

1. **Accuracy of Risk Assessments:** Effective hedging requires a thorough understanding of the underlying currency exposures and potential risks. Accurate forecasting of cash flows, currency movements, and market trends is essential for selecting appropriate hedging instruments and designing strategies that align with risk management objectives.
2. **Appropriateness of Hedging Instruments:** The choice of hedging instruments should match the specific characteristics of the exposure being hedged. For instance, forward contracts and futures are suitable for managing predictable cash flows, while options offer flexibility for uncertain or fluctuating exposures. Currency swaps are useful for long-term hedging and managing interest rate differentials. Selecting the right instrument is crucial for achieving effective risk management.
3. **Market Conditions:** Hedging effectiveness can be influenced by market conditions, such as volatility, liquidity, and interest rate environments. In highly volatile markets, hedging instruments may be less effective due to wide bid-ask spreads or changes in market dynamics. Regular monitoring and adjustment of hedging strategies are necessary to adapt to evolving market conditions and maintain their effectiveness.
4. **Cost Considerations:** While hedging can mitigate risk, it also involves costs, such as premiums for options, transaction fees, and potential opportunity costs. Evaluating the cost-benefit trade-off is important to ensure that the benefits of hedging outweigh the associated expenses.

Hedging strategies play a vital role in managing FOREX risk, offering various instruments to protect against adverse currency movements. The effectiveness of these strategies depends on careful risk assessment, appropriate instrument selection, and adaptation to market conditions. By implementing robust hedging practices, market participants can enhance financial stability, predictability, and overall risk management.

7.12 REGULATORY FRAMEWORK AND ETHICAL CONSIDERATIONS

In the foreign exchange (FOREX) market, a robust regulatory framework and adherence to ethical standards are essential for ensuring market integrity, transparency, and fairness. The FOREX market's decentralized nature, coupled with its vast scale and complexity, necessitates effective regulation to prevent market abuse, maintain financial stability, and protect investors. Regulatory bodies across various jurisdictions establish rules and guidelines that govern trading practices, reporting requirements, and risk management. Additionally, ethical considerations, such as the responsibility to act transparently and avoid conflicts of interest, play a crucial role in fostering trust and credibility within the market. This section explores the key regulatory frameworks and ethical principles that guide FOREX market operations, highlighting their importance in promoting a fair and orderly market environment.

The global regulatory environment for the foreign exchange (FX) market is designed to ensure market integrity, protect investors, and maintain financial stability. Given the decentralized and highly liquid nature of the FX market, which operates across various jurisdictions and involves numerous participants, effective regulation is essential to manage risks and prevent abuses. The regulatory framework encompasses several key components:

1. Role of Central Banks and Regulatory Bodies

Central banks and regulatory bodies are crucial in overseeing and regulating the FX market. Their roles include setting monetary policies, influencing currency values, and ensuring market stability. Major the European Central Bank (ECB), central banks such as the Federal Reserve (U.S.), and the Bank of England (BoE) play significant roles in:

- **Monetary Policy:** Adjusting interest rates and implementing monetary policies to influence currency values and manage inflation.
- **Market Interventions:** Conducting market operations, such as buying or selling currencies, to stabilize exchange rates and influence liquidity.
- **Reserve Management:** Managing foreign exchange reserves to support currency values and stabilize the domestic economy.

Regulatory bodies, such as the Commodity Futures Trading Commission (CFTC) in the U.S., the Financial Conduct Authority (FCA) in the UK, and the European Securities and Markets Authority (ESMA), are responsible for:

- **Market Oversight:** Ensuring compliance with regulations and monitoring trading practices to prevent market manipulation and fraud.
- **Enforcement:** Investigating and penalizing non-compliance with trading rules and regulations.

- **Investor Protection:** Implementing measures to safeguard investors from fraudulent practices and ensuring transparency in market activities.

2. Key Regulations Affecting the FX Market

Several key regulations shape the FX market, addressing various aspects of trading, risk management, and market conduct:

- **Dodd-Frank Act (U.S.):** Enacted in response to the 2008 financial crisis, this act increased transparency in the derivatives markets, including FX derivatives. It mandates reporting and clearing requirements for over-the-counter (OTC) derivatives, aiming to reduce systemic risk and enhance market transparency.
- **Markets in Financial Instruments Directive II (MiFID II - EU):** This directive regulates financial markets across the European Union, including FX trading. It focuses on improving transparency, reporting requirements, and investor protection. MiFID II enhances the oversight of trading venues and the conduct of financial firms.
- **Basel III:** Provides international regulatory standards for banks, including requirements for capital adequacy, liquidity, and leverage. Basel III affects banks' FX trading operations by setting standards for managing liquidity and capital risks associated with currency trading.
- **Anti-Money Laundering (AML) and Know Your Customer (KYC) Regulations:** These regulations require financial institutions to implement procedures to prevent money laundering and terrorist financing. They involve conducting customer due diligence, monitoring transactions, and reporting suspicious activities.

3. International Coordination

Given the global nature of the FX market, international coordination among regulatory bodies is essential. Efforts to harmonize regulations across different jurisdictions aim to:

- **Prevent Regulatory Arbitrage:** Ensuring consistent standards and practices to avoid situations where market participants exploit regulatory differences between countries.
- **Enhance Cooperation:** Facilitating information sharing and collaboration among regulatory authorities to address cross-border challenges and coordinate responses to market disruptions.
- **Promote Stability:** Coordinating regulatory approaches to maintain global financial stability and manage systemic risks.

The global regulatory environment for the FX market plays a critical role in maintaining market integrity and stability. Central banks and regulatory bodies provide oversight and enforce rules to ensure fair practices and protect investors. Key regulations, such as the Dodd-Frank Act, MiFID II, and Basel III, shape market conduct and risk management practices. International coordination among regulators is essential for managing global risks and promoting a stable and transparent FX market.

Ethical Considerations in Speculation and Risk Management

1. **Ethical Trading Practices:** Ethical trading practices in the FOREX market involve adherence to principles of integrity, fairness, and transparency. Key aspects include:
    - **Avoiding Market Manipulation:** Traders should refrain from engaging in practices that manipulate currency prices, such as spreading false information or executing trades to create artificial market conditions.
    - **Confidentiality and Transparency:** Maintaining the confidentiality of sensitive information and providing transparent disclosures about trading activities and conflicts of interest are essential for maintaining market trust.
    - **Fair Dealing:** Ensuring that all market participants have equal access to information and trading opportunities promotes fairness and prevents unfair advantages.

    Ethical trading practices are critical for maintaining the credibility of the FOREX market and fostering a fair trading environment for all participants.

2. **Corporate Governance:** Effective corporate governance is crucial for ensuring that FOREX trading and risk management activities align with ethical standards and regulatory requirements. Key elements include:
    - **Board Oversight:** The board of directors should provide oversight of trading activities and risk management practices, ensuring that they are conducted in accordance with regulatory standards and ethical guidelines.
    - **Risk Management Policies:** Establishing robust risk management policies and procedures helps to identify, assess, and mitigate risks associated with FOREX trading, including speculative risks and exposure management.
    - **Compliance and Ethics Programs:** Implementing comprehensive compliance and ethics programs ensures that employees adhere to

regulatory requirements and ethical standards in their trading and risk management activities.

Strong corporate governance structures support ethical conduct, enhance accountability, and ensure that trading practices align with both regulatory requirements and ethical norms.

A well-defined regulatory framework and adherence to ethical considerations are essential for the proper functioning of the FOREX market. Regulatory bodies and key regulations help to maintain market integrity and protect investors, while ethical trading practices and effective corporate governance ensure fairness and transparency. By understanding and implementing these regulatory and ethical standards, market participants can contribute to a stable and trustworthy FOREX market environment.

7.13 EMERGING TRENDS AND FUTURE DIRECTIONS

As the foreign exchange (FOREX) market continues to evolve, emerging trends and technological advancements are reshaping its landscape, presenting both opportunities and challenges for market participants. Innovations in digital currencies, artificial intelligence, blockchain technology, and regulatory changes are driving significant shifts in how currencies are traded and managed. These developments are influencing trading strategies, risk management practices, and regulatory frameworks, creating a dynamic environment that requires ongoing adaptation and foresight. Understanding these emerging trends and their possible consequences is critical for navigating the FOREX market's future, ensuring that players can capitalize on new technology and strategies while mitigating associated risks and challenges. This section explores the key trends shaping the future of the FOREX market and provides insights into how these changes may influence market practices and strategies moving forward.

Technological Advances in FOREX Trading

Technological advancements have profoundly transformed the landscape of foreign exchange (FOREX) trading, driving greater efficiency, speed, and sophistication in market operations. The integration of cutting-edge technologies such as algorithmic trading, blockchain, and artificial intelligence has reshaped how traders execute transactions, analyze market data, and manage risks. Algorithmic trading systems enable high-speed, automated trading based on predefined algorithms, enhancing execution speed and market liquidity. Blockchain technology offers new levels of transparency and security in transaction recording and settlement, while artificial intelligence provides advanced data analysis and predictive capabilities. These technological innovations not only improve trading accuracy and operational efficiency but also introduce new

dynamics and challenges in the FOREX market, requiring participants to adapt to new technologies.

Algorithmic Trading: It involves the use of computer algorithms to accomplish trades based on predefined criteria. This technology has brought revolution in the FOREX market by increasing trading speed, efficiency and precision. Key aspects include:

- **High-Frequency Trading (HFT):** HFT algorithms implement a large number of orders within milliseconds, taking advantage of small price movements and arbitrage opportunities. This has increased market liquidity and reduced bid-ask spreads but also introduced new challenges, such as increased volatility and systemic risk.
- **Quantitative Models:** Quantitative trading strategies employ mathematical models and statistical analysis to discover trading opportunities and control risk. These models can evaluate large volumes of data to identify patterns and trends, allowing for better informed decision-making.
- **Automated Market Making:** Algorithms can operate as market makers, providing liquidity and making trading easier by constantly quoting buy and sell prices. This helps to keep the market liquid and efficient during less active trading hours.

Algorithmic trading has transformed the FOREX market by improving its performance, increasing speeds and enabling complex trading strategies, raising concerns about market stability and fairness, needing ongoing scrutiny and regulation.

Blockchain and Cryptocurrencies: In the FOREX market Blockchain technology and crypto currencies are emerging as transformative forces. Key developments include:

- **Blockchain Technology:** Blockchain provides a decentralized and immutable database for recording transactions, increasing transparency and reducing fraud in FOREX trading. It allows for real-time settlement of transactions and reduces the need for intermediaries, potentially cutting transaction costs and enhancing efficiency.
- **Cryptocurrencies:** Digital currencies, such as Bitcoin and Ethereum, provide alternative investment options while posing new challenges to existing FOREX markets. Cryptocurrencies operate on decentralized networks, are not controlled by central banks, and can be very volatile. They also provide new trading venues and financial products, which broaden the scope of currency trading.

Blockchain and cryptocurrencies are restructuring the FOREX market by offering new ways to trade and settle transactions, increasing efficiency

and transparency while introducing new risks and regulatory considerations.

Future Trends in FOREX Risk Management

The landscape of Forex risk management is continuously evolving, driven by advancements in technology and shifts in market dynamics. As the foreign exchange market becomes increasingly complex, future trends are poised to reshape risk management strategies significantly. The integration of artificial intelligence and machine learning is expected to revolutionize how risk is assessed and managed, offering more accurate predictions and real-time risk analysis. Additionally, advancements in regulatory technology (RegTech) will streamline compliance and risk monitoring processes, enhancing transparency and efficiency. The rise of innovative financial products and trading platforms will also influence risk management practices, necessitating adaptive strategies to address new types of market exposures and ensure robust protection against unforeseen market movements. Embracing these emerging trends will be crucial for market participants to stay ahead of risks and navigate the evolving Forex landscape effectively.

AI and Machine Learning in Risk Analysis: AI and machine learning are increasingly being used to enhance risk management in the FOREX market. These technologies offer advanced capabilities for analyzing large datasets, detecting patterns, and predicting market movements. Key applications include:

- **Predictive Analytics:** AI algorithms can analyze historical data and identify trends to forecast future currency movements. This can improve risk assessment and decision-making by providing more accurate predictions of market conditions.
- **Real-Time Monitoring:** Machine learning models can continuously monitor market conditions and detect anomalies or emerging risks in real-time. This allows for quicker responses to changing market dynamics and potential threats.
- **Risk Modeling:** AI and machine learning can enhance risk modeling by incorporating complex factors and interactions that traditional models might overlook. This leads to more robust and dynamic risk management strategies.

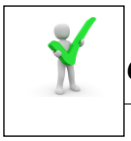
The integration of AI and machine learning in risk analysis holds the potential to significantly improve the accuracy and efficiency of risk management practices, enabling more proactive and data-driven approaches.

Evolution of Regulatory Standards: As the FOREX market evolves, regulatory standards are also adapting to address new challenges and risks. Key trends in the evolution of regulatory standards include:

- **Increased Focus on Transparency:** Regulators are emphasizing the need for greater transparency in trading practices, including enhanced reporting requirements and disclosures. This aims to prevent market manipulation and improve market integrity.
- **Regulation of New Financial Products:** The rise of cryptocurrencies and other innovative financial products has led to the development of new regulatory frameworks. Regulators are working to establish guidelines and rules to address the unique risks associated with these products.
- **Global Coordination:** Given the global nature of the FOREX market, there is a growing emphasis on international regulatory coordination. Efforts are being made to harmonize regulations across jurisdictions to ensure consistent oversight and prevent regulatory arbitrage.

The evolution of regulatory standards reflects the need to balance innovation with oversight, ensuring that new technologies and market developments are effectively regulated to maintain market stability and protect investors.

Emerging trends and technological advancements are shaping the future of the FOREX market, providing innovation while presenting new challenges. Algorithmic trading and blockchain technology are enhancing trading efficiency and transparency, while AI and machine learning are improving risk management capabilities. At the same time, evolving regulatory standards are adapting to address these changes, promoting greater transparency and global coordination. Understanding these trends and their implications is crucial for market participants to navigate the evolving landscape and leverage new opportunities while managing associated risks effectively.



Check Your Progress-B

Q1. Define algorithmic trading and explain its impact on the FOREX market.

Q2. What role does blockchain technology play in enhancing transparency in FOREX trading?

Q3. How do AI and machine learning contribute to improving risk management in the FOREX market?

Q4. Multiple Choice Questions

1. Which of the following best describes algorithmic trading?

   A. Trading that uses computer algorithms to execute trades based on predefined criteria.

   B. Trading that involves physical exchange of currencies.

   C. Trading that relies solely on manual decision-making processes.

   D. Trading that focuses exclusively on long-term investments.

2. Which technology provides a decentralized and immutable ledger for recording transactions in FOREX trading?

   A. Artificial Intelligence

   B. Machine Learning

   C. Blockchain

   D. High-Frequency Trading

3. Which regulation focuses on increasing transparency and reporting requirements for derivatives, including FOREX derivatives?

   A. Basel III

   B. MiFID II

   C. Dodd-Frank Act

   D. Anti-Money Laundering (AML) Regulations

7.15 GLOSSARY

Algorithmic Trading: Use of computer algorithms to execute trades based on predefined criteria to enhance trading speed and efficiency.

Blockchain: A decentralized, immutable ledger technology that records transactions across multiple computers, enhancing transparency and security.

High-Frequency Trading (HFT): A type of algorithmic trading characterized by executing a large number of orders at extremely high speeds to capitalize on small price movements.

Cryptocurrency: Digital or virtual currencies that use cryptography for security and operate on decentralized platforms, independent of central banks.

Value at Risk (VaR): A statistical measure that estimates the potential loss in value of a portfolio over a specified period with a given confidence level.

Forward Contract: A customized agreement between two parties to exchange currencies at a predetermined rate on a specific future date.

Futures Contract: A standardized agreement traded on exchanges to buy or sell a specified amount of currency at a predetermined rate on a set future date.

Currency Swap: A financial agreement involving the exchange of principal and interest payments in one currency for equivalent payments in another currency.

Machine Learning: A branch of artificial intelligence that involves training algorithms to recognize patterns and make predictions based on data.

Regulatory Body: An organization that oversees and enforces regulations within a specific financial market or industry to ensure compliance and protect market integrity.

7.16 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress –A

Answer 1: The primary function of the FOREX market is to facilitate international trade and investment by enabling currency conversion and managing currency risk.

Answer 2: The four main types of markets within the FOREX market are:

- **Spot Market:** Where currencies are traded for immediate delivery.
- **Futures Market:** Similar to forward contracts but standardized and traded on exchanges.
- **Forward Market:** Where contracts are made to buy or sell currencies at a future date and specified exchange rate.
- **Options Market:** Provides the right, but not the obligation, to buy or sell currencies at a predetermined price within a specified period.

Answer 3. MCQs

1. b) Political Stability

2. c) Exchange Rate Risk

3. c) Commercial and Investment Banks

Answer 4. Fill in the Blanks with appropriate word or words.

1. Spot
2. Exchange Rate
3. Forward
4. Speculative
5. Options

Check Your Progress –B

Answer 1. Algorithmic trading refers to the use of computer algorithms to execute trades at optimal prices and speeds based on predefined criteria. In the FOREX market, it enhances trading efficiency, increases liquidity, and reduces trading costs.

However, it can also lead to higher market volatility and contribute to rapid price fluctuations due to the high-frequency nature of these trades.

Answer 2. Blockchain technology provides a decentralized and immutable ledger for recording transactions. In FOREX trading, it enhances transparency by ensuring that all trades are securely recorded and easily verifiable, reducing the risk of fraud and manipulation. Blockchain also streamlines settlement processes and reduces the need for intermediaries, leading to faster and more transparent transactions.

Answer 3. AI and machine learning improve risk management by analyzing large volumes of data to identify patterns and predict market trends. They can enhance forecasting accuracy, automate risk assessments, and develop sophisticated trading strategies. These technologies help traders and financial institutions to better understand and manage potential risks, adapt to market changes more quickly, and make more informed decisions.

Answer 4. Multiple Choice Questions

1. B. Trading that uses computer algorithms to execute trades based on predefined criteria.
2. C. Blockchain
3. C. Dodd-Frank Act

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7.19 TERMINAL QUESTIONS

1. Explain the concept of algorithmic trading and discuss its impact on market liquidity and volatility.
2. Describe how blockchain technology can transform the FOREX market and highlight the potential risks associated with its adoption.
3. Analyze the role of regulatory bodies in maintaining market integrity and the effectiveness of key regulations in the FOREX market.
4. Discuss the advantages and limitations of using AI and machine learning for FOREX risk management.
5. Evaluate the future trends in FOREX trading and risk management, and propose strategies for adapting to these changes.

7.20 CASE LETS/CASES

Real-Life Case Study: JPMorgan Chase's Use of Blockchain for FOREX Settlement

JPMorgan Chase has been a pioneer in integrating blockchain technology into its foreign exchange (FOREX) settlement processes. In 2017, the bank launched the JPM Coin project, utilizing blockchain to streamline and secure cross-border payments and settlements. Before blockchain implementation, the FOREX settlement process was often

cumbersome, involving multiple intermediaries and extensive manual reconciliation, which could delay transactions and increase costs.

By adopting blockchain, JPMorgan Chase aimed to enhance the efficiency of its FOREX trading operations. The bank developed a digital payment system that leverages a private blockchain network to facilitate real-time settlement of trades. This innovation allowed for instantaneous and transparent transfers of digital currency, significantly reducing the time and cost associated with traditional settlement methods. The blockchain-based system also improved the accuracy and security of transactions, minimizing the risk of errors and fraud.

The successful implementation of blockchain technology by JPMorgan Chase demonstrated the potential of digital ledger systems to revolutionize financial markets. It showcased how blockchain could address long-standing inefficiencies in the FOREX market, setting a precedent for other financial institutions to explore similar technological advancements for enhancing operational efficiency and reducing costs in global trading.

Questions:

1. What were the primary challenges in the FOREX settlement process before JPMorgan Chase implemented blockchain technology?
2. How did JPMorgan Chase's use of blockchain technology improve the efficiency and security of FOREX settlements?
3. What potential benefits did the successful implementation of the JPM Coin project demonstrate for the broader financial market?

UNIT 8 PURCHASING POWER PARITY AND REAL EXCHANGE RATES

8.1 INTRODUCTION

The purchasing power parity theory was first introduced by Professor Gustav Cassel of Sweden in 1920. According to this theory, the exchange rate between two countries is based upon the relative purchasing power of their currencies. Such will be the rate which equates the two purchasing powers. For instance, if a specific number of items can be purchased for $1 in the United States and a comparable selection for Rs. 83 in India, it is evident that the purchasing power of $1 in the U.S. is equivalent to the purchasing power of Rs. 83 in India. According to the notion of purchasing power parity, the exchange rate will be $1 = Rs. 83.

Let us take another example. Suppose in the USA one $ purchases a given bunch of commodities. In India, same bunch of goods cost 80 rupees. Then rate of exchange will tend to be $ 1 = 80 rupees. Now, suppose the price levels in the two countries maintain the same but somehow exchange rate moves to $1=81 rupees.

This means that one US$ can purchase commodities worth more than 1 rupee. It will pay people to convert dollars into rupees at this rate, ($1 = Rs. 81), purchase the given collection of commodities in India for 80 rupees and sell them in U.S.A. for one dollar again, making a profit of 1 rupee per dollar worth of transactions.

Inflation rates often vary among countries, causing international trade patterns and exchange rates to adjust accordingly. One of the most popular and controversial theories in international finance is the purchasing power parity (PPP) theory, which attempts to quantify the relationship between inflation and exchange rate.

The basic theme of this theory is to determine exchange rate between two countries by equating the purchasing power of convertible paper currency prevailing in the two respective countries. The value of one country currency calculated in terms of the other country currency on the basis of purchasing power of respective country. Purchasing power of the currency can be known by the quantity of money required to purchase a commodity.

So according to PPP theory the rate of exchange determined by knowing the amount of currency required to purchase a common commodity in both the countries respectively

Example: Exchange rate Theory

Two countries India and USA

Common commodity 10 gram of gold

Now, if the price of 10gram gold in India is 80000

In USA price of 10gram gold in $1000

Then, the rate will be 80000/$1000= 80

$1 = ₹80

It means ₹ 80 equal to $1

If due to inflation exchange rate varies from the rate of PPP, then increase or decrease brought in demand of good automatically will set the exchange rate as per PPP theory or

We can say Arbitrage process will set the exchange rate as per PPP theory

8.2 UNIT OBJECTIVES

The following are objectives of the unit;

- Understand the concept of Purchasing Power Parity (PPP) and its theoretical foundations.

- Analyze the different types of PPP: Absolute and Relative.
- Examine the factors influencing deviations from PPP in real-world scenarios.
- Explore the relationship between PPP and exchange rate determination.
- Evaluate the implications of PPP for international trade and investment.
- Investigate the concept of real exchange rates and their calculation.
- Assess the impact of inflation differentials on real exchange rates.
- Compare and contrast nominal and real exchange rates.
- Apply PPP and real exchange rate theories to case studies and real-world data.
- Develop critical thinking skills to analyze currency misalignments and their economic consequences

8.3TWO FORMS OF THE PPP THEORY

The following are the two forms of the PPP Theory;

1. Absolute purchasing Power Parity:

Absolute PPP posits that the exchange rate between two currencies should correspond to the ratio of their respective price levels. In other words, a specific basket of goods ought to have the same cost in both nations once currency variations are considered. This form of PPP presumes ideal market conditions, without transportation costs, taxes, or trade barriers. Nevertheless, it seldom reflects reality due to these practical challenges. If there is a discrepancy in the prices as measured by such a common currency, then demand should shift so that these prices converge. The existence of transportation costs, tariffs, and quotas render the absolute form of PPP unrealistic. If the transportation costs were high then the demand for the product may not shift.

1. **Relative PPP** focuses on changes in price levels over time instead of their absolute measurements. It asserts that the rate of change in exchange rates between two currencies should be equivalent to the difference in inflation rates of the two countries. Fundamentally, if one nation experiences higher inflation, its currency is expected to depreciate in relation to another nation with a lower inflation rate. This theory acknowledges that these imperfection make it unlikely for prices of the same basket of goods in different countries to be the same when measured in a common currency.

   In other words, if one country's inflation rate is higher than another's, its currency should depreciate relative to the other country's currency to maintain purchasing

power parity. This theory is based on the idea that exchanges rates should adjust to equalize the purchase power of different currencies.

8.4THE LAW OF ONE PRICE (LOOP)

The Law of One Price (LOOP) is an essential principle in economics that forms the basis for the theory of Purchasing Power Parity (PPP). It posits that identical commodities should be priced equivalently across various countries when denominated in a shared currency, provided that there are no transportation costs, trade barriers, or other market impediments.

For example, if a laptop is priced at $1,000 in the United States, it should be priced at the equivalent amount in euros in Europe after adjusting for the exchange rate.

When price discrepancies occur, arbitrage opportunities emerge, prompting traders to procure goods where they are less costly and sell them where they are more expensive, which finally nudges prices toward equilibrium.

Nevertheless, in practice, LOOP frequently encounters challenges due to factors such as tariffs, shipping expenses, local taxation, and market inefficiencies. Despite these variations, LOOP remains a theoretical framework for comprehending the anticipated behavior of prices and exchange rates within a perfectly competitive global marketplace.

8.5 DERIVATION OF PURCHASING POWER PARITY

Assume that the price indexes of the home country (h) and a foreign country (f) are equal Now assume that, over time, the home country experiences an inflation rate of I_h whereas the foreign country experiences an inflation rate of I_f Because of this inflation the price index of products in the consumer's home country (P_h) becomes:

$$P_h(1 + I_h)$$

The price index of the foreign country (P_f)will also change in response to inflation in that country:

$$P_f (1 + I_f)$$

If $I_h > I_f$ and if the exchange rate between the two countries' currencies does not change, then the consumer's purchasing power is greater for foreign products than for home country products. In this case, PPP does not hold. If($I_h < I_f$) and again the exchange rate remains unchanged, then the consumer's purchasing greater for home country products than for foreign products. Thus, in this case, PPP also does not hold.

PPP theory suggests that the exchange rate will not remain constant, but instead will adjust to maintain the parity in purchasing power.If inflation occurs and the exchange rate of the foreign currency changes, then the foreign price index from the home country consumer's perspective becomes:

$$\mathbf{P_f(1 + I_f)(1 + e_f)}$$

Where e_f represents the percentage change in the value of foreign currency. According to PPP theory ,the percentage change in the foreign currency (e_f), should be such that parity is maintained between the new price indexes of the two countries. We can solve for e_f under conditions of PPP by setting the formula for the new price index of the foreign country equal to the formula for the new price index of the home country:

$$\mathbf{P_f (1 + I_f)(1 + e_f)= P_h(1 + I_h)}$$

Solving for $\mathbf{e_f}$ then yields:

$$1 + \mathbf{e_f} = \mathbf{P_h} (1 + \mathbf{I_h}))/ \mathbf{P_f} (1 + \mathbf{I_f})$$

$$\mathbf{e_f} = \{\mathbf{P_h} (1 + \mathbf{I_h}))/ \mathbf{P_f} (1 + \mathbf{I_f})\} - 1$$

Since P_h is equal to P_f (because the price indexes were assumed to be equal in the two countries), the two terms cancel, which leaves:

$$\mathbf{e_f} = \{ (1 + l_h)/(1 + l_f)\} - 1$$

This equality expresses the relationship (according to PPP) between relative inflation rates and the exchange rate. Observe that if $I_h > I_f$ then $e_f$should be positive, which implies that the foreign currency will appreciate when the home country's inflation exceeds the foreign country's inflation. Conversely, if $I_h < I_f$then $\mathbf{e_f}$should be negative, this implies that the foreign currency will depreciate foreign country's inflation exceeds the home country's inflation.

Example:

Assume that the exchange rate is initially in equilibrium. Subsequently, the home country currency experiences a 5 percent inflation rate and the foreign country experiences a 3 percent inflation rate. According to PPP, the foreign currency will adjust as follows:

$$\mathbf{e_f = \{ (1 + l_h)/(1 + l_f)\} - 1}$$
$$= \{ (1+.05)/(1 +.03)\} – 1$$
$$= 0.0194 \text{ or } 1.94\%$$

According to this example, the foreign currency should appreciate by 1.94 percent in response to the higher inflation of the home country relative to the foreign country. If that exchange rate change does occurs, then the price index of the foreign country will be as high as the index in the home country from the perspective of home country consumers. The lower relative inflation in the foreign country causes appreciation of its currency. When considering the exchange rate effect, price indexes of both countries rise by 5% from the home country perspective. Thus consumer’s purchasing power is the same for foreign products and home country product.

8.6EMPIRICAL EVIDENCE OF PPP

The empirical analysis of Purchasing Power Parity (PPP) presents a range of findings. Although PPP generally holds over the long term, particularly for tradable goods, it frequently fails to account for short-term fluctuations in exchange rates caused by market dynamics, speculation, and economic disturbances. Short-term discrepancies are prevalent due to elements such as inflation variances, trade restrictions, and erratic capital movements.

In the long term, research indicates that Relative PPP tends to be more dependable, as exchange rates gradually adjust to mirror inflation disparities between nations.

Nonetheless, even over extended periods, PPP may not consistently apply due to ongoing variations in productivity, local expenses, and governmental regulations.

A notable illustration is the "Big Mac Index," developed by The Economist, which compares the cost of a Big Mac in different countries and reveals significant deviations from PPP, underscoring how actual market conditions can lead to considerable price disparities.

In summary, empirical research indicates that while PPP serves as a valuable theoretical framework, it does not always accurately forecast short-term exchange rate movements.

8.7USEFULNESS OF PPP

The following are the usefulness of PPP;

1. Develop reasonably accurate economic statistics to compare the market condition of different criteria.

For example, PPP is often used to equalize calculation of gross domestic product because purchasing power can vary from country to country. The status for GDP based on purchasing power parity in often different than nominal GDP- GDP described by currency exchange alone.

2. Compare quality or standard of living in different criteria which may not be possible if on just looked at per capital income. A lower income may allow a good quality is a country where prices are low
3. It helps international organizations and researchers compare economic welfare and real income across nations.
4. PPP helps in determining the equilibrium the equilibrium exchange rate between two currencies by comparing the price levels of a common basket of goods and services.
5. Businesses can use PPP to determine international pricing strategies by understanding how much consumers indifferent countries can afford.
6. PPP provides a framework to adjust for inflation differentials between countries, which is crucial for long-term economic forecast and analyzes.
7. It helps in making more accurate cross-country comparisons over time by accounting for varying inflation rates.
8. Investors use PPP to gauge whether international markets are undervalued or overvalued, aiding in investment decisions

How India does overtakes Japan in PPP terms?

Countries by GDP		
Country	Nominal GDP	GDO (PPP)
The United states	$19.39 trillion	$19.39 Trillion
China	$12.01 trillion	$23.15 trillion
Japan	$ 4.87 trillion	$5.42 trillion
Germany	$3.68 trillion	$4.17 trillion
United Kingdom	$2.62 trillion	$2.91 trillion
India	$2.61 trillion	$9.45 trillion

Source : IMF's world economies Outlook Database April 2018

- Under the regular method of GDP calculation. India's economy is well behind Japan. The Indian economy is on $2.61 trillion compared with Japan ₹4.87 trillion in 2018. However price levels in Japan are much higher than that of India or in the US.
- When IMF adjust the national income of the two countries in terms of PPP exchange rates using US dollar. The Indian economy was at $9.45 trillion in 2018 because of lower prices while Japan stayed at $5.42 trillion.

- Essentially it means that in total two countries have the same purchasing power but because of the much lower populationaverage Japanese is way ahead of average Indian in purchasing power.

8.8 LIMITATIONS OF PPP THEORY

- The theory assumes that changes in price levels could bring about changes in exchange rates note vice e versa that is changes in exchange rates cannot affect domestic price levels if the countries concerned.
- According to the theory, to calculate the new equilibrium rate one must know the base rate I.e., the old equilibrium rate. But it is difficult to ascertain the particular rate which actually prevailed between the currencies as the equilibrium rate.
- Assumes away transportation costs and barriers to track. In practice, these factors are significant and they tend to create significant price differentiates between countries
- The governments regularly intervene in the foreign exchange market and this further weakens the link between price changes and changes in exchange rates.

8.9 REAL EXCHANGE RATE (RER)

The Real Exchange Rate (RER) is a metric that modifies the nominal exchange rate between two currencies by taking into account the price level variations between different countries. While the nominal exchange rate indicates the market value of one currency in relation to another, the RER provides a more precise evaluation of purchasing power by factoring in inflation and price fluctuations.

- Definition and Formula

The RER assesses the relative cost of goods between two nations, illustrating how many units of domestically produced goods can be exchanged for goods from abroad while adjusting for price discrepancies. The formula is as follows:

= NOMINAL EXCHANGE RATE FOREIGN PRICE / DOMESTIC PRICE

OR

$$R = (E.P')P$$

This formula incorporates the Nominal Exchange Rate (E), Foreign Price Level (P'), and Domestic Price Level (P) to evaluate the relative competitiveness of goods.

8.10 IMPORTANCE OF REAL EXCHANGE RATE

The RER is essential for assessing a country's competitiveness on the international stage. A high RER indicates that domestic goods are costly in comparison to foreign goods, which diminishes export competitiveness and encourages increased imports. Conversely, a low RER signifies that domestic goods are less expensive, thereby enhancing exports and reducing imports.

RER and Inflation

Inflation considerably influences the RER. Enhanced inflation levels within a country result in a higher RER, causing domestic goods to be more expensive compared to foreign goods, which can adversely affect export levels.

On the whole, the RER provides a comprehensive insight into currency valuation and its implications for trade, emphasizing the real competitiveness of a nation's economy in the global market.

8.11RELATIONSHIP BETWEEN PPP AND RER

The interplay between the Purchasing Power Parity (PPP) and the Real Exchange Rate (RER) is crucial for comprehending currency valuation and the dynamics of international economics. Although both concepts address the relationship between currencies and purchasing power across various nations, they fulfill different roles.

- Theoretical Framework: PPP posits that exchange rates ought to adjust to ensure that the price of a standardized basket of goods is equivalent between two countries. Conversely, RER assesses the actual price of goods in relation to the price levels of each country, offering a more accurate representation of competitiveness. When PPP is valid, the RER equals one, signifying that the currencies are appropriately valued. Any deviation from this equality indicates discrepancies in exchange rates.
- Long-Term vs. Short-Term: Over the long term, the RER generally aligns with the levels forecasted by PPP as market forces rectify any imbalances. However, in the short term, elements such as speculative trading, capital movements, and

transient economic disturbances can cause notable variations in the RER, often diverging from the PPP standard.

- Real-World Consequences: A high RER indicates that a nation's goods are relatively expensive compared to those of other countries, which may result in trade deficits. In contrast, a low RER suggests more affordable exports, thereby enhancing trade balances.

Keeping track of these indicators enables policymakers to gauge economic vitality and competitiveness.

In conclusion, while PPP offers a theoretical basis, RER delivers practical perspectives on actual currency behaviors and trade interactions, with both being vital for evaluating global economic conditions.

8.12 DETERMINANTS OF REAL EXCHANGE RATE

The Real Exchange Rate (RER) is shaped by a variety of factors that influence a nation's ability to compete in global markets. The primary determinants include:

- **Relative Prices and Inflation Rates**

Variations in relative prices have a profound effect on the RER. When one nation experiences a higher inflation rate compared to another, its products become comparatively more expensive, resulting in an elevated RER.

Example: If Brazil's inflation is recorded at 5% while the United States maintains a 2% rate, the RER between the Brazilian real and the U.S. dollar will increase, thereby diminishing the competitiveness of Brazilian exports.

- **Productivity Differences**

Enhanced productivity in the production of goods can lead to reduced prices, thereby increasing the competitiveness of exports and lowering the RER.

Example: Germany's superior productivity in manufacturing relative to Italy leads to more affordable German products in the international market, positively influencing Germany's RER.

- **Trade Policies and Barriers**

Tariffs and trade restrictions can elevate the prices of imported goods, thereby impacting the RER.

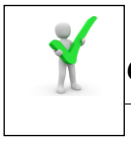
Example: Tariffs imposed by the United States on steel imports can drive up domestic prices, resulting in a higher RER and reducing the global competitiveness of U.S. steel.

- Monetary Policy and Interest Rates

Fluctuations in interest rates can influence capital movements and currency valuations, thereby affecting the RER.

Example: An increase in interest rates by Australia may lead to a heightened demand for the Australian dollar, potentially raising the RER and affecting trade competitiveness.

Comprehending these determinants is crucial for evaluating a nation's economic vitality and its competitive stance in trade.



Check Your Progress-A

Q1. What do you mean by Purchasing Power Parity (PPP) and also explain its theoretical foundations.

Q2. Discuss the different types of PPP: Absolute and Relative.

Q3. Examine the factors influencing deviations from PPP in real-world scenarios.

Q4. Explore the relationship between PPP and exchange rate determination.

Key Concepts

Absolute PPP: This principle states that the exchange rate should match the ratio of price levels between two countries.

Relative PPP: This concept looks at how exchange rates fluctuate over time in response to differing inflation rates.

The Law of One Price (LOOP): This law indicates that identical goods should be sold at the same price in different markets when converted into a common currency.

Real Exchange Rate (RER): This metric assesses the relative purchasing power of a currency, factoring in inflation rates in both domestic and foreign markets.

Derivation of PPP

PPP can be derived from the LOOP by analyzing a basket of goods and services exchanged between two countries. The exchange rate that balances the cost of this basket in both currencies is known as the PPP exchange rate.

Empirical Evidence and Limitations

Empirical research has yielded mixed results regarding the validity of PPP. While some studies support PPP in the long term, others have noted significant short-term deviations due to factors like nontradable goods, sticky prices, and government interventions.

Usefulness of PPP

Despite its limitations, PPP is a useful framework for understanding exchange rate fluctuations and evaluating the relative cost of living in different countries. It can also help assess the competitiveness of a nation's exports and imports.

Real Exchange Rate

The Real Exchange Rate (RER) is an important measure for evaluating a nation's competitiveness in the global market. When the RER is high, it indicates that a country's goods and services are more expensive compared to those of its trading partners, which can lead to a decline in exports and an increase in imports. On the other hand, a lower RER suggests that a country's exports are more competitive and that imports are cheaper.

Relationship Between PPP and RER

Purchasing Power Parity (PPP) and the RER are interconnected concepts. According to PPP, the RER should ideally be one, meaning that the purchasing power of different currencies is balanced. When there are deviations from PPP, it can result in fluctuations in the RER, which in turn can affect a country's trade balance and overall economic competitiveness.

Determinants of Real Exchange Rate

Various factors can impact the RER, such as:

- Relative productivity: Countries with higher productivity levels typically experience a higher RER.
- Government policies: Both fiscal and monetary policies can influence the RER.
- Terms of trade: Shifts in the terms of trade can affect the RER.
- Preferences and tastes: Consumer preferences can shape the demand for goods and services, thereby influencing their relative prices and the RER.

8.13 SUMMARY

This unit explores the complex relationship between exchange rates, purchasing power, and price levels in various countries. We examine the concept of Purchasing Power Parity (PPP), which suggests that exchange rates should adjust to equalize the prices of identical goods and services across different currencies.

Grasping the concepts of PPP and RER is vital for businesses, policymakers, and investors engaged in the global economy. Despite its limitations, PPP serves as a useful framework for understanding exchange rate movements and evaluating a country's economic competitiveness.

8.14 GLOSSARY

Purchasing Power Parity (PPP): An economic theory that proposes that exchange rates between two countries should adjust so that a basket of goods and services has the same cost in both countries when expressed in a common currency. There are two main types of PPP: Absolute PPP and Relative PPP.

Absolute PPP: This form of PPP suggests that price levels in different countries should be equal when converted into a common currency, assuming the goods are identical and there are no trade barriers. It represents a theoretical equilibrium condition for exchange rates.

Relative PPP: A more dynamic interpretation of PPP, which emphasizes the changes in price levels between two countries. It asserts that fluctuations in the exchange rate over time should correspond to the differences in inflation rates between those countries.

Real Exchange Rate (RER): The ratio of the price of goods in one country compared to another, adjusted for inflation differences. It indicates a country's competitiveness in international markets and is used to assess the relative cost of domestic goods against foreign goods.

Nominal Exchange Rate (NER): The value of one currency in relation to another without accounting for inflation. It is the rate at which one country's currency can be exchanged for another in the foreign exchange market.

Inflation: The rate at which the overall price level of goods and services in an economy increases, leading to a decrease in the purchasing power of the currency. It is a crucial factor in the concepts of PPP and RER, as it influences the price levels used in calculations.

Basket of Goods: A specific collection of consumer products and services used to track price levels and inflation over time. In the context of PPP theory, it refers to the set of goods and services utilized to compare prices across countries.

Exchange Rate Misalignment: This occurs when the nominal exchange rate significantly diverges from the rate indicated by Purchasing Power Parity (PPP) or the real exchange rate, suggesting that a currency may be overvalued or undervalued.

Currency Overvaluation: This situation arises when a country's currency exchange rate exceeds its PPP or real exchange rate value, resulting in higher prices for its goods in international markets and a decrease in competitiveness.

Currency Undervaluation: This refers to a scenario where the exchange rate of a currency is lower than its PPP or real exchange rate value, making the country's goods more affordable in the global market and boosting export competitiveness.

Arbitrage: This is the practice of purchasing a product in one market at a lower price and simultaneously selling it in another market at a higher price to capitalize on the price difference. The concept of PPP assumes that arbitrage will align exchange rates towards parity.

Law of One Price (LOOP): This principle supports absolute PPP, indicating that in the absence of transportation costs and trade barriers, identical goods should be priced the same in different countries when converted to a common currency.

Inflation Differential: This is the variation in inflation rates between two countries. Relative PPP posits that this differential influences changes in the nominal exchange rate over time.

Trade Barriers: These are restrictions like tariffs, quotas, or non-tariff measures that governments impose to regulate the flow of goods and services between nations. Such barriers can disrupt PPP by hindering price equalization across countries.

Non-Tradable Goods: These are goods and services that cannot be traded internationally, such as real estate, healthcare, or local services. Non-tradables can lead to deviations from PPP since their prices are influenced by local market conditions rather than global competition.

Price Level: This represents the average current prices of goods and services within an economy. The price level is essential for calculating both PPP and real exchange rate by comparing the domestic price of a basket of goods to that of another economy.

Competitiveness: This refers to a country's capacity to produce goods and services that align with international market standards while also enhancing or maintaining living standards. The real exchange rate (RER) is vital in shaping a nation's competitiveness by affecting the relative costs of goods.

Balance of Payments: This is a comprehensive record of all economic transactions between a country's residents and the global economy. It serves as a key macroeconomic indicator, influenced by both purchasing power parity (PPP) and RER, which affect trade balances and capital movements.

Terms of Trade (ToT): This is the ratio of export prices to import prices, indicating the purchasing power of a country's exports in relation to its imports. A favorable ToT allows a country to acquire more imports for each unit of exports, and it is closely linked to changes in the RER.

Currency Devaluation: This involves a decrease in the value of a country's currency compared to other currencies, typically enacted through government policy. Devaluation can affect the RER by making exports less expensive and imports more costly, which can enhance trade balances.

Real GDP (Gross Domestic Product): This metric measures the total value of all goods and services produced within an economy, adjusted for inflation. GDP adjusted for PPP is frequently utilized to compare living standards across different countries by considering variations in price levels.

Nominal GDP: This represents the total value of goods and services produced in an economy at current prices, without adjusting for inflation. It differs from real GDP and does not account for variations in purchasing power among countries.

Global Competitiveness Index (GCI): This is a composite index created by the World Economic Forum that assesses national competitiveness based on various macroeconomic factors. Adjustments in the RER can affect a country's position regarding trade efficiency.

Macroeconomic Policy: These are the economic strategies that governments use to steer their economies, focusing mainly on fiscal policy (which involves taxation and government spending) and monetary policy (which deals with interest rates and the money supply). Concepts like Purchasing Power Parity

(PPP) and Real Exchange Rate (RER) play a crucial role in shaping these policies by influencing decisions related to currency valuation and inflation management.

Foreign Exchange Market (Forex): This is the worldwide arena for the buying and selling of currencies, where exchange rates are established. Understanding both PPP and RER is vital for grasping how currencies are valued and traded within this market.

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8.17 TERMINAL QUESTIONS

1. What is Purchasing Power Parity (PPP)?
2. How does Relative PPP differ from Absolute PPP?
3. Why is PPP important in economics?
4. What are the main limitations of PPP?
5. What is the Real Exchange Rate (RER)?
6. How is RER different from the Nominal Exchange Rate (NER)?
7. Why is the Real Exchange Rate important?
8. Can PPP and RER give conflicting signals about a currency's value?
9. How do inflation rates impact PPP and RER?
10. How is PPP used to compare living standards across countries?
11. Why doesn't Absolute PPP hold in real-world scenarios?
12. How can RER affect a country's trade balance?
13. What causes deviations from PPP in the short run?
14. How is PPP relevant to global businesses?
15. What are some examples of PPP and RER in practice?

UNIT 9 MEASURING AND MANAGING REAL EXCHANGE RISK

9.1 INTRODUCTION

We will explore both theoretical and practical aspects of real exchange rate risk management in this unit, which is a complex field that is essential to good financial management in a global setting. First, we will look at the basic theories that drive exchange rate risk, including well-known models like Interest Rate Parity (IRP) and Purchasing Power Parity (PPP), as well as important determinants including political and

economic variables. Next, we'll discuss useful strategies for calculating exchange rate risk. We'll do this by evaluating and quantifying potential effects using tools like Value at Risk (VaR) and econometric models. The unit will also discuss several ways to risk management, ranging from creative approaches made possible by technological improvements to conventional hedging tools. Lastly, we shall talk about new trends.

9.2 OBJECTIVES

After reading this unit, you will be able to;

- Define key concepts related to exchange rate risk and its determinants.
- Explain theoretical models such as Purchasing Power Parity (PPP) and Interest Rate Parity (IRP) used to assess exchange rate risk.
- Apply risk measurement techniques like Value at Risk (VaR) to analyze currency risk exposures.
- Evaluate and implement strategies for managing exchange rate risks, including hedging and natural hedging methods.

9.3 REAL EXCHANGE RISK

Real exchange risk is the degree of uncertainty about a currency's future value after accounting for inflation, which affects the real purchasing power of international transactions. Nominal exchange risk focuses on fluctuations in currency values, whereas real exchange risk analyzes how changing prices levels between countries affect a company's cash flows and profitability. This risk is crucial to international financial management since it affects investment decisions, financial planning, and competitive positioning. Comprehending the impact of exchange rate mechanisms, such as managed, floating, and fixed float systems, on real exchange risk aids investors and businesses in effectively managing their financial exposure and navigating the intricacies of international markets. The nominal exchange rate is adjusted for disparities in price levels between two countries by the real exchange rate, or RER. It shows how different currencies' relative purchasing power has evolved over time, giving an indication of how much a currency's true worth has changed. The term "real exchange risk" describes the uncertainty surrounding a currency's future real value, which has an effect on the purchasing power and profitability of international transactions. Real exchange risk takes into account the impact of shifts in the relative price levels between nations, as opposed to nominal exchange risk, which is concerned with the actual currency value.

9.4 CONCEPTUAL UNDERSTANDING

Real Exchange Risk refers to the uncertainty associated with the future value of a currency in real terms, which impacts the purchasing power and profitability of international transactions. Unlike nominal exchange risk, which deals with the actual currency value, real exchange risk considers the effect of changes in the relative price levels between countries.

When exchange rate fluctuations impact the real value of cash flows after accounting for inflation, they give rise to real exchange risk. When a company converts its future cash flows from one currency to another, it bears the risk that the relative price levels of the two countries could fluctuate and cause the cash flows to be less than anticipated.

Effect on Consumer Spending Power: When a currency experiences a nominal depreciation, its real value may decrease if its inflation rate increases more quickly than that of its trading partners. This implies that even in the event of a nominal depreciation, the currency's real purchasing power may fall, which would have an impact on the price of imported goods and the competitiveness of exports.

9.5 SIGNIFICANCE IN INTERNATIONAL FINANCIAL MANAGEMENT

Financial Planning and Strategy: When creating budgets and projecting financial performance, businesses that conduct business internationally need to take real exchange risk into consideration. Comprehending this risk facilitates contract negotiations and the establishment of suitable pricing plans.

Profitability and Competitiveness: Real exchange risk can influence profit margins by altering the cost of inputs and the revenue from sales. Companies need to manage this risk to maintain their competitive edge in foreign markets and protect their profit margins.

Investment Decisions: To make well-informed decisions about potential returns and risks, investors considering international assets must evaluate real exchange risk. Examining how currency fluctuations affect the true value of investment returns is part of this.

9.6 CALCULATION OF REAL EXCHANGE RATES

The real exchange rate (RER) adjusts the nominal exchange rate for differences in price levels between two countries. It reflects the relative purchasing power of currencies, providing a measure of how much a currency's value has changed in real terms.

$$RER = \frac{E \times P_d}{P_f}$$

Where, E is the nominal exchange rate (domestic currency per unit of foreign currency), P_d is the domestic price level, and P_f is the foreign price level.

9.7 DIFFERENCES BETWEEN REAL AND NOMINAL EXCHANGE RATES

Real Exchange Rate: The real exchange rate accounts for inflation and variations in national prices. It replicates the actual amount of goods and services that a currency can purchase, giving a more accurate indication of its value.

Nominal Exchange Rate: The current rate at which one currency can be exchanged for another without taking price level variations into account is known as the nominal exchange rate. It is frequently quoted on the foreign exchange market and used in financial transactions.

9.8 OVERVIEW OF EXCHANGE RATE MECHANISMS

An overview of exchange rate mechanisms sheds light on the different methods that different nations employ to control their currencies and establish their relative worth to one another. The three main types of exchange rate mechanisms are managed float systems, floating, and fixed. Fixed exchange rates offer stability but come with a high maintenance cost because they tie one major currency to another or to a basket of currencies. Market forces govern floating exchange rates, which permit currency fluctuations based on supply and demand but may also result in higher volatility. Both of these systems are combined in managed floats, where central banks periodically step in to stabilize or modify currency values. Assessing how exchange rates are influenced and how they may affect global trade, investment, and other activities requires an understanding of these mechanisms.

Fixed Exchange Rates: A fixed exchange rate system links the currency of a nation to another major currency or to a basket of currencies. To keep the value of the currency within a specific range, the central bank makes intrusions in the foreign exchange market.

Benefits: Offers predictability and stability in cross-border transactions, which can increase trade and investor confidence. It lessens the chance that foreign investment and trade will be impacted by currency fluctuations.

Drawbacks - can result in economic imbalances if the country's economic fundamentals are not reflected in the pegged rate. Limits a nation's ability to react to economic shocks and necessitates large reserves in order to maintain the peg.

Floating Exchange Rates: In a system with a floating exchange rate, supply and demand in the market determine the value of the currency in relation to other currencies. The central bank does not formally intervene to maintain the value of the currency.

Benefits: Enables automatic currency value adjustments in response to external economic factors like trade imbalances or inflation. increases monetary policy's flexibility.

Drawbacks: May cause exchange rate volatility and uncertainty, which could have an impact on global investment and trade. Currency fluctuations can provide a challenge for businesses when it comes to financial planning and budgeting.

Managed Floats and Currency Pegs: They are known also as "dirty floats," managed floats refer to a system in which the currency primarily floats in accordance with market forces, with sporadic interventions by the central bank to accomplish particular economic objectives or stabilize the currency. They offer a middle ground between rigid and flexible systems, preserving the power of government to control the value of the currency while allowing some degree of flexibility.

Currency Pegs:

To tie the value of a nation's currency to another or to a basket of currencies is known as a currency peg. This could be a type of fixed exchange rate where the peg is upheld by interventions made by the central bank in the foreign exchange market. It offers liability and stability in the value of the currency, which is advantageous for investment and trade but needs to be managed carefully to prevent economic distortions.

9.9 THEORETICAL FOUNDATIONS OF EXCHANGE RISK

A framework for comprehending exchange rate fluctuations, their causes, and the effects they have on risk management and financial decisions is provided by the theoretical underpinnings of exchange risk. These foundations investigate a range of factors that impact exchange rates, such as market sentiment, political influences, and economic variables like inflation and interest rates. Key theories that shed light on the connections between exchange rates and economic variables include Purchasing Power Parity (PPP) and Interest Rate Parity (IRP). Financial managers and investors can more accurately evaluate exchange rate risks, predict possible consequences, and create plans to lessen negative effects on their financial positions and investments by comprehending these theoretical ideas.

Exchange Rate Determinants

1. Inflation- Exchange rates are directly impacted by inflation rates. The depreciation of a country's currency is usually caused by higher inflation compared to its trading partners. This is due to the fact that inflation reduces purchasing power, pushing up the cost of domestic goods relative to those of imported goods. The local currency depreciates as a result of a decline in demand.
2. Interest Rates- Interest rates influence exchange rates through capital flows. Higher interest rates offer better returns on investments denominated in that currency, attracting foreign capital and leading to an appreciation of the currency. Conversely, lower interest rates may lead to capital outflows and currency depreciation. Interest rate differentials between countries often drive short-term capital flows and affect currency values.
3. GDP- Exchange rates can be impacted by economic growth, as indicated by GDP, as it can impact trade balances and investor sentiment. A growing economy usually implies increased productivity and profitability, which draws in foreign investment and strengthens the currency. Rapid economic expansion, nevertheless, may also result in inflationary pressures that counteract currency appreciation.

Political Factors and Market Sentiment:

1. Political Stability- The state of politics, including its governance, has an effect on investor confidence and can influence exchange rates. Currency market volatility and risk perceptions can both rise in the wake of political unrest or elections. Because investors favor stable environments, political risks frequently cause the affected currency to depreciate.
2. Market sentiment - Exchange rates can experience brief fluctuations due to speculative activities and perceptions influencing market sentiment. Geopolitical events, news, and economic reports affect market sentiment and have the potential to cause big changes in currency values. For instance, good economic news can increase confidence and cause a currency's value to appreciate, whereas bad news can cause the value of a currency to decline.

Purchasing Power Parity (PPP)

Purchasing power parity (PPP) is a basic economic theory used to evaluate and contrast the values of different currencies according to how much they can buy. It makes the argument that exchange rates ought to eventually fluctuate in order to bring the cost of a common basket of goods and services in all nations closer to par. Understanding how

exchange rates should fluctuate in response to shifts in inflation and price levels requires an understanding of this idea. Analysts can assess whether a currency is overvalued or undervalued and forecast future changes in exchange rates by looking at both absolute and relative PPP. This analysis offers important insights for forecasting economic growth and international financial management.

Absolute PPP: Total Spending Capacity According to the theory of parity, the long-term costs of similar goods or services should be the same across nations when expressed in a single currency. According to this theory, exchange rates will fluctuate in order to bring a basket of goods' prices into line between nations.

Under absolute PPP, the exchange rate should be $1 = €0.90 if a basket of goods costs $100 in the US and €90 in the Eurozone. Exchange rates are not in line with the relative price levels of goods when there are deviations from this parity.

Relative PPP: Relative Purchasing Power is defined as By taking price level fluctuations over time into account, parity expands on the idea of absolute PPP. It asserts that the difference in inflation rates between two countries is directly proportional to the rate of change in exchange rates between those nations.

Consequences for the Real Exchange Rate: According to relative PPP, if one nation has more inflation than the other, its currency should weaken in comparison. The real exchange rate is maintained constant across time by accounting for variations in the relative costs of products and services among countries.

Interest Rate Parity (IRP)

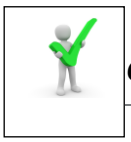
Covered Interest Rate Parity: It states that the difference between the interest rates of two countries is equal to the difference between their forward and spot exchange rates. It ensures that arbitrage opportunities are eliminated when using forward contracts to hedge exchange rate risk.

Formula: $$1 + i_d \Big/ 1 + i_f = F \Big/ S$$

Where i_d and i_f are the domestic and foreign interest rates, respectively, F is the forward exchange rate, and S is the spot exchange rate.

By using forward contracts, investors and firms can lock in future exchange rates, thereby mitigating the risk of adverse currency movements and ensuring that the returns on investments are not affected by exchange rate fluctuations.

Uncovered Interest Rate Parity: According to the uncovered interest rate parity, the predicted change in the spot exchange rate between two currencies is equal to the difference in interest rates between them. It depends on predictions of future spot rates and does not entail using forward contracts for hedging, in contrast to covered IRP. If a currency is in a country where interest rates are greater than in another, it is likely to depreciate in value. This is predicated on the idea that higher interest rates will draw capital inflows and cause the currency to weaken in the future in order to preserve parity.



Check Your Progress-A

Q1. What is the difference between real exchange risk and nominal exchange risk?

Q2. Explain how Purchasing Power Parity (PPP) can be used to evaluate whether a currency is overvalued or undervalued.

Q3. MCQs

i. Which of the following best defines real exchange risk?

A) The fluctuation of a currency's value in nominal terms.

B) The uncertainty about a currency's future value after accounting for inflation.

C) The change in currency value due to government intervention.

D) The difference in interest rates between two countries.

ii. **Purchasing Power Parity (PPP) primarily helps in:**

A) Determining the nominal exchange rate.

B) Calculating the interest rate differential.

C) Assessing the relative value of currencies based on the cost of goods.

D) Evaluating market sentiment.

iii. **In Interest Rate Parity (IRP), the difference in interest rates between two countries is equal to:**

A) The difference between their forward and spot exchange rates.

B) The difference in their inflation rates.

C) The relative economic growth rates.

D) The real exchange rate.

Q4. Fill in the Blanks with appropriate word or words.

i. The _____ exchange rate is the rate at which one currency can be exchanged for another without accounting for inflation.

ii. The formula for calculating the real exchange rate adjusts the nominal exchange rate by the difference in _____ levels between two countries.

iii. Real exchange risk is concerned with the impact of currency fluctuations on the _____ power in international transactions.

iv. Uncovered Interest Rate Parity (IRP) predicts that a currency with a higher interest rate will _____ in value over time.

v. In the theory of Purchasing Power Parity (PPP), exchange rates should adjust to equalize the _____ of a basket of goods across different countries.

9.10 MEASURING REAL EXCHANGE RISK

Understanding and controlling the effects of currency fluctuations on financial performance and economic stability depend heavily on the measurement of real exchange risk. Real exchange rates account for price variations across nations, providing a more accurate indicator of purchasing power and economic competitiveness than nominal exchange rates, which represent the direct value of currencies. Firms and investors can more effectively quantify and manage their exposure to exchange rate movements by utilizing a variety of measurement techniques, such as calculating real exchange rates, evaluating Value at Risk (VaR), Conditional Value at Risk (CVaR), and applying quantitative models such as GARCH. In a globalized economy, these techniques aid in

risk identification, contingency planning, and the creation of winning financial interest protection plans.

Risk Measurement Techniques

Risk measurement techniques are essential for calculating and managing financial risks, including exchange rate risks. These techniques provide a structure for assessing potential losses and understanding the effect of adverse conditions on investments and financial positions. Financial managers and investors can estimate the amount and probability of potential losses under different scenarios by using tools like Value at Risk (VaR), Conditional Value at Risk (CVaR), and stress testing. These techniques provide insightful information about the risk profile of portfolios, facilitating better decision-making and practical risk-reduction tactics.

Value at Risk (VaR): Value at Risk calculates, given a particular degree of confidence, the maximum possible loss that an investment or portfolio could experience over a specific period of time. It puts a monetary value on the possible negative risk.

VaR is typically calculated using historical data, Monte Carlo simulations, or variance-covariance methods. For example, a 1-day VaR at a 95% confidence level indicates that there is a 5% chance that the loss will exceed the VaR amount over one day.

VaR helps firms and investors understand potential losses and make informed decisions about risk management tactics, such as hedging or diversification.

Conditional Value at Risk (CVaR): It's also termed as Expected Shortfall, which measures the average loss that exceeds the VaR threshold. It provides vision into the tail risk beyond the VaR level, focusing on extreme outcomes.

It is calculated by averaging the losses that exceed the VaR threshold. For instance, if VaR is $1 million, CVaR might represent the average loss of the worst 5% of outcomes.

Application: CVaR is useful for understanding the risk of extreme losses and helps in designing risk management policies that account for severe adverse events.

Stress Testing and Scenario Analysis: Stress testing assesses the impact of extreme but plausible adverse situations on a portfolio or financial position. Scenario analysis involves evaluating the effects of hypothetical events or changes in key variables.

Stress tests may stimulate economic shocks; sudden changes in exchange rates, or geopolitical crises. Scenario analysis involves creating and evaluating various scenarios, such as a sharp devaluation of a currency or a unexpected interest rate hike.

These techniques help firms prepare for unpredicted events and develop contingency strategies to mitigate potential risks.

Quantitative Models for Exchange Risk

GARCH Models and Volatility Forecasting: -

The Generalized Autoregressive Conditional Heteroskedasticity (GARCH) models are used for predicting and estimating volatility in financial time series. They capture changes in volatility over time and take into account volatility clustering.

GARCH models are useful for predicting future volatility based on historical data, which is critical for risk management and financial derivative pricing. They enable businesses to adapt their strategies in response to expected volatility changes.

Econometric Models for Risk Assessment:-

Econometric models employ statistical techniques to analyze and forecast economic and financial data. These models use the relationships between exchange rates and other economic variables to predict future risks.

Common econometric models include vector auto regression (VAR), which analyzes dynamic relationships between time series variables.

- Cointegration Models: Investigates the long-term equilibrium relationship between exchange rates and economic variables.
- Structural Models: Use economic theory to simulate exchange rate dynamics and risks.

Econometric models help to understand the underlying factors that influence exchange rates and predict future risk scenarios, which aids in strategic decision-making and risk management.

9.11 MANAGING REAL EXCHANGE RISK

Managing real exchange risk entails developing strategies to reduce the effect of currency fluctuations on a firm's financial performance and economic stability. This risk stems from changes in the real exchange rate, which adjusts nominal rates for price differences between countries. To effectively manage real exchange risk, hedging techniques such as forward contracts, swaps and options must be combined with strategic tactics such as natural hedging and diversification. Firms that manage real exchange risk proactively can protect their profit margins, ensure stable cash flows, and maintain a

competitive advantage in the global market, ultimately improving their financial resilience and strategic positioning.

Hedging Strategies

1. **Forward contracts -** These are the contracts that two parties agree to exchange a certain quantity of money at a predefined rate at a later time. These are over-the-counter (OTC) contracts that can be altered. By doing so, companies can eliminate the risk of future currency swings by locking in exchange rates for upcoming transactions. This predictability helps with budgeting and financial planning. Ideal for businesses with known probable revenues in foreign currencies, such as importers or exporters, looking to hedge against adverse movement of currency.
2. **Future contracts –** These are standardized contracts that are exchanged on exchanges to buy or sell a given quantity of money at a fixed price at a later time. They are marked to market on a daily basis and require collateral. Futures contracts provide liquidity and transparency because they are standardized and traded on exchanges. They also reduce counterparty risk through exchange clearing houses. Suitable for firms that want to hedge currency risk but need more uniform terms and market liquidity.
3. **Options –** In this currency options it grant the holder right, but not the obligation, of exchanging currency at a predetermined rate on or before a specific date. Options can be either call (buy) or put (sell). They provide flexibility, allowing businesses to profit from favorable currency movements while minimizing potential losses. This is especially useful for dealing with uncertainty in exchange rates. Useful for hedging exposure when cash flows are uncertain in terms of timing or amount.
4. **Swaps:** In a currency swap, equivalent payments in one currency are swapped for another over a predetermined period of time for principal and interest.. They are useful for financing as well as hedging. Swaps enable businesses to manage cash flows in multiple currencies and align their financing with operational requirements. They offer the ability to lock in exchange rates for both principal and interest payments. Effective for long-term hedging as well as handling multi-currency cash flows.
5. **Strategic Hedging:** It’s a long-term planning and the use of financial instruments to hedge against potential currency risks over time. It frequently requires a broader understanding of an organization's global operations and currency exposure. It aligns with a company's overall financial strategy, ensuring consistent financial performance and assisting in the management of large-scale or multi-year exposure. It is suitable for multinational businesses with significant and expected currency exposures.

6. **Operational Hedging:** It implicates adjusting operational strategies to reduce currency risk. This can include diversifying supply chains, changing pricing strategies, or locating production. It incorporates risk management into daily operations and acts as a natural buffer against currency fluctuations. Useful for businesses wishing to reduce their reliance on financial instruments by adapting their company processes to currency risk.
7. **Matching Cash Flows and Operations:** Natural hedging entails structuring operations to match cash flows in various currencies, reducing exposure to exchange rate fluctuations. This can be accomplished by keeping revenue and expenses in the same currency. It balances inflows and outflows, thereby reducing the need for financial hedging instruments. It uses operational choices to control risk organically. Firms can achieve natural hedging by procuring supplies from the same currency zone as their sales markets or by locating production facilities.
8. **Diversification Across Currencies:** Diversification entails spreading currency risk across several different currencies in order to mitigate the impact of negative movements in any one currency. This may include holding assets and liabilities in multiple currencies. Natural hedging can be accomplished by sourcing materials from the same currency area as their sales marketplaces or by localizing manufacturing facilities. It reduces concentration risk and it can also stabilize financial performance by offsetting losses in one currency with gains in another. It is useful for MNC'S with operations in various countries. The effective diversification strategies might include investing in different currencies or markets.
9. **Integrating Risk Management into Financial Strategy:** Incorporating exchange rate risk considerations into the organization's overall financial strategy is an example of effective risk management. This includes determining risk tolerance levels, establishing hedging policies, and integrating risk management with corporate goals. It Ensures that risk management is in line with the firm's strategic objectives and financial performance targets. It provides a structured approach for dealing with risks throughout the organization. Companies should create comprehensive risk management policies, review exposure levels on a consistent basis, and adjust strategies to reflect changing market conditions.
10. **Role of Corporate Governance and Risk Committees:** Corporate governance structures and risk committees play a significant role in managing and monitoring exchange rate risks. They are in charge of developing risk management policies, ensuring compliance, and assessing risk exposure. It increases accountability and transparency in risk management practices. They ensure that risk management is consistent with the overall corporate governance and strategic objectives. Setting up dedicated risk committees and incorporating risk management into corporate

governance structures can help improve exchange rate risk oversight and decision-making processes.

9.12 REGULATORY AND ETHICAL CONSIDERATIONS

Regulatory and ethical considerations are critical in the management of exchange rate risks, ensuring that financial practices comply with legal requirements and maintain high levels of integrity. Regulations specify how companies must follow international financial reporting requirements, conduct their hedging activities, and declare their currency risks. On the other hand, ethical considerations stress how crucial it is for financial procedures to be open, equitable, and accountable. By adhering to these ethical and regulatory norms, businesses can efficiently manage their exposure to exchange rate swings while lowering their risk of legal repercussions, enhancing their reputation, and preserving investor confidence.

Regulatory Frameworks

Regulatory frameworks play a crucial role in guiding how businesses handle and disclose exchange rate risks, guaranteeing that financial operations are open, lawful, and compliant. These frameworks comprise a range of national and international legislation designed to safeguard investors, encourage fair trade practices, and improve the stability of the financial markets. Organizations can lower their exposure to currency fluctuation risks, maintain high standards of accountability and governance in their risk management plans, and guarantee accurate financial reporting by adhering to these regulations.

International Standards and Guidelines:

A organized framework for controlling exchange rate risks and preserving uniformity, transparency, and fairness throughout the world's financial markets is outlined in international norms and guidelines. Comprehensive guidelines for the accounting, reporting, and regulation of financial instruments and risk management procedures are established by these standards, which include Basel III and the International Financial Reporting Standards (IFRS). Businesses that follow these worldwide rules can enhance the comparability and accuracy of their financial statements, harmonize their processes with international best practices, and support the stability and integrity of the financial system as a whole.

Global Context:

International standards and guidelines serve as the backbone for maintaining consistency and stability in global financial markets. Organizations such as the Bank for International

Settlements (BIS), the International Monetary Fund (IMF) and the Financial Stability Board (FSB) play a pivotal role in setting these standards, which include frameworks for risk management, financial reporting, and corporate governance. These guidelines are designed to ensure that financial institutions worldwide adhere to best practices in managing exchange rate risks, promoting transparency and reducing systemic risks.

For example, the Basel III framework, established by the BIS, sets global standards for bank capital adequacy, stress testing, and market liquidity risk. These guidelines require banks to maintain certain capital buffers to absorb shocks arising from economic stress, including those caused by currency fluctuations. Similarly, the International Financial Reporting Standards (IFRS), developed by the International Accounting Standards Board (IASB), provide a uniform approach to financial reporting, ensuring that companies across the globe present their financials in a consistent and comparable manner. Compliance with these standards not only enhances the credibility of financial statements but also facilitates cross-border investment by reducing information asymmetry.

In the realm of exchange rate risk management, global standards advocate for the use of sophisticated risk assessment tools like Value at Risk (VaR) and stress testing, along with a robust governance structure to oversee risk management activities. These standards emphasize the importance of transparency in financial transactions, the need for accurate and timely reporting of currency exposures, and the use of appropriate hedging instruments to mitigate risks.

Indian Context:

In India, the financial regulatory landscape is shaped by a combination of global standards and country-specific regulations, reflecting the unique characteristics of the Indian economy. The Reserve Bank of India (RBI), as the central regulatory authority, plays a crucial role in aligning India's financial practices with international norms while also tailoring regulations to suit the domestic context.

India has progressively adopted several global standards, including the Basel III norms, to strengthen its banking sector's resilience to economic shocks. The RBI mandates that Indian banks comply with these capital adequacy requirements, liquidity coverage ratios, and leverage ratios, ensuring that they are well-equipped to manage risks, including those arising from exchange rate volatility.

The adoption of IFRS in India, known locally as Indian Accounting Standards (Ind AS), has further aligned Indian financial reporting practices with global standards. This convergence has enhanced the comparability of financial statements of Indian companies with their global peers, facilitating international investment and trade.

In dealing with exchange rate risks, Indian regulations require firms to disclose their foreign exchange exposures and the hedging strategies employed to diminish these risks. The RBI also regulates the use of derivative instruments such as forwards, futures, and

options, ensuring that these tools are used prudently and do not lead to excessive risk-taking. Additionally, the RBI has implemented measures to manage foreign exchange reserves and control capital flows, which are crucial for maintaining currency stability in the face of global economic fluctuations.

While India largely follows global standards, it also addresses country-specific challenges such as managing the impact of currency fluctuations on a diverse and developing economy. For instance, the RBI periodically intervenes in the foreign exchange market to stabilize the Indian rupee, reflecting a more hands-on approach compared to the purely market-driven systems advocated by some international guidelines.

Integration of Global and Indian Standards:

India's financial system exemplifies the integration of global standards with local regulatory requirements. While aligning with international norms, Indian regulations also accommodate the economic realities and developmental goals of the country. This hybrid approach enables India to participate actively in the global financial system while safeguarding its economic interests.

For multinational companies operating in India, understanding and complying with both international standards and Indian regulations is crucial. This dual compliance ensures that their risk management practices are robust and aligned with global best practices, while also being in full compliance with local laws.

International standards and guidelines provide a framework for managing exchange rate risks globally, ensuring consistency, transparency, and stability across financial markets. In the Indian context, these standards are adopted and adapted to suit the specific needs of the economy, with the RBI playing a central role in regulating and guiding financial practices. This alignment with global standards, combined with country-specific regulations, helps India maintain financial stability while participating actively in the global economy.

9.13 ETHICAL ISSUES IN EXCHANGE RISK MANAGEMENT

Ethical issues in exchange risk management are critical to preserving trust and integrity in financial transactions. These issues center on ensuring transparency, fairness, and accountability in how businesses handle currency fluctuations and hedging activities. Key ethical concerns include accurate disclosure of risk exposures and hedging strategies, as well as avoiding conflicts of interest and market manipulation. Addressing these concerns is critical to creating a fair and transparent financial environment,

protecting investor interests, and maintaining the reputation of financial institutions and professionals.

Transparency and Disclosure: Transparency in financial reporting and disclosure is critical for preserving trust and integrity in financial markets. Companies must disclose clear and accurate information about their exchange rate exposures, hedging strategies, and associated risks. Effective disclosure includes describing the nature and scope of currency risks, hedging objectives, and the impact on financial statements. Firms should also report any significant changes in their risk management practices. Transparency enables investors and stakeholders to make informed decisions, encourages accountability, and reduces the possibility of misleading information or misrepresentation.

Conflicts of interest: Conflicts of interest occur when individuals or organizations have competing interests that may influence their decisions and actions regarding exchange risk management. Potential conflicts include situations in which financial advisors or traders benefit from recommending specific hedging products or strategies that are not in their clients' best interests. Firms should implement strong policies to identify and manage conflicts of interest, such as requiring personal interest disclosure and ensuring transparent and unbiased decision-making processes.

Market Manipulation: Market manipulation is defined as intentionally distorting or influencing currency markets in order to gain an unfair advantage or profit. This can include things like front-running, spoofing, and spreading false information. Ex.- manipulating currency exchange rates to benefit from favorable pricing or to affect market perceptions for personal gain. Adherence to moral norms and regulatory requirements helps to prevent market manipulation. Firms should impose stringent compliance requirements and foster a culture of ethical behavior and integrity in financial practices.

9.14 FUTURE TRENDS AND CHALLENGES

Future trends and challenges in exchange risk management are shaped by dynamic and changing factors in the global financial environment. As emerging markets experience increased volatility and instability, managing currency risks becomes more difficult. Simultaneously, technological advancements such as fintech innovations and blockchain technology provide new tools and opportunities to improve risk management practices. Long-term considerations, such as the effects of climate change and geopolitical uncertainties, add new layers of risk that must be addressed. Understanding these trends and challenges is critical for developing effective strategies to navigate the future of exchange rate risk management.

Volatility and Instability in Emerging Economies:

Economic Volatility: Emerging markets frequently experience higher levels of economic volatility than developed economies. Political instability, economic reforms, and fluctuating commodity prices can all cause significant swings in currency values. For companies and investors operating in or with emerging markets, this volatility increases risk and makes it challenging to predict currency fluctuations and efficiently manage exposures. Businesses may combine operational tactics like diversifying assets and sourcing with hedging tools like forward contracts and options to address these risks. Moreover, preserving flexible company plans and forging solid local alliances might aid in reducing the impact of volatility.

Political and Economic Instability: Exchange rates in developing nations may fluctuate suddenly and erratically due to political and economic unrest. Sharp variations in currency values can be brought on by events like elections, changes in policy, and economic crises. Currency risks can be made worse by uncertainty and volatility, which can have an impact on financial stability and investment returns. Companies that use scenario planning, stress testing, and political risk indicator tracking can enhance their risk management systems. Keeping flexible financial plans and carrying out extensive due diligence are two other ways to lessen the effects of volatility.

Technological Advances:

Fintech Innovations: Exchange risk management is changing as a result of advancements in financial technology (fintech), including as automated trading systems and digital platforms that increase accessibility, efficiency, and transparency. More complex risk management techniques, such as automated hedging transaction execution and real-time currency exposure monitoring, are made possible by fintech solutions. Improved insights into market patterns and risk variables are possible thanks to artificial intelligence (AI) and enhanced data analytics. Fintech technologies can help businesses perform better in risk analytics, predictive modeling, and hedging strategy execution. These solutions can also assist you in managing currency risk and improving your access to international markets.

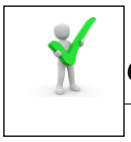
Blockchain Technology: Blockchain technology's decentralized and immutable ledger has the potential to improve exchange rate risk management by increasing transparency and security. Blockchain technology can improve the efficiency and reliability of financial transactions, such as currency exchanges and hedging contracts. Smart contracts, which are self-implementing agreements with coded terms, can automate and regulate hedging strategies while mitigating counterparty risk. Firms can use blockchain

to ensure secure and transparent currency transactions, streamline international payments, and shorten settlement times. The technology can also help to develop new financial products and services to manage exchange rate risks.

Climate Change and Geopolitical Risks

Climate Change: Climate change poses significant hazards to global economies, including potential implications for currency stability. Extreme weather events, regulatory changes affecting environmental policies, and shifts in resource availability can all have an impact on economic performance and exchange rates. Climate-related risks have the potential to increase currency market volatility as economies adapt to new environmental circumstances and regulatory frameworks. Companies should include climate risk assessments in their financial planning and risk management strategies. This includes assessing the potential impact on supply chains, operations, and investment portfolios, as well as developing adaptive strategies to mitigate climate-related currency risks.

Geopolitical Risks: Geopolitical risks, such as disputes, trade tensions, and diplomatic disagreements, can have a significant impact on exchange rates and financial stability. These risks frequently contribute to market uncertainty and currency volatility. Geopolitical events can cause sharp fluctuations in currency, affecting international trade. Firms with global operations may face increased currency risk as geopolitical dynamics shift. Firms can improve their risk management frameworks by tracking geopolitical developments, using scenario planning, and diversifying their international operations. Establishing strong relationships with local stakeholders and implementing adaptable operational strategies can help reduce the impact of geopolitical risks.



Check Your Progress-B

Q1. What is the key difference between Value at Risk (VaR) and Conditional Value at Risk (CVaR)?

Q2. Explain the concept of natural hedging in managing exchange rate risk.

Q3. How do GARCH models assist in managing exchange rate risk?

Q4. Fill in the Blank

i. Value at Risk (VaR) measures the maximum potential _____ a portfolio could face over a specified time period.

ii. Conditional Value at Risk (CVaR) provides insight into the _____ risk beyond the VaR level.

iii. GARCH models are used for predicting and estimating _____ in financial time series.

iv. Natural hedging involves structuring operations to _____ cash flows in different currencies.

v. Futures contracts are _____ agreements traded on exchanges to buy or sell a specified amount of currency.

Q5. Multiple Choice Questions-

i. Which technique measures the average loss beyond the Value at Risk (VaR) threshold?

A) Value at Risk (VaR)

B) Conditional Value at Risk (CVaR)

C) Stress Testing

D) Scenario Analysis

ii. What does a currency swap typically involve?

A) Exchanging a set amount of currency at a predetermined rate on a future date.

B) Granting the right to exchange currency at a predetermined rate without the obligation.

C) Exchanging principal and interest payments in one currency for equivalent payments in another currency.

D) Standardized agreements traded on exchanges to buy or sell a specified amount of currency.

iii. Which of the following is NOT typically used for exchange rate risk management?

A) Forward Contracts

B) Futures Contracts

C) Blockchain Technology

D) Options

9.15 GLOSSARY

Emerging Markets: Economies that are transitioning from low income to middle income, often characterized by higher growth rates and increased volatility.

Volatility: The degree of variation in exchange rates over time, indicating the level of unpredictability in currency movements.

Fintech: Financial technology that applies digital tools and innovations to improve financial services, including risk management and transaction processing.

Blockchain: A decentralized digital ledger that records transactions across many computers, enhancing transparency and security.

Hedging: A risk management strategy used to reduce or offset potential losses from fluctuations in currency rates or other financial variables.

Geopolitical Risks: Risks arising from political instability, conflicts, and diplomatic tensions that can affect financial markets and exchange rates.

Climate Change: Long-term changes in temperature and weather patterns that can impact economic conditions and financial stability.

Scenario Planning: A strategic planning method used to anticipate and prepare for potential future developments and risks.

Transparency: The quality of being open and clear in financial reporting and risk management practices.

Counterparty Risk: The risk that the other party in a financial transaction may default on their obligations.

9.16 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress –A

Answer 1: Real exchange risk concerns the future value of a currency after accounting for inflation, impacting the real purchasing power in international transactions, whereas nominal exchange risk focuses on the actual currency value without considering inflation.

Answer 2: PPP compares the prices of a basket of goods across different countries. If the price of the basket is higher in one country, the currency might be overvalued, and if it's lower, the currency might be undervalued, indicating where exchange rates should adjust.

Answer 3: MCQ

B) The uncertainty about a currency's future value after accounting for inflation.

C) Assessing the relative value of currencies based on the cost of goods.

A) The difference between their forward and spot exchange rates.

Answer 4: Fill in the Blank

Nominal

Purchasing

Prices

Price

Depreciate

Check Your Progress –B

Answer 1: Value at Risk (VaR) measures the maximum potential loss a portfolio could face over a specified time period at a certain confidence level. Conditional Value at Risk (CVaR), also known as Expected Shortfall, measures the average loss that exceeds the VaR threshold, focusing on the tail risk beyond the VaR level.

Answer 2: GARCH (Generalized Autoregressive Conditional Heteroskedasticity) models are used to predict and estimate volatility in financial time series by capturing changes in volatility over time and accounting for volatility clustering. They help in forecasting future volatility, which is critical for risk management and pricing financial derivatives.

Answer 3: Natural hedging involves structuring operations to match cash flows in different currencies, thus reducing exposure to exchange rate fluctuations. This can be achieved by balancing revenue and expenses in the same currency or by aligning procurement and sales with the same currency zone, thereby mitigating the need for financial hedging instruments.

Answer 4: Fill in the Blank

Loss

tail

volatility

match

standardized

Answer 5: MCQ

B) Conditional Value at Risk (CVaR)

B) Exchanging principal and interest payments in one currency for equivalent payments in another currency.

C) Blockchain Technology

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9.19 TERMINAL QUESTIONS

1. Discuss the impact of emerging market volatility on international financial risk management.

2. Explain how technological advancements, such as fintech and blockchain, are transforming exchange risk management practices.

3. Evaluate the long-term effects of climate change on currency stability and financial markets.

4. Analyze the role of geopolitical risks in exchange rate fluctuations and propose strategies for managing these risks.

5. Describe how regulatory frameworks and ethical considerations influence exchange risk management strategies.

9.20 CASE LETS/CASES

In 2015, a leading global retailer, XYZ Corporation, faced significant challenges due to currency volatility as it expanded its operations into emerging markets. The company, known for its extensive international presence, experienced sharp fluctuations in exchange rates that severely impacted its financial performance. The volatility was driven by political instability in several key markets and rapid changes in commodity prices. To manage this risk, XYZ Corporation implemented a comprehensive hedging strategy, including forward contracts and options, to lock in exchange rates for its international transactions. Despite these efforts, the company still faced financial strain due to the unpredictable nature of currency movements. To further mitigate risk, XYZ Corporation diversified its supply chain by sourcing materials from multiple countries and adjusted its pricing strategies to reflect currency fluctuations. Additionally, the company invested in advanced analytics and fintech solutions to improve its currency risk forecasting and management capabilities. This case highlights the complex challenges of managing exchange rate risk in a globalized market and underscores the importance of a multifaceted approach to risk management.

1. What were the primary factors contributing to the currency volatility that XYZ Corporation faced in emerging markets?
2. What additional measures did XYZ Corporation implement to manage currency risk beyond traditional hedging, and how did these strategies contribute to stabilizing the firm’s financial performance?
3. How did XYZ Corporation's hedging strategies, including the use of forward contracts and options, help reduce the financial impact of exchange rate fluctuations?

UNIT 10 EXCHANGE RATE DETERMINATION AND REPORTING

10.1 INTRODUCTION

In this unit, we will look at the complicated realm of exchange rate management and its consequences for financial stability and business strategy. We will begin by looking at the historical evolution of exchange rate systems, tracing how different regimes originated and changed over time. Next, we'll look at the theoretical frameworks that support exchange rate determination, including classical and modern approaches. We will also look into the elements that influence currency rates, including economic indicators, political events, and market mood.

Following that, we will examine exchange rate models and forecasting methodologies, gaining insight into how these tools help predict currency changes and mitigate risk. Our

investigation will include extensive case studies of major currency crises, such as the Asian Financial Crisis and the European Sovereign Debt Crisis, to demonstrate the real-world implications and lessons learnt. We will conclude by going over practical applications of currency rate risk management, such as accounting standards, regulatory frameworks, and ethical issues. This comprehensive approach aims to provide you with a solid understanding of exchange rate dynamics as well as effective currency risk management tactics in an increasingly interconnected global economy.

10.2 OBJECTIVES

After reading this unit you will be able to:

- Identify the key historical exchange rate systems and their evolution over time.
- Explain the major theoretical frameworks used to determine exchange rates.
- Analyze the impact of significant currency crises on global financial stability.
- Apply practical techniques for managing exchange rate risk in multinational corporations

10.3 EXCHANGE RATES

Definition and Importance of Exchange Rates

An exchange rate is the price at which one currency can be converted into another. It is a fundamental mechanism in international finance that determines the value of one country's currency in relation to another's. For example, if the exchange rate between the US Dollar (USD) and the Euro (EUR) is 1.10, 1 USD can be converted into 1.10 EUR. Exchange rates are crucial for various economic activities, including international trade, investment, and travel. They affect the cost of exporting goods and services, influence foreign investment decisions, and impact the value of foreign currency reserves held by central banks. Understanding exchange rates is essential for businesses, investors, policymakers, and travelers alike.

Historical Overview of Exchange Rate Systems

The historical evolution of exchange rate systems has seen significant transformations, beginning with the Gold Standard, where currencies were directly convertible to gold, ensuring stable but inflexible rates. Following World War II, the Bretton Woods system was established, which tied currencies to the US dollar and locked the dollar's value to gold, ensuring economic stability before crumbling in the early 1970s. The transition to floating exchange rates marked a shift towards market-driven currency values, allowing for greater flexibility but introducing volatility. These changes reflect broader economic shifts and varying approaches to balancing stability with adaptability in international finance.

Gold Standard

The Gold Standard was one of the earliest forms of an exchange rate system, wherein currencies were directly linked to gold. Countries agreed to convert currency into a specific amount of gold upon request. This system provided a stable exchange rate as the value of a currency was directly tied to a specific quantity of gold, thus facilitating international trade. However, it limited the flexibility of monetary policy and was eventually abandoned during the Great Depression in the 1930s.

Bretton Woods System

To create a stable international monetary framework Post-World War II, the Bretton Woods System was established in 1944. Under this system, currencies were tied to the US dollar, which was convertible to gold at a set rate of $35 per ounce. This structure promoted economic stability and prosperity in the postwar period. However, it eventually collapsed in 1971, when the United States suspended the dollar's convertibility to gold, resulting in the emergence of floating exchange rates.

Floating Exchange Rate System

Since the Bretton Woods System collapsed, the majority of large economies have implemented a floating exchange rate regime. In this system, currency rates are decided by market forces of supply and demand, with no direct government or central bank interference. This allows for greater flexibility in response to economic conditions but can also lead to increased volatility in currency values.

10.4 TYPES OF EXCHANGE RATE REGIMES

Exchange rate regimes vary primarily between fixed and floating systems. Fixed exchange rates maintain a currency's value against another currency or a basket of currencies, providing stability but requiring substantial reserves and frequent intervention. Floating exchange rates, on the other hand, are determined by market forces of supply and demand, offering greater flexibility and allowing for more responsive monetary policy but potentially leading to higher volatility. Additionally, managed floats blend elements of both, with occasional central bank interventions to stabilize or influence currency values while allowing for market-driven fluctuations.

Fixed vs. Floating Exchange Rates

A country's currency value is linked to another major currency, like the US dollar or a basket of currencies, under a fixed exchange rate regime. International trade and

investment are made more stable and predictable as a result, but in order to keep the fixed rate in place, the government must keep sizable reserves of the pegged currency and make currency market interventions.

In contrast, a floating exchange rate regime allows currency values to fluctuate according to market forces. This system provides greater flexibility and enables a country to use monetary policy to address domestic economic issues. However, it can result in higher exchange rate volatility and uncertainty.

Managed Float and Pegged Exchange Rates

A managed float, also referred as a dirty float, is a hybrid system in which the central bank periodically steps in to stabilize or affect the value of the currency, but it mostly floats on the free market. This makes it possible to balance solidity with flexibility.

The value of a currency is fixed in relation to another currency or a basket of currencies in pegged exchange rates. For many years, the US dollar was the benchmark for the value of the Chinese Yuan. This regime offers stability in bilateral trade with the pegged currency country but limits the ability to conduct independent monetary policy.

Understanding the various exchange rate systems and their historical evolution provides a solid foundation for studying international financial management. Exchange rates play a pivotal role in global economics, affecting trade, investment, and economic stability. Whether fixed, floating, or managed, exchange rate regimes have profound implications for a country's economic policy and international economic relations.

10.5 THEORETICAL FRAMEWORKS FOR EXCHANGE RATE DETERMINATION

Understanding exchange rate determination involves several key theoretical frameworks, each offering a unique perspective on how exchange rates are set and how they fluctuate. These frameworks help explain the mechanisms behind currency value changes and the factors influencing them.

1. Purchasing Power Parity (PPP): It is a theory that suggests that in the long run, exchange rates should move towards the rate that would equalize the price of an identical basket of goods and services in any two countries. This is based on the idea that in an efficient market, arbitrage will equalize prices across borders.

- Absolute PPP posits that the exchange rate between two currencies is equal to the ratio of the price levels of a fixed basket of goods and services in the two

countries. For instance, if a basket of goods costs $100 in the US and €90 in the Eurozone, the exchange rate should be 1.11 USD/EUR to equalize the cost.

- Relative PPP extends the concept to changes in price levels over time. It states that the rate of change in the exchange rate between two currencies over time is equal to the difference in inflation rates between the two countries. If the US has an inflation rate of 2% and the Eurozone 3%, the US Dollar should appreciate relative to the Euro by approximately 1% annually.

2. Interest Rate Parity (IRP): It is a theory that connects exchange rates to interest rates. It implies that the anticipated change in the exchange rates of two countries' currencies is equal to the difference in interest rates between them.

- When the forward exchange rate is utilized to protect against exchange rate risk, covered interest rate parity makes sure that the returns on deposits made in various currencies are the same. If IRP holds, arbitrage opportunities should not exist because any potential profit from differing interest rates would be offset by the cost of using forward contracts to cover exchange rate risk.
- Rate of Uncovered Interest Future exchange rate expectations are the subject of parity. It implies that the anticipated change in the exchange rate is equal to the difference in interest rates between two nations. A nation's currency is predicted to weaken in the future to balance off the increased return on investments made in it if its interest rate is greater.

3. The International Fisher Effect (IFE): It blends PPP and IRP components. It makes the assumption that the difference in the nominal interest rates of two currencies will roughly equal the projected change in their exchange rates. If a country has a higher nominal interest rate compared to another, its currency is expected to depreciate at a rate equal to the interest rate differential.

4. The Balance of Payments Approach: The principle behind it is that imbalances in a nation's balance of payments are corrected by adjustments made to exchange rates.

- Current Account Balance includes trade in goods and services, income from investments, and current transfers. A surplus in the current account suggests a strong currency, while a deficit suggests a weaker currency.
- Capital Account Balance covers financial transactions, including foreign direct investment and portfolio investment. High inflows in the capital account can support a stronger currency, while outflows can weaken it.

5. Asset Market Approach: It emphasizes the role of financial markets in determining exchange rates. It asserts that currencies are valued based on their attractiveness as financial assets, influenced by factors such as interest rates, economic performance, and political stability.

- Portfolio Balance Model posits that investors allocate their assets across different currencies based on expected returns and risk. A change in the demand for assets denominated in a particular currency can influence its exchange rate.
- Monetary Approach suggests that exchange rates are determined by the supply and demand for money. A rise in a country's money supply, if not matched by a rise in demand, typically leads to depreciation of its currency, while a decrease in money supply can lead to appreciation.

These theoretical frameworks provide a comprehensive view of the various factors influencing exchange rates and are crucial for understanding currency value fluctuations in the global financial system.

10.6 FACTORS INFLUENCING EXCHANGE RATES

Exchange rates are influenced by a variety of economic, political, and market factors. Understanding these influences is crucial for predicting currency movements and making informed financial decisions.

1. Economic Factors

- Inflation Rates: Exchange rates are impacted by inflation since it reduces a currency's purchasing power. Because its purchasing power rises in comparison to other currencies, a nation with lower inflation than others will typically see an appreciation in its currency. Conversely, higher inflation typically leads to depreciation as the currency's value diminishes.
- Interest Rates: The central bank of a nation sets interest rates, which have a big impact on how much one currency is worth. Better returns on investments made in that currency are offered by higher interest rates, which draw in foreign capital and cause the value of the currency to rise. The opposite might also occur with lower interest rates, which would result in depreciation.
- Economic Growth and Productivity: High productivity levels and robust economic growth can raise a nation's value relative to its currency. Increased income and investment are frequently the results of growth, which draws in foreign money and raises the value of the currency. In contrast, a currency may lose value due to economic contraction or stagnation.

2. Political Factors

- Political Stability: As political stability influences investor confidence, it is essential for currency value. Foreign investors are drawn to stable political conditions, which raises demand for the currency and causes it to appreciate. Currency depreciation can result from political instability, uncertainty, or conflicts that discourage investment.
- Government Policies and Interventions: Exchange rates can be impacted by monetary and fiscal policies of the government. Currency depreciation may result, for instance, from fiscal expansionary policies or interest rate reductions by the government. On the other hand, the currency may appreciate in response to contractionary policies or higher interest rates.

3. Market Speculation

- Investor Sentiment: Currency swings can be influenced by investor emotion and market expectations. A currency may appreciate if investors purchase it in anticipation of it strengthening in the future. Negative mood, on the other hand, may result in selling pressure and currency devaluation.
- Speculative Attacks: When speculators place large bets against a currency in the hopes that it will depreciate, this is known as a speculative attack. Attacks of this nature have the potential to cause sharp devaluation, particularly if they cause a crisis or erode public trust in the currency.

4. Psychological Factors and Market Sentiments

- Perceptions and Expectations: Exchange rate changes are largely influenced by market views and expectations regarding future interest rates, political stability, and economic conditions. Investors may increase the value of a nation's currency if they anticipate strong economic results and believe the nation will prosper economically.
- News and Media: Market sentiment and investor behavior can be influenced by news stories, economic data releases, and media attention. Since it increases investor confidence, good news can cause a currency's value to rise, while bad news can cause it to fall.

5. Supply and Demand Dynamics

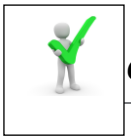
- **Trade Balances:** The trade balance, which includes exports and imports, affects currency demand. A country with a trade surplus, where exports exceed imports, typically experiences currency appreciation as foreign buyers need to purchase the country’s currency to pay for its goods and services. Conversely, a trade deficit, where imports exceed exports, can lead to currency depreciation.

- **Capital Flows**: Currency value is impacted by capital flows such as portfolio investments, foreign direct investment (FDI), and others. Strong foreign investment inflows raise demand for a nation's currency, which causes it to appreciate. Conversely, significant outflows can weaken the currency.

6. Central Bank Actions

- **Foreign Exchange Reserves:** Central banks hold foreign exchange reserves to manage and stabilize their currencies. Buying or selling foreign currencies can influence exchange rates. Accumulating reserves can support a currency's value, while selling reserves can lead to depreciation.
- **Monetary Policy:** Central banks influence exchange rates through monetary policy decisions, such as changing interest rates or engaging in open market operations. These actions impact economic conditions and investor perceptions, thereby affecting currency value.

These factors interact in complex ways to influence exchange rates, reflecting both the current economic conditions and future expectations. Understanding these influences helps in analyzing currency movements and making strategic financial decisions.



Check Your Progress-A

Q1. Explain how inflation rates influence exchange rates and provide an example.

Q2. Describe the difference between the Gold Standard and the Bretton Woods system of exchange rates.

Q3. MCQs

i. What is Purchasing Power Parity (PPP)?

a) A theory that states exchange rates should equalize the price of identical goods and services in different countries.

b) A system where currencies are pegged to gold.

c) The difference between interest rates in two countries.

d) The ratio of foreign direct investment to portfolio investment.

ii. Which exchange rate regime allows currency values to fluctuate according to market forces?

a) Fixed exchange rate

b) Floating exchange rate

c) Pegged exchange rate

d) Gold Standard

iii. What does the Interest Rate Parity (IRP) theory suggest?

a) Inflation rates should be equal across countries.

b) Exchange rates should be determined by the price of gold.

c) The difference in interest rates between two countries is equal to the expected change in exchange rates.

d) Central banks should maintain large reserves of foreign currencies.

Q4. Fill in the Blanks with appropriate word or words.

1. The _____ approach emphasizes the role of financial markets in determining exchange rates.

2. _____ exchange rates are determined by market forces without direct government intervention.

3. The _____ Standard was a system where currencies were directly linked to gold.

4. The Bretton Woods system collapsed in the early _____.

10.7 EXCHANGE RATE MODELS

Exchange rate models provide frameworks for understanding and predicting currency movements. These models vary in their approach and focus, reflecting the complexity of currency markets and the multitude of factors influencing exchange rates.

1. Fundamental Analysis: It involves examining economic indicators and factors to forecast currency movements. This approach assesses a country's economic health, political stability, and other fundamental variables.

• Macroeconomic Indicators: Key indicators include Gross Domestic Product (GDP), inflation rates, employment data, and industrial production. Strong economic performance typically supports currency appreciation, while weak economic data can lead to depreciation.

• Government Policies: Fiscal policies (such as government spending and taxation) and monetary policies (such as interest rate decisions and money supply) influence currency value. Expansionary policies may lead to currency depreciation due to increased money supply, whereas contractionary policies can support currency appreciation.

2. Technical Analysis : It relies on historical price data and chart patterns to forecast future currency movements. It is based on the premise that historical price trends and patterns can provide insights into future market behavior.

- **Chart Patterns:** Technical analysts use various chart patterns, such as head and shoulders, double tops/bottoms, and triangles, to predict price movements. Each pattern indicates potential market reversals or continuation.
- **Moving Averages:** Moving averages smooth out price data to identify trends and potential support or resistance levels. Common types include the simple moving average (SMA) and the exponential moving average (EMA).
- **Indicators and Oscillators:** Tools like the Relative Strength Index (RSI), Moving Average Convergence Divergence (MACD), and Bollinger Bands help traders identify overbought or oversold conditions and potential trend reversals.

3. Hybrid Models: It combine elements of both fundamental and technical analysis to offer a more comprehensive view of exchange rate movements.

• **Combining Indicators:** Hybrid models integrate economic indicators with technical analysis tools. For example, a model might use economic data to identify long-term trends and technical patterns to fine-tune entry and exit points for trades.

• **Multi-Factor Analysis:** These models consider multiple factors, such as interest rates, inflation, political events, and market sentiment, to provide a more nuanced forecast of currency movements.

4. Econometric Models: It makes use of statistical techniques to examine past data and calculate the correlations between different economic factors and exchange rates.

• **Time Series Analysis**: This involves historical information to be analyzed in order to spot trends and project future exchange rates. Techniques include Vector Autoregression (VAR) and Autoregressive Integrated Moving Average (ARIMA) models.

• **Regression Analysis:** The relationship between exchange rates and explanatory variables, such interest rates or economic growth, is estimated using regression models. This helps in understanding how changes in these variables might impact currency values.

5. Machine Learning Models: It apply advanced algorithms to analyze large datasets and identify complex patterns that might not be apparent through traditional methods.

• **Supervised Learning:** Techniques like linear regression, decision trees, and neural networks are trained on historical data to predict future exchange rates. These models can capture non-linear relationships and interactions between variables.

• **Unsupervised Learning:** Methods such as clustering and principal component analysis (PCA) identify underlying structures or groupings in the data, which can reveal insights into currency movements and market behavior.

6. Monetary Approach: It focuses on the connection between exchange rates, money supply, and demand. It makes the argument that variations in the money supply affect inflation and, in turn, the value of a currency.

• **Money Supply and Demand:** Inflation can cause a country's currency to depreciate if its money supply rises without keeping pace with demand. Conversely, a decrease in money supply can lead to currency appreciation.

7. Portfolio Balance Model: It emphasizes the role of financial assets and investment flows in determining exchange rates. It asserts that investors allocate their wealth across various currencies based on expected returns and risks.

• **Asset Allocation:** Investors seek to diversify their portfolios, and changes in their preferences or expectations can affect currency demand. A shift towards assets in a particular currency can lead to appreciation of that currency.

8. Behavioral Finance Models: It incorporate psychological factors and investor behavior into the analysis of exchange rates.

• **Market Sentiment:** Currency markets can be influenced by psychological biases and investor mood, including overreaction and herd mentality. The goal of behavioural models is to comprehend the role that these variables play in exchange rate fluctuations and market oddities.

Combining several models can result in a more thorough examination of currency fluctuations since each model offers a distinct perspective on the factors that influence exchange rates. Gaining an understanding of these models facilitates the development of forecasting and risk-management techniques.

10.8 EXCHANGE RATE FORECASTING

Forecasting exchange rates entails projecting future changes in currency prices using a variety of theories and techniques. For the purposes of risk management, investment decisions, and international trade, accurate forecasting is essential. Here, we examine various forecasting techniques, along with their uses and drawbacks.

1. **Short-Term vs. Long-Term Forecasting**

- Long-Term Forecasting aims to predict currency trends over months or years. It is useful for investment decisions, strategic planning, and evaluating long-term economic policies.
- Short-Term Forecasting emphases on forecasting currency movements over short periods, such as days or weeks. It is often used for trading strategies and managing related risk.

2. **Qualitative Forecasting Methods:** Qualitative Forecasting Methods rely on subjective judgment and expert opinions rather than quantitative data. These methods are often used when historical data is limited or when forecasting complex scenarios.

- Delphi Technique: This method involves a panel of experts who provide forecasts and insights through multiple rounds of questioning. The goal is to reach a consensus on future exchange rate movements based on expert knowledge and opinions.
- Expert Opinion: Consulting economists, financial analysts, and currency experts can provide valuable insights into future exchange rate trends. Experts analyze economic conditions, political events, and market sentiment to form their predictions.

3. **Quantitative Forecasting Methods:** Quantitative Forecasting Methods use historical data and statistical techniques to predict future exchange rates. These methods are grounded in mathematical models and aim to identify patterns and relationships in the data.
    - Time Series Analysis: This approach involves analyzing historical exchange rate data to identify trends, seasonal patterns, and cyclical movements. Common methods include:

- Autoregressive Integrated Moving Average (ARIMA): ARIMA models are used to analyze and forecast time series data by capturing the underlying patterns and relationships in historical exchange rates.
- Econometric Models: These models estimate the relationship between exchange rates and various explanatory variables, such as interest rates, inflation, and economic growth.
- Regression Analysis: Linear and nonlinear regression models analyze the impact of independent variables on exchange rates, helping to forecast future movements based on these relationships.
- Machine Learning Techniques: Advanced algorithms and data-driven models are used to analyze large datasets and identify complex patterns.
- Vector Autoregression (VAR): VAR models analyze multiple time series variables simultaneously, capturing the interdependencies between exchange rates and other economic variables.
- Supervised Learning: Techniques like linear regression, decision trees, and neural networks are trained on historical data to predict future exchange rates. These models can capture intricate relationships and interactions between variables.
- Unsupervised Learning: Methods such as clustering and principal component analysis (PCA) reveal underlying structures in the data, providing insights into currency movements and market dynamics.

4. **Hybrid Forecasting Methods:** Hybrid Forecasting Methods combine elements of both qualitative and quantitative approaches to enhance forecasting accuracy.
    - Combining Models: Integrating different forecasting models, such as fundamental analysis with technical indicators, provides a more comprehensive view of potential currency movements.
    - Ensemble Methods: Techniques like ensemble averaging and model stacking combine predictions from multiple models to improve forecasting performance and reduce errors.

5. **Market-Based Forecasting:** Market-Based Forecasting projects future exchange rates based on data from financial markets. This strategy makes use of pricing mechanisms and market expectations.
    - Forward Exchange Rates: The agreed-upon rate for exchanging currencies at a later time is known as the forward exchange rate. It can be used as a forecasting tool and represents what the market anticipates will happen to the exchange rate in the future.

- Interest Rate Differentials: Future changes in exchange rates may be predicted by comparing the interest rates in two different countries. Higher interest rates typically attract foreign capital, leading to currency appreciation.

6. **Fundamental Analysis:** Fundamental Analysis involves evaluating economic indicators, government policies, and other fundamental factors to forecast exchange rates.

- Economic Indicators: Data analysis on GDP growth, inflation, and employment rates is useful in determining the state of a nation's economy and how it affects the value of its currency.
- Government Policies: Analyzing monetary and fiscal policies can shed light on future changes in policy and economic interventions that may affect currency fluctuations.

7. Technical Analysis: Technical analysis forecasts future changes in exchange rates by utilizing past price data and chart patterns. Its main objective is to spot patterns and trends that could recur in the future.

- Chart Patterns: Head and shoulders, double tops/bottoms, and triangles are examples of patterns that can be used to identify possible trend reversals or continuations.
- Technical Indicators: Relative Strength Index (RSI), moving averages, and moving average convergence-divergence (MACD) are a few examples of tools that are used to forecast price movements and analyze market conditions.

Limitations and Challenges

1. Data Quality and Availability: The accuracy and dependability of historical data are prerequisites for accurate forecasting. Predictions can be erroneous if the data are incomplete or wrong.

2. Model Assumptions: A number of assumptions are made by forecasting models, and these may not always hold true. Unexpected occurrences or shifts in the economy may have an impact on the accuracy of the model.

3. Market Volatility: Because of market speculation, economic crises, and geopolitical events, exchange rates can be extremely volatile. It can be difficult to forecast because of this instability.

A variety of techniques along with ongoing market and economic conditions monitoring are necessary for effective exchange rate forecasting. Forecasters might improve their

capacity to anticipate currency swings and make wise selections by combining several techniques and adjusting to changing conditions.

10.9 EXCHANGE RATE RISK AND MANAGEMENT

Currency value swings give rise to exchange rate risk, which affects the financial performance of investors and enterprises that do cross-border transactions. Optimizing exchange rate risk is essential to reducing unfavourable consequences on financial stability and profitability. This note discusses the many kinds of exchange rate risks, how to manage them, and some useful tips.

Types of Exchange Rate Risks

1. **Transaction Exposure:** The possibility of an exchange rate shift between the time a transaction is booked and when it is finalized gives rise to this kind of risk. For instance, changes in exchange rates may have an impact on the amount paid or received by a business if its receivables or payables are denominated in a foreign currency.

2. **Translation Exposure**: It is also known as accounting exposure; this risk pertains to the impact of exchange rate changes on a firm's financial statements. Consolidating financial statements from overseas subsidiaries into the reporting currency of the parent company has an impact on translation exposure, which impacts the value of equity, liabilities, and assets.

3. **Economic Exposure:** This risk relates to how changes in exchange rates may affect a company's total market value and future cash flows. Economic exposure is more inclusive and takes into account the possible long-term impact that fluctuations in exchange rates may have on a company's profitability, pricing power, and competitive position.

Risk Management Strategies

1. Natural Hedging: Natural hedging involves structuring operations to offset currency risks without using financial instruments. For instance, a company can match its revenues and expenses in the same currency, reducing exposure to exchange rate fluctuations. Operating in multiple markets and diversifying revenue streams can also help mitigate risk.

2. Financial Instruments: Companies use various financial instruments to hedge against exchange rate risk. These instruments include:

a. Forward Contracts: contracts to buy or sell a certain quantity of money at a set price at a later time. Forward contracts guarantee future cash flows and lock in exchange rates.
b. Futures Contracts: Standardized contracts to purchase or sell currencies at a later time were transacted on exchanges. Futures contracts are standardized and have margin restrictions, although they operate similarly to forwards.
c. Options: contracts that grant the right, but not the responsibility, to purchase or sell money within a given time frame at a given rate. Options offer flexibility, hedge against adverse changes in exchange rates, and permit participation in positive movements.
d. Swaps: Agreements to exchange currency at an agreed rate and then reverse the transaction at a future date. Currency swaps are used to manage cash flow and interest rate differentials between currencies.

3. Currency Diversification: Holding assets or revenues in multiple currencies can reduce exposure to any single currency's fluctuations. By diversifying, companies and investors can spread risk across various currencies and mitigate the impact of adverse movements in one currency.

4. Netting: involves combining various foreign exchange transactions made by a business to balance its payables and receivables. Netting results in less transactions and a decrease in total currency exposure, which improves hedging effectiveness and lowers transaction costs.

5. Risk Sharing: involves drafting contracts to divide the risk of changes in exchange rates between trading partners. To share the cost of currency risk, parties can, for instance, decide to modify pricing in response to fluctuations in exchange rates.

6. Operational Strategies: Businesses might modify their sourcing and manufacturing locations, their pricing policies, or their product mix to lessen the impact of currency swings as a way to manage exchange rate risk.

Practical Considerations

1. Assessment and Measurement: Precise evaluation and quantification of risks are essential for efficient risk handling. Organizations must to examine their currency exposure, evaluate possible effects on cash flows and financial statements, and measure the risk by employing instruments like Value at Risk (VaR) and sensitivity analysis.

2. Integration with Financial Strategy: It is important to incorporate risk management into your entire financial goals and plan. Businesses must match their hedging methods to their financial capabilities, risk tolerance, and business objectives.

3. Regular Monitoring and Adjustment: Market conditions and exchange rate concerns are subject to sudden changes. It is crucial to keep an eye on currency markets,

economic data, and geopolitical developments in order to modify risk management tactics as necessary.

4. Regulatory and Accounting Considerations: Businesses that recognize and report hedging operations must adhere to applicable accounting rules and laws. Proper financial reporting requires an understanding of the impact of accounting regulations, such as IFRS 9 or GAAP requirements.

5. Communication and Training: Effective risk management requires clear communication and training for employees involved in foreign exchange and risk management activities. Ensuring that staff understand risk management policies and procedures enhances the effectiveness of the hedging strategy.

Managing exchange rate risk involves understanding the types of risks, implementing appropriate hedging strategies, and continuously monitoring and adjusting approaches based on market conditions and business objectives. Effective management helps protect against potential losses, stabilize financial performance, and support strategic decision-making in a global business environment.

10.10 REPORTING AND COMPLIANCE IN EXCHANGE RATE MANAGEMENT

Effective reporting and compliance in exchange rate management are essential for ensuring accurate financial reporting, regulatory adherence, and ethical practices. This involves understanding relevant accounting standards, regulatory frameworks, and ethical considerations.

Accounting Standards and Practices

1. IFRS and GAAP Guidelines: Accounting standards provide frameworks for reporting exchange rate effects and ensuring consistency and transparency in financial statements. The two primary accounting frameworks are International Financial Reporting Standards (IFRS) and Generally Accepted Accounting Principles (GAAP).

a. IFRS: Under IFRS, specifically IAS 21 (The Effects of Changes in Foreign Exchange Rates), entities must account for exchange rate impacts using specific methods and disclosures. Key requirements include:
b. Functional Currency: The currency of the main economic environment in which an entity operates is its functional currency, and it must be determined by the entity. In this currency, transactions are documented, and translation adjustments are reported in other comprehensive income.

c. Translation of Foreign Operations: When consolidating foreign operations, the financial statements are translated into the reporting currency using the current rate method. Assets and liabilities are translated at the closing rate, while income and expenses are translated at the average rate for the period.
d. Hedging: IFRS 9 (Financial Instruments) provides guidelines on the accounting treatment of hedging instruments, including derivatives used for hedging currency risk. It requires entities to document their hedging strategies and measure effectiveness.

ASC 815 (Derivatives and Hedging) outlines the requirements for accounting for derivative instruments and hedging activities. Entities must assess and document the effectiveness of hedging relationships.

e. GAAP: Under US GAAP, the relevant standards include ASC 830 (Foreign Currency Matters). Key aspects include:

2. **Translation Methods:** Two primary translation methods are used to convert foreign currency financial statements into the reporting currency.

a. Temporal Method: This approach uses historical exchange rates to translate non-monetary assets and liabilities and the current exchange rate to translate monetary assets and liabilities. The exchange rate that is in effect on the transaction date is used to translate income and expenses. When the reporting currency and the functioning currency are the same, this technique is employed.
b. Current Rate Method: Using this method, assets and liabilities are converted using the exchange rate in effect on the date of the balance sheet. The average exchange rate for the time period is used to translate income and costs. This method is used for translating the financial statements of foreign subsidiaries when the functional currency is not the reporting currency.

Regulatory Frameworks

1. Role of Central Banks: Central banks play an important role in managing exchange rate stability and implementing monetary policy. Their activities include:

a. **Monetary Policy:** To affect exchange rates and the state of the economy, central banks implement open market operations and change interest rates. Monetary policy adjustments can affect investment flows and inflation expectations, which in turn can affect currency prices.
b. **Foreign Exchange Reserves Management:** Central banks maintain reserves in several currencies in order to affect and supply liquidity in exchange rates. To

maintain or modify the value of their own currency, they could buy or sell other currencies.

c. **Intervention:** Central banks may step in to sustain the value of a currency or offset excessive volatility in the foreign exchange market. These interventions might take two forms: indirect (changing interest rates) or direct (buying or selling currencies).

2. International Regulatory Bodies: Numerous international organizations oversee and regulate global financial systems, including foreign exchange markets. For ex.-

a. Bank for International Settlements (BIS): The BIS acts as a bank for central banks and fosters international monetary and financial cooperation. It provides a forum for central banks to exchange information and collaborate on financial stability and monetary policy.
b. International Monetary Fund (IMF): The IMF gives member nations financial support, conducts economic analysis, and keeps an eye on exchange rate policy. In order to handle balance of payments difficulties, it advises on policy measures and supports exchange rate stability.

Ethical Considerations and Best Practices

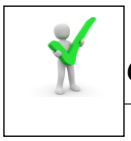
1. **Transparency in Reporting:** Transparency is critical for accurate and reliable financial reporting. Best practices include:

a. Clear Disclosure: Entities should provide detailed disclosures on foreign currency exposures, hedging activities, and the impact of exchange rate changes on financial statements. This includes disclosing the methods used for translation and the impact of currency fluctuations on results.
b. Consistent Application: Consistent application of accounting policies and translation methods ensures comparability and reliability in financial reporting. Entities should avoid frequent changes in accounting policies that could obscure the true financial impact of exchange rate changes.
c. Auditor Review: Independent audits enhance the credibility of financial statements and ensure compliance with accounting standards. Auditors review the accuracy of exchange rate reporting and the effectiveness of risk management practices.

2. Ethical Hedging Practices: Ethical considerations in hedging practices focus on responsible and transparent management of currency risk.

a. Avoiding Speculation: Hedging activities should be aligned with the entity's risk management objectives rather than speculative trading. Speculative practices can lead to undue risk and potential financial losses.
b. Disclosure of Hedging Strategies: Entities should clearly disclose their hedging strategies, including the types of hedging instruments used, their purpose, and the effectiveness of hedging relationships. Transparency helps stakeholders understand the risks and benefits associated with hedging.
c. Compliance with Regulations: Adhering to regulatory requirements and industry standards ensures that hedging practices are conducted within legal and ethical boundaries. This includes compliance with accounting standards, reporting requirements, and regulatory guidelines.

Effective reporting and compliance in exchange rate management involve a thorough understanding of accounting standards, adherence to regulatory frameworks, and the adoption of ethical practices. By integrating these elements, entities can manage exchange rate risks effectively, ensure accurate financial reporting, and uphold transparency and integrity in their financial activities.



Check Your Progress-B

Q1. What role did the International Monetary Fund (IMF) play during the Asian Financial Crisis?

Q2. What were some of the economic and social impacts of the European Sovereign Debt Crisis on affected countries?

Q3. Which Eurozone country was the first to reveal severe fiscal imbalances that led to the European Sovereign Debt Crisis?

Q4. Multiple Choice Questions

1. **What was a primary cause of the Asian Financial Crisis?**

a. Increased foreign investment

b. Excessive foreign borrowing and weak financial systems

c. High domestic savings rates

d. Strong currency values

2. What was a common response by the European Union (EU) to the Sovereign Debt Crisis?

a. Currency revaluation

b. Austerity measures and bailout packages

c. Increasing interest rates

d. Currency devaluation

3. Which of the following best describes the impact of the Asian Financial Crisis on unemployment rates?

a. Decrease in unemployment rates

b. No change in unemployment rates

c. Increase in unemployment rates

d. Stabilization of unemployment rates

10.11 GLOSSARY

Financial Liberalization: The process of reducing government restrictions on financial markets and institutions to encourage investment and economic growth.

Bailout: Financial support provided by governments or international institutions to stabilize a failing financial institution or economy.

Currency Devaluation: Decline in the value of a currency relative to other currencies, often resulting from economic instability or market forces.

Austerity Measures: Economic policies implemented to reduce government budget deficits through spending cuts and tax increases.

Monetary Policy: Actions by central banks to manage the money supply and interest rates to achieve economic objectives such as controlling inflation or stabilizing currency.

Speculative Attack: An attempt by investors to profit from the decline in a currency's value by selling it short or betting against it.

Fiscal Imbalances: Discrepancies between government revenues and expenditures, often leading to high levels of public debt.

Structural Reforms: Changes in policies or regulations aimed at improving the efficiency and stability of an economy.

Eurozone: A group of European Union (EU) countries that have adopted the euro as their official currency.

Hedging: The use of financial instruments or strategies to offset potential losses or gains in investments due to fluctuations in exchange rates or other market variables.

10.12 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress -A

Answer 1: Inflation rates impact exchange rates by affecting the purchasing power of a currency. A country with lower inflation rates compared to others will generally see its currency appreciate because its purchasing power increases relative to other currencies. For example, if the US has a lower inflation rate than the Eurozone, the US Dollar (USD) might appreciate against the Euro (EUR).

Answer 2: The Gold Standard was a system where currencies were directly convertible to a specific amount of gold, providing stable but inflexible exchange rates. In contrast, the Bretton Woods system pegged currencies to the US Dollar, which was convertible to gold, promoting post-World War II economic stability. The Gold Standard limited monetary policy flexibility, while the Bretton Woods system collapsed due to imbalances and the US suspending dollar convertibility to gold in 1971.

Answer 3. MCQs

i. a) A theory that states exchange rates should equalize the price of identical goods and services in different countries.
ii. b) Floating exchange rate
iii. c) The difference in interest rates between two countries is equal to the expected change in exchange rates.

Answer 4. Fill in the Blanks with appropriate word or words.

i. Asset Market
ii. Floating
iii. Gold
iv. 1970s

Check Your Progress –B

Answer 1. The IMF provided bailout packages to affected countries in exchange for structural reforms and austerity measures to stabilize their economies

Answer 2. Greece was the first Eurozone country to reveal severe fiscal imbalances, which triggered the European Sovereign Debt Crisis.

Answer 3. - The crisis led to significant economic contractions, high unemployment rates, and political instability in affected countries.

Answer 4. Multiple Choice Questions

i. B. Excessive foreign borrowing and weak financial systems
ii. B. Austerity measures and bailout packages
iii. C. Increase in unemployment rates

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10.14 SUGGESTED READINGS

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2. Lane, P. R., & Perotti, R. (2011). The European Sovereign Debt Crisis: The Role of the Euro and the European Central Bank. European Economic Review.

10.15 TERMINAL QUESTIONS

1. Discuss the main causes of the Asian Financial Crisis and how they contributed to the spread of the crisis to other East Asian countries.
2. Analyze the role of international financial institutions in managing the European Sovereign Debt Crisis and the effectiveness of their interventions.
3. Evaluate the impact of currency crises on economic stability and social conditions in affected countries.
4. Compare and contrast the mechanisms and strategies used by Thailand during the Asian Financial Crisis with those employed by Greece during the European Sovereign Debt Crisis.
5. Assess the long-term lessons learned from the Asian Financial Crisis and the European Sovereign Debt Crisis for future currency and economic crises.

10.16 CASE LETS/CASES

The Asian Financial Crisis and its Aftermath

In July 1997, Thailand faced a severe financial crisis triggered by a speculative attack on the baht, which forced the country to devalue its currency. The crisis quickly spread to other countries in the region, including Indonesia and South Korea. As the situation

worsened, the IMF intervened by providing bailout packages contingent upon structural reforms and austerity measures. These measures included fiscal tightening and financial sector reforms. Evaluate the effectiveness of these interventions in stabilizing the affected economies and discuss the social and economic consequences of the crisis. Analyze how the lessons learned from the Asian Financial Crisis have influenced the approach to managing currency risks and financial stability in subsequent crises.

Questions:

1. What specific structural reforms and austerity measures were implemented by the IMF in response to the Asian Financial Crisis, and how effective were these interventions in stabilizing the affected economies?
2. Discuss the social and economic consequences of the Asian Financial Crisis on Thailand, Indonesia, and South Korea, and analyze the long-term impact of the crisis on these countries' financial systems and economic policies.

International Finance
MS 405

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MS 405

School of Management Studies and Commerce

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Block III International Securities Market

Block IV International Corporate Finance

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Course Contents

Course Name: International Finance

Course Code-MS405

Course Objective: This course aims at providing the students the fundamentals of international finance and its intricacies.

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Unit III The Foreign Exchange Markets

Unit IV The Balance of Payments

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Unit XXI Foreign Currency Futures and Options

Unit XXII Interest Rates and Foreign Currency Swaps

Unit XXIII International Financial Instruments

Unit XXIV Contemporary Issues in International Finance

Suggested Readings:

1. Foreign Exchange Management - H.P. Bhardwaj
2. International Financial Management - P. G. Apte
3. International Financial Management - V. K. Bhalla
4. Multinational Finance - K. C. Bulter
5. International Financial Management - A. K. Seth
6. International Financial Management- V.Sharan, Prentice Hall India

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Block III
International Securities Market

UNIT 11 INTERNATIONAL DEBT FINANCING

11.1 INTRODUCTION

International debt financing is crucial for countries and companies who require access to significant sums of capital outside of their domestic financial markets. However, there are other hazards involved as well, such as fluctuations in exchange rates or changes in the status of the global economy, which may have an impact on one's ability to repay.

Facilitating cross-border borrowing and lending while taking geopolitical and international economic dynamics into account is known as international debt financing. It allows companies to raise capital with flexibility without sacrificing control.

11.2 OBJECTIVES

From this unit, you will get the information about:

- About International Debt Financing
- Various form of investing in Debts

- Impact of International Debt Financing
- Advantages & Disadvantages of investing in international Debts

11.3 DEBT FINANCING

The process of raising cash through loans from lenders, such as banks or other financial institutions, with the understanding that the money borrowed would be repaid with interest at a later date, is known as debt financing. With this method, governments, businesses, or individuals can raise money without giving up ownership.

Main characteristics of debt financing are as follows:

- Debt can be acquired through loans or by issuing debt instruments like bonds.
- Usually involves steady payments (monthly, quarterly, etc.) to repay both the principal amount borrowed and the accrued interest.
- The length of the loan might vary, typically extending from less than a year to a number of years or longer, contingent upon the borrower's needs and financial stability.
- Interest payments are what creditors anticipate receiving in exchange for their money loans.

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Debt financing is preferred by entities who are willing to hold control over their operations while leveraging borrowed funds for growth or operational needs.

11.4 INTERNATIONAL DEBT FINANCING

The concept of international debt financing is the type of financing that includes transactions between the parties or organizations located in different countries. This includes borrowing money from foreign governments, international organizations (like the World Bank or IMF), or commercial lenders with headquarters abroad. The following are significant aspects of international debt financing:

- Borrowing and lending take place beyond national borders, entailing several currencies and regulatory systems.
- Governments, businesses, and occasionally private citizens may go to international debt to fund a range of initiatives or activities
- Variations in regulatory frameworks, exchange rate volatility, and geopolitical risks might impact the terms and conditions of foreign loans.

For nations and businesses that need access to substantial amounts of finance outside of their home financial markets, international debt financing is essential. But there are

threats associated with it as well, like exchange rate volatility or shifts in the state of the world economy, which could affect one's capacity to repay.

11.5 IMPACT OF INTERNATIONAL DEBT FINANCING

International debt financing can have profound impacts on the financial prospects and firmness of borrowing countries.

The local debt markets in many developing nations could not be deep enough or matured enough to meet the significant funding requirements for large-scale projects like improvements to the healthcare system or infrastructure. Larger capital pools unavailable locally can be accessed through international loan finance. When compared to domestic borrowing choices, foreign lenders may provide more advantageous terms, such as longer payback periods and lower interest rates.

Borrowing from foreign lenders or international organizations may be necessary for low-income countries to finance important development projects. These monies can be used to support infrastructure, healthcare, education, and other areas that are essential to long-term economic growth. Excessive levels of foreign debt can cause financial difficulties or even catastrophes, especially if they are not managed well. These risks can be made worse by external shocks like drops in commodity prices or worldwide economic downturns, which makes it harder for nations to pay down their debt.

To reduce the risks connected with borrowing money from overseas sources, effective debt management is essential. This entails making responsible borrowing choices, having open fiscal policies, and using financing source diversification techniques. Maintaining sustained economic advantages and equitable growth from investments supported by foreign debt requires transparent governance and accountability in the use of borrowed funds.

11.6 VARIOUS INSTRUMENTS OF INTERNATIONAL DEBT FINANCING

1.BONDS:

There are variety of bonds presented in the market for investing like- Euro-bonds, Yankee bonds, Samurai bonds, and Dragon bonds which had banged the European, US, Japanese, and Asia Pacific markets etc.

Euro Bonds: Eurobonds are the type of debt products that are unsecured and have a maturity date of around one year. These are foreign currency bonds that are sold to investors outside the issuer country. These bonds are often distributed in euros by

enterprises, governments, or global organizations. The term 'Euro' relates only to the denomination of currency; they are not always minted in Europe.

Also, Eurobonds are unsecured, which means they lack collateral backing. They frequently have set interest rates, giving investors assurance regarding the interest payments they will get.

Yankee Bonds: These are foreign corporation bonds issued in the United States that are valued in US dollars. International issuers can access US financial markets with these bonds.

Samurai Bonds: These are bonds denominated in yen that are issued in Japan by non-Japanese entities. They enable access to the Japanese financial system for international issuers.

Dragon Bonds: In comparison to Yankees, Eurobonds, and Samurais, these bonds are used less frequently. These bonds are issued in the Asia-Pacific area by non-Asian companies and valued in local currencies such as the Hong Kong dollar, yuan, or other regional currencies.

2. Fixed/Floating Rate Notes

- The interest rate on these debt instruments rises in tandem with the debt instrument's 90-day maturity date, which can be prolonged at the issuer's discretion for an extra time period on each occasion.
- There are other options available, including stepped-up coupon put table bonds and extensible bonds. • **Extendable Bonds**: The issuer of these bonds may choose to further extend the maturity at each maturity date, albeit the initial maturity period is fixed. With every extension, the interest rate usually goes up as well. **Stepped up coupon bonds** are those whose coupon rates rise on predetermined dates or intervals. Bondholders have the option of returning the bond to the issuer or holding it for a higher coupon rate.

3.FLIP –FLOP NOTES:

Flip-Flop notes give investors the option to change their investment into a different type of debt instrument or return to the initial bond at a later time. This flexibility gives issuers and investors alternatives based on market conditions by adjusting the bond's maturity and interest rate profile.

4. Dutch Auction Notes:

These notes are bid on by investors; they have a set maturity (e.g., seven years), but the coupon rate is subject to a 35-day price change dependent on the state of the market. Dealers in US markets use a real auction process to determine the lowest yield achievable for the notes.

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5.Bunny Bonds

With bunny bonds, investors can reinvest their initial bond's interest income into subsequent bonds that have the same terms and conditions. This feature, which offers a steady stream of reinvest able income at enticing returns, appeals to long-term investments eg- pension funds.

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6. Euro-Rupee Bonds

Foreign institutions mainly consider Euro-Rupee Bonds. These bonds would be listed, for instance, in Luxembourg and valued in Indian rupees. Interest payments would be made in rupees, which would be attractive to businesses looking for funding in Indian markets but expose investors to currency risk.

7. Euro-Convertible Bonds

Financial Alternative - Euro-Convertible Bonds (ECBs) combine aspects of debt and equity. ECBs) enable bondholders to exchange their bonds for a set number of shares in the issuing firm. which are typically Global Depositary Receipts, or GDRs Usually, an exchange rate and predefined formula are used for this conversion.

Features of Euro-Convertible Bonds:

- The investor has the right to exchange the bond with any stock listed as GDRs when the value of the share outshines the preset value in the beginning.
- Investors can choose to remain onto the debt option if the share price drops below the conversion edge
- Some ECBs comprises extra features like call options (issuer's right to redeem the bonds before maturity) or put options (investor's right to sell the bonds back to the issuer). These options provide more flexibility and helps in risk management.

8. ECBs with Warrants

- ECBs with warrants are mainly debt instruments which are allotted in the Eurobond market. Their maturity time is set, usually lasting between seven and ten years.
- Based on how the issuer's stock price performs in relation to the strike price, investors may choose to swap their bonds for stocks (often in the form of shares or GDRs) at a predetermined price and under specific terms.
- These bonds give investors the chance to convert the bonds into stocks at a set price and under predetermined terms (generally based on how the issuer's stock

price performs in relation to the strike price). Typically, the stocks can take the form of shares or GDRs.

- Some ECBs with warrants may be designed as zero-coupon bonds also, as they can be allotted at discounted value and do not pay any interest periodically.

9. Bell Spread Warrants

- Bell spread warrants provide investors with a systematic method of gaining exposure to changes in an underlying stock's price within a predetermined range.
- The price range that the underlying stock's price must stay within for the duration of the warrant is specified by Bell Spread Warrants. The investor is funded the difference between the lower level (L) and the actual stock price if the stock price at maturity is less than the lower level (L). This payout attempts to deliver a minimum return, usually higher than the stock's dividend yield, while offsetting the negative risk.
- Bell Spread Warrants typically have a three-year set maturity period.
- Investors seeking for structured investments with clear risk boundaries and the possibility of earning returns contingent on the movement of a particular stock within a range are drawn to Bell Spread Warrants.
- Bell Spread Warrants work especially well for businesses with low dividend yields or for investors looking for structured instruments that track changes in stock prices to generate returns higher than the dividend yield.

10. Certificate of Deposits

Banks offer financial instruments called Certificates of Deposit (CDs), which give investors a guaranteed, safe return on their investment over a predetermined time period. A bank grants receipt of investor funds by allotting a certificate of deposit (CD). It guarantees repayment of the principle and interest at maturity.

A certificate of deposit is an excellent choice for investors in the eurocurrency market to store their surplus capital in a high-yielding product to satisfy liquidity demands. For investors hoping to obtain a firm return on their investment—often more than with standard savings accounts—CDs offer a safe alternative.

Types of Certificates of Deposits:

1.Straight or Term CDs: These CDs offer an interest rate which is fixed for the entire period of the investment, typically secured to standards like LIBOR. Its maturity period ranges from 1 to 12 months. The liquidity situation of the issuing bank and the state of the market influence the interest rate.

2.Floating Rate CDs: These CDs' interest rates are regularly adjusted almost in six months to reflect changes in the benchmark rate, which is often LIBOR. With extended maturities—up to three years—floating rate certificates of deposit (CDs) enable investors to take advantage of future fluctuations in interest rates.

1. **Discount CDs:** These CDs are offered below face value and mature with the full face amount paid. The interest received is represented by the discrepancy amongst the buying price and face value.
2. **Tranche CDs:** Issued by a bank up to a predefined limit, tranche CDs are a component of a bigger program. Investors looking for short-term bond-like instruments frequently find attraction in the fact that each tranche CD in the program has the same interest rate and matures on the same day.

Benefits of Certificates of Deposits:

- CDs are treated as low-risk investment alternative because they are typically covered by the government (up to certain limits) and supported by the issuing bank's reputation.
- Depending on the type of CD selected, investors can receive fixed or variable returns, which offer stability and income.

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11. EURO LOAN SYNDICATION:

One of the more prominent type of cross-border lending, Euro Loan Syndication, was one of the formerly lending strategies. It implies that several banks band together to supply the money when lending amounts become excessively large. Large-scale cross-border borrowing is made possible by the important international financial instrument known as Euro Loan Syndication.

International syndicated credits are typically handled and funded by one or more than one financial institutions that are located somewhere other than the borrower's residence. This includes lenders from various banking regions, giving the borrower access to multiple currencies.

Participants of Euro Loan Syndication:

1.Managing Bank:

To arrange the syndicated loan, the borrower appoints the managing bank. It establishes the syndicate, helps with loan application preparation, and bargains terms and conditions with other banks. Generally, the management bank's involvement ends after the borrower and partner banks sign the loan agreement.

2.Lead Bank:

The bulk of the loan amount in the syndicate is provided by the lead bank. It is essential to the structure of the loan terms and frequently establishes the standard for other institutions that participate.

3.Agent Bank:

Following the signing of the loan agreement, the agent bank manages disbursements, keeps an eye on loan performance, and distributes principal and interest payments to

participating banks on behalf of the lending syndicate. It acts as a point of contact for the borrower and guarantees coordination amongst lenders.

4.**Participating Banks:**

Large commercial banks typically arrange a significant portion of the loan and play a leading role in syndication. Smaller retail banks participate to diversify their loan portfolios and gain coverage to larger credit facilities.

Benefits of Syndicated Loans:

- **Access to Large Amounts:** Borrowers, particularly in developing countries, can obtain considerable amount of funds (ranging from $50 million to $5 billion) quickly and with fewer formalities in comparison to other available options.
- **Flexibility:** Syndicated loans offer flexibility in terms of currency, maturity (from 365 days to 20 years), and repayment schedule in order to meet the specific needs of both the parties.
- **Cost-Effective:** Borrowers benefit from competitive pricing as multiple lenders fight for participation in the syndicate.

- **Fees Associated with Syndicated Loans:**
  - **Management Fee:** Amount paid in advance, usually in the form of a proportion of the loan amount, to the management bank for organizing the syndicated credit.
  - **Participation Fee:** Depending on each bank's stake in the syndicate, a share of the management fee is transferred to them.
  - **Commitment Fee:** A fee assessed on the portion of the loan facility that has not been used, which compensates banks for holding onto funds.
  - **Agency Fee:** An annual payment made to the agent bank to support its administrative duties in overseeing loan distributions, collections, and disbursements.

Exclusive Features of Syndicated Loans:

- **Access to Eurocurrency Markets:** By utilizing Eurocurrency markets, transactions can be carried out without being subject to particular regulatory constraints, which promotes global financial convergence and offers flexibility in managing funds between jurisdictions.
- **Recycling of Euro deposits:** This helps investment plans and liquidity management by making it easier to convert short-term Euro Deposits into medium- to long-term Euro Credits.

12.COMMERCIAL PAPERS

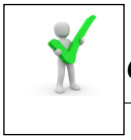
Commercial Paper (CP) is a popular financial alternative used by organizations to raise short-term funds from institutional investors and other sources. Large companies with excellent credit ratings will issue unsecured promissory notes known as commercial

paper (CP). It is a short-term financing option because it is commonly traded at a discount to its face value and have maturity in the range of 7 to 365 days. With a market value of over $400 billion, the US has the biggest commercial paper market. For more than a century, CP has been a mainstay of U.S corporate finance, utilized extensively by both domestic and foreign businesses.

In the U.S., It is necessary for the issuers to get credit ratings from the agencies like- issuers must obtain credit ratings from agencies like Moody's or Standard & Poor's. then, only CPs can be allotted in the market. European commercial paper, or Euro CP, evolved from Euro notes and is typically not rated, reflecting investor preferences in Eurocurrency markets. In an era of securitization, the commercial paper issues in the Euromarkets has developed promptly.

Advantages of Euro CP's to Borrowers

1. Less expensive source of funding than conventional bank loans, usually as a result of lower interest rates and transaction costs.
2. Simple documentation, inexpensive setup, and absence of rating requirements.
3. Offers a flexible maturity option.
4. Gives issuers access to a wide range of institutional investors interested in short-term investments, enabling them to diversify their short-term finance sources further than bank loans.
5. Increases market efficiency and liquidity by drawing in a diverse range of investors looking for short-term investments with competitive rates.



Check Your Progress-A

Short Answer Questions

Q1. Define International Debt Financing?

Q2.What are ECBs with warrants?

Q3.Define Euro Loan Syndication?

Q4.What are the pros of investing in International debts?

Extended Answer Questions

Multiple Choice Questions

1.A non-Japanese firm that lists and trades its Yen-denominated bonds on Japanese exchanges is known as:

a) Yankee Bonds

b) Samurai Bonds

c) Bull Dog Bonds

d) Kangaroo Bonds

2.Which of the following is not an instrument of Debt financing?

a. Commercial Papers

b. Certificate of Deposits

c. ADRs

d. ECBs

3.The Full form of CP is-

a. Commercial papers

b. Certificate Papers

c. Certificate Prints

d. Commercial prints

Fill in the Blanks

1.----------a financial instrument issued by banks that provides investors with a safe and fixed return on their investment over a specified period.

2. Euro Convertible Bonds are ----------financial instruments that combine features of both debt and equity.

3. When the size of lending is too large, many banks join together to provide the funds. This facility is known as ----------

11.7 ADVANTAGES OF INTERNATIONAL DEBT FINANCING

1. Businesses may speedily raise the funds they require for a range of needs, comprising project funding, equipment purchases, and expansion, thanks to debt financing.

2. Since, interest rates on loans may be lower than the returns expected by equity investors, international debt financing may be less expensive than equity financing.

3. It offers an organized method of funding expansion projects, allowing companies to take advantage of chances that call for quick capital outlays.

4. Effective debt management can raise your company's rating, which will facilitate future loan applications on advantageous conditions

11.8 DISADVANTAGES OF INTERNATIONAL DEBT FINANCING

1.Failing to pay debt expenditures might put you and your company in financial trouble, sometimes even resulting in bankruptcy if you are unable to make your payments.

2. Interest rates on loans might be high, raising the total cost of financing, depending on the state of the market and the creditworthiness of your company.

3. Regular principal and interest payments are necessary for financing, which can put a pressure on cash flow and reduce the amount of flexibility in handling other costs or investments.

4. It may be challenging for startups or companies with a bad credit history to obtain debt financing, which would limit their capacity to take advantage of expansion prospects.

11.9 SUMMARY

International debt financing provides vital resources for economic development, especially in countries with limited access to domestic capital markets, it also poses significant risks if not managed carefully. Cautious planning, responsible fiscal policies, and strong governance structures are necessary to protect long-term economic stability and growth while balancing the advantages of capital access with the possible risks of debt sustainability and economic fragility.

Syndicated loans remain a preferred option for large-scale financing needs, offering borrowers and lenders alike a structured approach to international credit arrangements with tailored terms and competitive advantages.

For corporations, Commercial Paper (CP) is an essential tool for effectively managing their short-range financial requirements. It is a popular option for corporate finance plans all over the world since it gives issuers access to a large range of investors, flexible terms, operational ease, and cost-effective funding.

International debt financing includes considerable risks connected to financial responsibilities and interest expenses, but it also provides instant access to funds and can be cost-effective, particularly for well-established enterprises with solid credit ratings. Based on their level of risk tolerance, growth strategy, and financial health, businesses should carefully consider the advantages and disadvantages.

11.10 GLOSSARY

International Debt Financing- This type of financing is used by nations and companies who need access to money that is greater than what is available in their own financial markets.

Euro Loan Syndication- The type of loan is managed and funded by multiple financial institutions, typically located outside the borrower's place of residence. It includes lenders from various banking regions, giving the borrower access to multiple currencies.

Euro-Convertible Bonds (ECBs)- - Euro-Convertible Bonds (ECBs) combine aspects of debt and equity. ECBs) enable bondholders to exchange their bonds for a set number of shares in the issuing firm. which are typically Global Depositary Receipts, or GDRs Usually, an exchange rate and predefined formula are used for this conversion.

A Certificate of Deposit (CD)- Certificates of Deposit (CDs) are the deposits that gives investors a guaranteed, safe return on their investment over a predetermined time period. A CD is issued by a bank, acknowledging receipt of funds from an investor.

11.11ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress -A

1.b 2.c 3. A

1.Certificate of Deposits(CDs) 2. Hybrid 3. Loan Syndication

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11.14 TERMINAL QUESTIONS

1. Write a note on various types of International Debt Instruments available in the market?
2. Explain the features of different types of Bonds?
3. "International debt financing is the financing for countries and corporations that require large sums of capital beyond their domestic financial markets". Discuss?
4. Discuss the advantages & disadvantages of investing in International debts?
5. Write a note on Euro loan syndication and explain about the various participants involved in this type of funding?
6. Discuss in detail why Certificate of Deposits (CDs) emerged as one of the investment option for financing in International Market?

UNIT 12 INTERNATIONAL EQUITY FINANCING

12.1 INTRODUCTION

Equity financing indeed offers a way to raise capital without taking on debt. Businesses can raise money to expand or grow by selling an ownership stake in their company. This approach may be especially appealing to new businesses or those with little assets or credit history. Short-term cash flow may be facilitated by equity financing since it does not demand monthly debt

payments like loans do. The practice of firms issuing ordinary or preferred stock in other nations through foreign stock exchange listings is known as international equity financing.

12.2 OBJECTIVES

From this unit, you will get the information about

- International Equity Financing.
- Various forms of International Equity Financing.
- About ADRs and GDRs in detail.
- Risk associated with ADRs and GDRs.

12.3 EQUITY FINANCING

Equity financing indeed offers a way to raise capital without taking on debt. Businesses can raise money to expand or grow by selling an ownership stake in their company. This approach may be especially appealing to new businesses or those with little assets or credit history. Short-term cash flow may be facilitated by equity financing since it does not demand monthly debt payments like loans do.

12.4 INTRODUCTION TO INTERNATIONAL EQUITY FINANCING

The practice of firms issuing common or preferred shares in foreign nations, usually by listing on foreign stock exchanges, is known as international equity financing. This strategy enables businesses to raise cash in foreign currencies, supporting a number of strategic goals:

1. **Cross-border Acquisitions**: As part of their worldwide expansion plan, businesses frequently buy out companies in other nations. They can lower financing expenses related to the acquisition and decrease currency exchange risks by raising funds in the target company's currency.
2. **New Projects**: International expansion into new markets or the establishment of industrial facilities are examples of the new projects that multinational firms usually take on. Significant capital is needed for these initiatives, and international equity financing is one way to find it.

3. **Expansion and Modernization**: In order to expand, upgrade, or modernize their overseas projects and facilities, additional money may be needed. For these reasons, gaining access to international capital markets may offer affordable financing alternatives.
4. **Funding Joint Ventures and Subsidiaries**: Businesses frequently create subsidiaries or joint ventures (JVs) overseas in order to work with regional partners or conduct business in certain areas. When it comes to cost optimization and matching funding sources with operational requirements, financing these firms with foreign money might be beneficial.

12.5 BENEFITS OF INTERNATIONAL EQUITY FINANCING

The benefits of international equity financing include diversifying funding sources, retrieving favorable market conditions overseas, and possibly sinking financing costs compared to domestic markets. However, it also entails things like managing exchange rate risks, adhering to foreign regulatory requirements, and adjusting to shifting investor expectations and market dynamics.

12.6 DEVELOPMENT OF INTERNATIONAL EQUITY MARKET

The practice of cross-listing shares on several stock exchanges worldwide has played a substantial role in the progress of the global equities market. The listing of a company's shares on a overseas stock exchange in addition to its home exchange is known as cross-listing. By using this strategy, businesses can increase share liquidity, diversify their financing sources, and reach a wider audience of investors.

A negotiable certificate allotted by a depository bank, usually an international bank, is known as a Depository Receipt (DR). It stands for ownership of shares in a foreign business that the depository bank holds for foreign investors who are not residents of the nation in which the shares are traded. Because DRs are convertible into other currencies, such US dollars or euros, they are easily available and tradable internationally.

The key aspects and types of cross-listings, particularly through depository receipts (DRs):

- **ADR (American Depository Receipt)**: ADRs are a particular kind of depository receipt that are issued in US dollars and have US dollar values attached to them. They allow US investors to indirectly own shares of foreign firms by utilizing an ADR to represent a specific number of underlying shares of the foreign company.

- **GDR (Global Depository Receipt)**: Usually issued and exchanged in London or Luxembourg, GDRs are part of the European financial markets. They function as shares of international corporations and, like ADRs, are typically valued in US dollars, though they can also be valued in other currencies, such as euros.
- **IDR (Indian Depository Receipt)**: The Indian Depository Receipt, or IDR, is a financial alternative that enables Indian investors to make overseas firm investments. It is issued by a foreign corporation and dealt on Indian stock exchanges.

Benefits:

- The number of shares of the foreign corporation that each depository receipt represents is indicated by the depository receipt to underlying share ratio
- Dividends declared by the foreign company in its native currency are paid to investors holding DRs; these are then converted to the investor's local currency.
- Since, DRs are made to act like domestic securities, investors can trade and settle their positions in their local markets with simplicity.

Market Expansion and Global Investment:

- By using DRs to cross-list, a company can attract international investors who might otherwise choose to invest in their own currency or through well-known financial instruments. This increases the company's visibility and investor base outside of its home market.
- It makes it easier to raise money in international markets, which supports international acquisitions, worldwide expansion, and the financing of new initiatives.

12.7 FORMS OF INTERNATIONAL EQUITY FINANCING:

AMERICAN DEPOSITARY RECEIPT(ADR)

American Depositary Receipts (ADRs), are one of the avenues which are merchandized on US exchanges and are considered as negotiable securities issued by US banks. It represents a specific amount of American Depositary Shares (ADS)—shares of a company based abroad.

As, ADRs can be converted to US dollars, US investors can trade them without having to conduct direct cross-border transactions.

Types of ADR Programs:

Unsponsored ADRs:

These are allotted by US depository banks without prescribed cooperation from the foreign business. According to the US Exchange Act of 1934, the foreign business needs to be a reporting corporation. Regulatory agencies oppose price discovery difficulties of transparency resulting from a foreign company's lack of control over the process. In order to prevent arbitrage opportunities, unsponsored ADRs cannot coexist with sponsored programs.

Sponsored Level 1 ADR Program:

These are basic form permitting foreign companies to access US capital markets. On the over-the-counter (OTC) market, ADRs are traded. Financial reporting in accordance with GAAP is not required, nor is SEC registration. minimal SEC reporting and disclosure.

Sponsored Level 2 ADR Program:

These requires full SEC registration and adherence to rules set forth by the SEC. ADRs may be listed on NASDAQ, AMEX, or other significant US stock exchanges. demands that Form 20-F annual reports be filed and that GAAP guidelines be followed. It forbids the issuing of fresh capital.

Sponsored Level 3 ADR Program:

These are the highest level, requiring careful compliance with GAAP guidelines and SEC rules. involves submitting Form F-1 when making a new share offering. It allows the foreign firm to issue additional capital and mandates the filing of annual reports on Form 20-F.

Restricted ADRs:

ADRs issued pursuant to SEC Regulation S or Rule 144A are referred to as restricted ADRs. restricted to offshore investors (Regulation S) or approved institutional buyers (Rule 144A). With certain restrictions depending on regulatory requirements, it makes access to the US and foreign capital markets easier.
For international businesses looking to access US capital markets while adhering to various degrees of regulatory monitoring and market restrictions, these classifications offer flexibility. ADRs are essential to the US financial markets because they facilitate international investment and improve liquidity for non-US corporations.

12.8 LIST OF ADRS ISSUED BY INDIAN COMPANIES:

List of ADRs issued by Indian Companies

Name	DR Listing Exchange
DR REDDYS LABORATORIES LTD	NYSE
GRASIM IND. LTD	OTC
HDFC BANK LTD	NYSE
ICICI BANK LTD	NYSE
INDIA HOSPITALITY CORP	OTC
INFOSYS TECH. LTD	NASDAQ
JK LAKSHMI CEMENT LTD	OTC
MAHANAGAR TELEPHONE NIGAM	NYSE
PATNI COMPUTER SYSTEMS LIMITED	NYSE
REDIFF.COM INDIA LTD	NASDAQ
SATYAM COMPUTER SERVICES LTD	NYSE
SIFY LTD	NASDAQ
SILVERLINE TECH LTD	OTC
PETROCHEMICAL IND.	PORTAL
STERLITE INDUSTRIES INDIA LTD	NYSE
TATA COMMUNICATIONS LTD	NYSE
TATA MOTORS LTD	NYSE
WIPRO LTD	NYSE

Source: http://www.adr.com/BrokerInvestor/drsearch.aspx

12.9 GLOBAL DEPOSITORY RECEIPTS (GDRS)

Global Depository Receipts are, in fact, a crucial tool used by businesses to raise finance on global markets. Derived instruments known as GDRs are valued in a freely convertible foreign currency and represent a specific number of common stock shares or convertible bonds of a domestic firm. They are created and offered to investors who are not residents of the company's home country (like India). GDRs can be denominated in any permissible freely convertible currency, such as US dollars, euros, or pounds sterling.

GDRs are issued by a depository bank, not directly by the issuing company. Consequently, the depository bank is identified as a stakeholder in the company's records.

- DR holders often do not receive voting rights. The depository bank is still the owner of these rights. However, certain structures may offer voting rights under certain circumstances or through additional agreements.

- The value of the underlying shares and the current exchange rate between the home currency and the GDR's currency govern the value of a GDR.
- GDR holders may be impacted by changes in exchange rates between the value of the GDR and the home currency that is issued by the firms.
- When the price of the GDR is lower than the price of the equivalent local share, DR holders has the right to cancel their DRs.
- Usually, there is a 45-day "cooling-off" period from the day of the GDR issue.
- In the same ratio as their entitlement to the underlying share, GDR holders are entitled to corporate perks such dividends, bonus shares, and rights issues.

12.10 LIST OF GDRS ISSUED BY INDIAN COMPANIES:

Name	DR Listing Exchange
ABL BIO-TECHNOLOGIES LTD	LUXEMBOURG
ACCENTIA TECHNOLOGIES LTD	SINGAPORE
ADITYA BIRLA NUVO	PORTAL
AFTEK INFOSYS LTD	LUXEMBOURG
AMTEK AUTO LTD	LONDON
APOLLO HOSPITALS ENTERPRISE LTD	PORTAL
ASAHI INFRASTRUCTURE & PROJECTS LTD	LUXEMBOURG
BAG FILMS & MEDIA LTD	LUXEMBOURG
BAJAJ AUTO LTD	LONDON
BAJAJ FINSERV LTD	LONDON

Source: http://www.adr.com/BrokerInvestor/drsearch.aspx

12.11 ADVANTAGES OF ADRS/GDRS:

Both types of Depository Receipts offer several advantages to both issuing companies and investors:

Advantages to Issuing Companies:

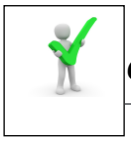
1. Compared to domestic markets, ADRs and GDRs are traded on significant international stock exchanges, which increases liquidity.
2. ADRs /GDRs offer access to capital at possibly lower costs and better conditions.

3. ADRs/GDRs attracts various investors around the world and helps in diversifying the shareholder base beyond domestic limitations.
4. Listing ADRs and GDRs raises the company's profile and credibility on global capital markets, which could help to strengthen the company's reputation.
5. ADRs and GDRs can be used as a marketing tool to raise investor interest in the firm and increase its worldwide exposure.
6. ADRs and GDRs can be used as a marketing tool for increasing the companies' awareness in the global market.

   .
7. Businesses can raise money without sacrificing voting power by issuing ADRs or GDRs, which lessens their susceptibility to hostile takeovers.
8. ADR/GDR holders receive their dividends in their local currency, reducing the threat of exchange rate variations for investors.
9. By tapping into the international market, ADRs and GDRs may raise both demand and share price.
10. ADRs and GDRs can be used to raise money for projects, joint ventures, acquisitions abroad, and other foreign exchange-dependent international commercial initiatives.

Advantages to Investors:

1. 1. By giving investors access to global investment options, ADRs and GDRs help geographically diversify investors' portfolios.
2. Investors can easily buy and hold shares in international companies without having to cope with the challenges of cross-border transactions by using ADRs and GDRs available on local marketplaces.
3. Through the elimination of global formalities and clearance processes, ADRs and GDRs facilitate the purchase of shares in foreign firms by investors.
4. Investing in a variety of nations and currencies through the holding of ADRs or GDRs lowers the risk of unfavorable developments in home economies.
5. ADRs and GDRs offer a type of wealth protection by acting as a buffer against economic and geopolitical risks unique to home markets.



Check Your Progress-A

Short Answer Questions:

Q1. What are Depository Receipts?

Q2. Define IDRs?

Q3. Write the names of Indian companies issuing ADRs & GDRs?

Q4. Distinguish between ADRs and GDRs?

Extended Answer Questions

Multiple Choice Questions

1. A company's corporate shares are distributed to the depository bank, which are then issues as…….

(a) Commercial banks

(b) ADR – American Depositary Receipt

(c) GDR – Global Depository Receipt

(d) None of these

2. An unsponsored American depository receipt (ADR) can _____

a. only be issued on NASDAQ.

b. avoid all SEC regulation.

c.be issued by foreign companies without all the cost.

d. only be traded on over-the-counter markets.

3.Full form of IDR

a. Indian Depository Receipt

b. International Depository Receipt

c. Indian Depository Rupees

d. Indian Depository Rupees

True/False

1. The practice of firms issuing common or preferred shares in foreign nations, usually by listing on foreign stock exchanges, is known as ----------financing

2. ---------- is a financial alternative that enables Indian investors to make overseas firm investments.

3.ADRs can be Denominated only in----------, regardless of the home currency of the issuing company.

12.12 RISK ASSOCIATED WITH INVESTING IN ADRS/GDRS

- **Price Volatility:** The pricing of ADRs and GDRs is continuously impacted by changes in the domestic market price of the underlying shares. The ADR/GDR pricing could be impacted by changes in the local market. This link exposes investors to price volatility and market uncertainty.
- **Local and Overseas Market Factors**: ADR/GDR prices may be impacted by elements unique to the international market, where the ADRs/GDRs are traded, as well as the local market, where the company is headquartered. These elements might be the state of the economy, modifications to regulations, unrest in the political system, and attitude in the markets in both areas.
- **Exchange Rate Risk**: As dividends, capital gains, and other returns are expressed in the foreign currency of the issuing business, investors in ADRs and GDRs are susceptible to

exchange rate risk. With the fluctuations in the exchange rates, the ADRs or GDRs are denominated may have an effect on the overall returns on their investment.

- **Country-specific Risks**: Purchasing ADRs or GDRs exposes investors to risks unique to the nation where the issuing company is based. The operations and financial performance of the company may be jammed by legal and regulatory risks, accounting standards, tax laws, and geopolitical issues, among other risks
- **Dividend Uncertainty**: There may be uncertainty regarding the payment and amount of dividends distributed to ADR/GDR holders. This uncertainty arises from numerous aspects like- the company's profitability, dividend policies, and regulatory restrictions.
- **Capital Loss**: There is chances of capital loss with ADRs/GDRs. The value of ADRs/GDRs can decay due to reasons such as poor financial enactment of the issuing company, industry depressions and recessions.
- **Liquidity Risk**: Depending on investor demand and trading volumes on the individual exchanges, ADRs and GDRs may encounter liquidity limits. Investor returns may be impacted by inadequate liquidity, which can make it problematic for investors to purchase or sell ADRs/GDRs at anticipated prices.
- **Legal and Regulatory Risks**: Investing in ADRs/GDRs involves adherence to legal and regulatory frameworks in multiple jurisdictions, including compliance with securities laws, tax implications, and corporate governance standards. Any changes in these regulations can impact investor rights and market access.

12.13 DIFFERENCE BETWEEN ADRS & GDRS

Key Feature	GDRs	ADRs
Currency Denomination	Can be denominated in any freely convertible currency, such as US dollars, euros, or pounds sterling.	Denominated only in US dollars, regardless of the homebased currency of the issuing company.
Investor Base	can be issued to investors in multiple markets simultaneously, allowing broader international distribution.	Can be issued only to investors who are residents of the US.
Depository Bank	Any foreign investment bank that satisfies regulatory standards can	The SEC must endorse the depository bank, and needs to be grounded in the

	serve as the depository bank.	United States.
Regulatory Clearances	does not require foreign regulatory clearances outside the issuing company's home jurisdiction.	Requires approval from the SEC for issuance, ensuring compliance with US securities laws and regulations.
Sub classification	There is no standard sub classification system for GDRs based on regulatory compliance.	ADRs are sub-classified into different levels (Level 1,2 &3) based on the level of compliance with SEC regulations and reporting requirements.

12.14 INDIAN DEPOSITORY RECEIPTS (IDRS)

Financial instruments known as Indian Depository Receipts (IDRs) are designed in such a way that it eases international businesses to access the Indian capital markets.

IDRs give foreign corporations the right to their foreign equity, enabling them to raise capital from Indian markets. International Depository Receipts (IDRs), like American Depository Receipts (ADRs) and Global Depository Receipts (GDRs), allow access overseas.

The issuing corporation's paid-up capital and free reserves must come to a minimum of $100 million in US dollars. The business must also have generated $500 million in revenue on average during the three fiscal years prior to the issuing of the IDR. IDRs can only be purchased by Qualified Institutional Investors (QIIs) and Indian corporations. To buy or keep IDRs, Foreign Institutional Investors (FIIs) and Non-Resident Indians (NRIs) must obtain special approval from the Central Bank(RBI).

By giving local stakeholders the chance to engage in foreign businesses, the launch of IDRs seeks to globalize the Indian capital market. This increases market variety and provides exposure to international economic patterns.

IDRs are a valuable instrument for international businesses for raising money in India while adhering to regional regulatory requirements. They help to integrate India into the international financial system and increase the investment possibilities available to Indian investors.

12.15 SUMMARY

International equity financing plays a crucial role in enabling multinational firms to pursue I internationally through the provision of capital in foreign currencies and markets that are specifically customized to certain strategic objectives,

Through cross-listing and depository receipts, the international equity market has grown, promoting global investment flows, improving market efficiency, and giving businesses strategic access to foreign capital and investor bases. International investment prospects and worldwide financial market integration are greatly aided by these platforms.

Various types of foreign equity financing present unique benefits and considerations, contingent on variables like legislative mandates, market accessibility, investor inclinations, and the strategic goals of the issuing enterprise. By using these techniques, businesses can expand their investor base, raise money internationally, and improve their financing plans for global operations.

ADRs and GDRs play a vital in improving market efficiency, facilitate international capital flows, and increase cross-border investment options for investors and enterprises.

Investors should be attentive of the risks related with ADRs and GDRs, which include price volatility related to underlying shares, exchange rate fluctuations, country-specific factors, dividend uncertainties, and potential capital losses. ADRs and GDRs offer opportunities for international diversification and access to global markets. Making wise investing decisions requires doing extensive research and comprehending the unique risks connected to each ADR/GDR transaction.

12.16 GLOSSARY

International Equity Financing- The practice of firms issuing common or preferred shares in foreign nations, usually by listing on foreign stock exchanges, is International equity financing

ADR (American Depository Receipt): American Depositary Receipts (ADRs), are one of the avenues which are merchandized on US exchanges and are considered as negotiable securities issued by US banks. It represents a specific amount of American Depositary Shares (ADS)—shares of a company based abroad.

GDR (Global Depository Receipt): GDRs are primarily issued and exchanged on European financial markets, namely those in Luxembourg and London. They function as shares of international corporations and, like ADRs, are typically valued in US dollars, though they can also be valued in other currencies, such as euros.

IDR (Indian Depository Receipt): The Indian Depository Receipt, or IDR, is a financial alternative that enables Indian investors to make overseas firm investments. It is issued by a foreign corporation and dealt on Indian stock exchanges.

12.17 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress A

1.c 2. d 3.a

1. International Equity 2. IDRs 3.US Dollars

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12.20 TERMINAL QUESTIONS

1. What are the diverse methods of available international equity financing? Discuss the characteristics of each of these methods?
2. Write a note on different types of ADRs available for financing? Discuss?
3. What is International Equity Financing? How it is developed in recent years?
4. What type of risks associated with investing in ADRs and GDRs?
5. Write a note on International Equity Financing?
6. How International Equity Market developed? Discuss in detail?

UNIT 13 INTERNATIONAL CAPITAL MARKET

13.1 INTRODUCTION

In this unit, we will explore the key aspects of international capital markets, including their structure, the various financial instruments traded within them, the significant roles of market participants, and the regulatory frameworks that govern them. We will begin by understanding the essential functions of primary and secondary markets, followed by an examination of major financial instruments like equities, bonds, and derivatives.

Additionally, we will discuss the influence of institutional and individual investors and analyze how regulatory bodies shape market practices. By the end of this unit, you will have a comprehensive understanding of how international capital markets operate and their importance in the global financial system.

13.2 OBJECTIVES

After reading this unit you will be able to:

- Describe the structure and functions of primary and secondary markets.
- Identify and explain the major financial instruments in international capital markets.
- Analyze the effect of regulatory frameworks on international capital market practices.
- Discuss the roles of key market participants, including individual and institutional investors.

13.3 INTERNATIONAL CAPITAL MARKETS

International capital markets play a vital role in the international financial system by acting as a venue for the cross-border raising and investment of long-term capital. These markets make it easier for capital to be allocated to different economic sectors, which promotes global growth and innovation. Given the significant influence these markets have on economic stability and growth, it is imperative that investors and policymakers comprehend the composition, tools, and dynamics of the international capital markets.

A number of key trends and occasions have influenced the development of international capital markets. In the past, there were very few cross-border transactions in the capital markets, which were mostly national in scope. However, due to technological advancements, deregulation, and greater economic integration, the latter half of the 20th century saw a dramatic shift towards globalization. A more intricate and linked global financial system has resulted from this globalization, as capital moves freely across national boundaries in pursuit of the greatest investment opportunities and risk-adjusted returns.

The distinction between primary and secondary markets is crucial to the operation of international capital markets. The primary market is the market where newly issued securities are first offered for sale to investors, giving businesses and governments the money they need to finance operations and projects. The secondary market, on the other

hand, enables the buying and selling of assets by investors among themselves by trading of existing securities. Understanding how capital is first raised and then traded, and how this affects liquidity and market efficiency, requires an understanding of this distinction.

The most noticeable part of the capital markets are stock exchanges, which offer a venue for the trading of equity securities. Transparency and trading are made possible in large part by major international stock exchanges like London Stock Exchange (LSE), the Tokyo Stock Exchange (TSE) and New York Stock Exchange (NYSE). Every exchange reflects the legal framework and commercial customs of the nation in which it operates with its own set of regulations and procedures. Gaining an understanding of these exchanges and how they function is crucial to comprehending the larger dynamics of global capital markets.

The over-the-counter (OTC) markets provide an alternative trading platform to traditional exchanges for securities, particularly those that are not listed on official exchanges. OTC markets offer more flexibility but come with more risks because they are less regulated and run through a decentralized network of dealers. The differences between OTC and exchange-traded markets draw attention to the variety of methods available for purchasing and disposing of securities, which can affect market efficiency and accessibility.

The international capital markets offer a wide variety of financial instruments. Equity instruments, like common and preferred stocks, give investors the right to capital gains and dividends as well as ownership in companies. Bonds and Eurobonds are examples of debt instruments that involve borrowing money with an interest-bearing repayment guarantee. Because of the diversity and complexity of the market, each type of instrument serves a different function and meets the needs of a different set of investors.

When derivatives like options, futures, and swaps are introduced, global financial markets became even more complex. These financial products are employed for risk hedging and other purposes such as price movement speculating. The underlying assets provide them with their value. Understanding the use of derivatives is essential to understanding global capital markets since they have a significant impact on risk profiles and market behavior.

Important players in the global capital markets include individual investors, market intermediaries, and institutional investors. Institutional investors, which include pension funds, mutual funds, and insurance firms, manage huge capital pools. They are essential to the market's liquidity and stability. However, individual investors have the ability to influence market dynamics and trends since they represent the general population. International financial markets require regulation in order to safeguard investors and maintain fair and transparent operations. National regulatory organizations that monitor market activity and enforce adherence to legal norms include the European Securities and Markets Authority (ESMA) and the U.S. Securities and Exchange Commission (SEC). The need for international collaboration and uniform standards is highlighted by the

difficulties in coordinating and enforcing regulations due to the global structure of capital markets.

Understanding pricing models and market efficiency is essential to comprehending the valuation and trading of securities. According to the Efficient Market Hypothesis (EMH), asset prices accurately reflect all available information, which suggests that continuously achieving superior returns is challenging. APT and the Capital Asset Pricing Model (CAPM) are two examples of pricing models that offer frameworks for evaluating the risks and projected returns of various investments. For investors looking to make wise choices in global financial markets, these ideas are essential.

In the international capital markets, risk management is yet another crucial area of concentration. Investors' top concern is market risk, which is derived from changes in asset prices and is quantifiable using a variety of instruments and metrics. The potential for default on debt instruments, or credit risk, has an impact on the stability and allure of investments. Foreign investments are impacted by exchange rate risk, which is caused by currency fluctuations and needs to be carefully considered. Political and economic risks can also affect market conditions and investor behavior. Examples of these risks include geopolitical events and policy changes.

Diversification and active and passive management techniques are just two examples of the many different investment strategies available on global capital markets. By distributing their holdings across several asset classes and markets, investors can diversify their portfolios and lower risk while increasing potential returns. Passive strategies use index-based investments to replicate market performance, while active strategies actively select securities to outperform the market. Although they present different opportunities and difficulties, emerging markets provide more investment options, but they also call for thorough research and comprehension.

Case studies of major market events, like the 2008 Global Financial Crisis and the Eurozone Debt Crisis, offer important insights into the vulnerabilities and operation of global capital markets. These incidents demonstrate the interdependence of world markets as well as the effects of financial and economic shocks. Furthermore, new developments and trends like blockchain and fintech are changing the capital markets environment and bringing with them both new possibilities and difficulties.

Global economy depends heavily on the intricate and dynamic system that is the international capital markets. Navigating them and taking advantage of the opportunities they present requires an understanding of their structure, instruments, participants, and regulatory environment. It will be crucial for investors and policymakers to remain aware of new trends and hazards as these markets continue to change.

13.4 OVERVIEW OF THE CAPITAL MARKET

Financial markets known as capital markets are used for the purchase and sale of securities backed by long-term debt or equity. These markets serve as a conduit for savings and investments between capital providers, such as institutional and retail investors, and capital consumers, such as companies, governments, and private citizens. They are essential to the expansion and prosperity of the economy because they offer a venue for capital raising, investment facilitation, and liquidity enhancement.

Capital markets encompass a broad range of venues where various financial instruments are traded. These instruments can be categorized into debt securities, such as bonds, and equity securities, such as stocks. The primary goal of capital markets is to raise funds for long-term purposes, which typically means any time frame exceeding one year.

13.5 FACTORS INFLUENCING INTERNAL CAPITAL MARKET

Several factors influence international capital markets, shaping the flow of capital across borders, the performance of financial instruments, and the overall stability of the international financial system. These factors can be broadly classified into political, economic, technological, and regulatory influences.

1. **Economic Factors**

- Global Economic Growth: The expansion of the world economy as a whole has a big influence on international financial markets. Promising economic expansion in significant economies boosts investor assurance, resulting in increased capital inflows and elevated asset values.
- Interest Rates: In the capital markets, central banks' interest rate policies are quite important. An increase in interest rates in one nation may draw in foreign investment, which could boost the value of the local currency and asset prices. On the other hand, reduced interest rates can motivate investors to look overseas for greater rewards.
- Inflation Rates: The actual returns on investments may be reduced by inflation. While stable or low inflation may draw in foreign capital, high inflation might discourage foreign investment in a given economy.
- Exchange Rates: The value of investments denominated in foreign currencies is affected by currency changes. Exchange rate fluctuations are a risk that investors in global capital markets need to take into account since they have the potential to increase or decrease their investment returns.

2. **Political Factors**

- Political Stability: Politically stable nations typically draw greater foreign investment. Capital flight and market volatility can result from political instability, including but not limited to government transitions, civil unrest, and geopolitical conflicts.
- Government Policies: The investment restrictions, trade agreements, tax laws, and other policies of a nation's government affect how appealing its capital markets are. Capital inflows can be increased by pro-foreign investment policies like reduced corporate taxes or incentives for foreign investors.
- Regulatory Environment: A nation's regulatory structure has the power to help or hinder investment. Clear, transparent, and investor-friendly regulations tend to attract more foreign capital. On the other hand, excessive regulation or uncertainty about future regulatory changes can deter investment.

3. **Technological Factors**

- Advancements in Technology: Technological innovations, such as electronic trading platforms, blockchain, and fintech solutions, have transformed international capital markets. These advancements have increased market efficiency, reduced transaction costs, and expanded access to global markets.
- Information Accessibility: The availability and speed of information dissemination influence investor decisions. Technology that enables real-time data analysis, news updates, and financial reporting can lead to more informed investment choices and faster market reactions.

4. **Globalization and Integration**

- Global Trade: The interconnectedness of global trade influences capital flows. Countries that are heavily involved in international trade are more likely to attract foreign investment due to their economic dynamism and integration into global supply chains.
- Cross-Border Capital Flows: The ease of moving capital across borders affects international markets. Globalization has increased the flow of capital between countries, driven by multinational corporations, institutional investors, and sovereign wealth funds seeking diversification and higher returns.

5. **Market Sentiment and Investor Behavior**

- Market Sentiment: Investor confidence and market sentiment play crucial roles in capital market dynamics. Positive sentiment can drive markets higher, while fear or uncertainty can lead to sell-offs and market downturns.

- Herd Behavior: In international capital markets, investors often follow the actions of others, leading to herd behavior. This can amplify market trends, whether upward or downward, and can contribute to bubbles or crashes.

6. Regulatory and Institutional Factors

- International Regulations: Global regulatory bodies, such as the Financial Stability Board (FSB) and the International Monetary Fund (IMF), influence capital markets by setting international standards and promoting financial stability. Adherence to these regulations impacts investor confidence and market stability.
- National vs. International Regulation: The interaction between national regulations and international agreements plays a significant role in shaping the environment for cross-border investment. Discrepancies between national and international regulatory standards can create challenges for multinational investors and companies.

7. Emerging Markets

- Opportunities and Risks: Emerging markets present both opportunities and risks in international capital markets. These markets often offer higher growth potential, but they also come with greater volatility, political risk, and regulatory uncertainty.

8. Crisis and Contagion

- Financial Crises: Financial crises, such as the Global Financial Crisis of 2008, have profound effects on international capital markets. Crises can lead to massive capital outflows, market volatility, and long-term changes in regulatory practices.
- Contagion: In a highly interconnected global market, financial instability in one country can quickly spread to others, a phenomenon known as contagion. This interconnectedness means that localized economic issues can have global repercussions.

These factors collectively influence the dynamics of international capital markets, affecting everything from asset prices to investment strategies and regulatory policies. Understanding these influences is crucial for navigating the complexities of global finance.

13.6 HISTORICAL DEVELOPMENT

Several significant phases have marked the evolution of the globalization of capital markets, each with its own set of technological, political, and economic developments.

1. **Pre-World War I Era (Late 19th Century to 1914):**

- International Gold Standard phase: This period saw the establishment of the international gold standard, which simplified stable exchange rates and predictable global trade and investment flows.
- Rise of International Banking phase: European banks, especially those based in Britain, started to operate globally, lending money and investing in developing nations as well as former colonies.
- Cross-Border Investments: There was a lot of cross-border investment, especially in emerging nations for ports and other infrastructure projects.

2. Mid-war Period (1914-1945):

- Economic Disruptions phase: International money flows were substantially affected by the two World Wars. To safeguard their economy, numerous nations implemented trade restrictions and money controls.
- Fragmentation of Markets: A fragmented and protectionist international financial environment with little cross-border investment resulted from the turmoil.

3. Post-World War II Era (1945-1970):

- Bretton Woods System: The Bretton Woods Agreement, which came into effect in 1944, established a framework for global monetary cooperation. This helped to stabilize exchange rates and pave the way for the creation of organizations like the World Bank and the International Monetary Fund (IMF).
- Economic Recovery: There was a surge in international trade and investment following the war, especially in Europe and Japan. But because capital regulations persisted, capital markets stayed mostly domestic.

4. 1970 to Early 1990:

- End of Bretton Woods System: The end of the Bretton Woods system in the early 1970s led to increasing currency volatility, floating exchange rates and the requirement for hedging instruments.
- Financial Deregulation: Many countries began to deregulate their financial markets, removing capital controls and allowing for more global investment. The U.S. and the U.K. were at the forefront of this movement.

- Technological Advances: The advent of computer technology and electronic trading platforms facilitated faster and more efficient trading and data dissemination across global markets.

5. 1990 to Present:

- Occurrence of Emerging Markets: Countries in Asia, Latin America, and Eastern Europe opened their markets to foreign investment, providing new opportunities for international investors.
- Global Financial Incorporation: The integration of global financial markets accelerated, driven by advancements in communication and information technology. The growth of multinational corporations and global investment funds also contributed to this trend.

Financial Crunches: The increased interconnectivity of capital markets also led to financial contagion, as seen in the Asian Financial Crisis (1997-1998), the Russian Financial Crisis (1998), and the Global Financial Crisis (2007-2008).

13.7 SIGNIFICANCE OF CAPITAL MARKET

1. Economic Growth: A capital market is essential to economic growth because it gives companies the money they need to invest in R&D, expansion, and other business-related expenses. This in turn promotes innovation, the creation of jobs, and general economic growth.

2. Efficient Allocation of Resources: They make it easier for resources to be allocated effectively by directing money toward the most beneficial uses. With so many options available to them, investors may make sure their money is invested where it will yield the best returns.

3. Liquidity: Capital markets provide liquidity to investors, allowing them to buy and sell securities with relative ease. This liquidity is crucial for investor confidence and for the smooth functioning of the financial system.

4. Price Discovery: They play a key role in the price discovery process. The prices of securities in capital markets reflect the collective information and sentiments of all market participants, providing a transparent mechanism for valuing assets.

5. Risk Management: Through various financial instruments like derivatives, capital markets offer ways for participants to manage and hedge risks associated with their investments.

13.8 COMPONENTS OF CAPITAL MARKETS

A variety of platforms and technologies are part of the global capital markets' framework that facilitate the issuing, trading, and settlement of securities. Understanding primary and secondary markets, over-the-counter (OTC) markets, and stock exchanges is crucial to comprehending the scope and functionality of the world's financial markets.

Primary Markets: Capital market where newly issued securities are first offered for sale to investors is known as the primary market.

- The primary market is the capital market where new securities are issued and sold for the very first time. Firms, government and other bodies use primary market to raise new capital.
- The primary market frequently uses procedures like initial public offerings (IPOs) for stocks and bond issuances. Typically, investment banks underwrite these offerings, assisting in the determination of the price and the sale of the securities to investors. In the primary market, transactions take place directly between investors and issuers.
- The primary market is vital for the direct raising of funds. It provides businesses with the capital needed for expansion, and governments with the funds required for infrastructure and other projects.

Secondary Market: The secondary market is where existing securities are traded among investors after being issued in the primary market.

- The secondary market is where existing securities are traded among investors. It includes stock exchanges and over-the-counter (OTC) markets. It facilitates the recycling of capital as investors can reinvest proceeds from sales into new investments.
- Once securities are issued in the primary market, they can be bought and sold in the secondary market. The prices of these securities fluctuate based on supply and demand, as well as the performance of the issuing entity.
- The secondary market provides liquidity, allowing investors to easily enter and exit positions. It also aids in the price discovery process and reflects the ongoing valuation of securities. It increases market efficiency by providing a platform for continuous trading and price adjustments based on supply and demand.

13.9 TYPES OF CAPITAL MARKET INSTRUMENTS

1. **Equity Instruments:** Equity instruments represent ownership in an organization and entitle the holder to a share of the organization's profit and assets.

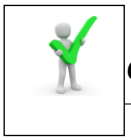
- Common Stocks: Represent ownership in a company, entitling shareholders to a portion of the company's profits and assets. Common stockholders typically have voting rights.
- Preferred Stocks: These provide a fixed dividend and have priority over common stock in the event of liquidation. Preferred stockholders usually do not have voting rights.

2. **Debt Instruments:** Debt instruments represent a loan made by an investor to a borrower. The borrower agrees to pay back the principles amount along with interest.

- Bonds: Long-term debt securities issued by corporations, municipalities, or governments. Bonds pay periodic interest (coupon payments) and return the principal at maturity.
- Debentures: A type of bond not backed by physical assets or collateral, relying on the creditworthiness and reputation of the issuer.

3. **Derivatives:** Derivatives are financial contracts whose value is derived from the performance of underlying assets such as stocks, bonds, commodities, or interest rates. They are used for hedging risk and speculative purposes.

- Options: Contracts that give the holder the right, but not the obligation, to buy or sell an asset at a predetermined price within a specified period.
- Futures: Contracts obligating the buyer to purchase, or the seller to sell, an asset at a predetermined future date and price.
- Swaps: Agreements between two parties to exchange sequences of cash flows for a set period, often used for managing interest rate risk or currency risk.



Check Your Progress-A

Q1. What is the role of the secondary market in the international capital market?

Q2. How does political stability influence global capital markets?

Q3. MCQs

i. Which of the following best describes the primary market?

A) A market where existing securities are traded among investors.

B) A market where derivative instruments like options and futures are traded.

C) A market where new securities are issued and sold to investors for the first time.

D) A decentralized network for trading securities not listed on official exchanges.

ii. Which factor is most likely to attract foreign capital to a country?

A) High inflation rates

B) Political instability

C) Low-interest rates

D) Stable political environment

iii. What role do major stock exchanges like the NYSE, LSE, and TSE play in the global capital markets?

A) They provide venues for trading derivatives only.

B) They facilitate the trading of equity securities with transparency.

C) They operate as decentralized OTC markets.

D) They are not subject to any regulatory frameworks.

Q4. Fill in the Blanks with appropriate word or words.

i. The _____ is where new securities are issued and sold to investors for the first time.

ii. _____ set by central banks play a crucial role in influencing capital flows and asset prices in international markets.

iii. _____ are financial instruments whose value is derived from underlying assets, and they are commonly used for risk management and speculation.

iv. _____ such as electronic trading platforms have increased market efficiency and expanded access to global capital markets.

v. The _____ posits that asset prices fully reflect all available information, making it difficult to consistently achieve superior returns.

13.10 KEY TRENDS DRIVING GLOBALIZATION

Several key trends continue to drive the globalization of capital markets, shaping their current dynamics and future direction.

1. Technological Advancements:

- Electronic Trading: The development of electronic trading platforms has revolutionized the way securities are bought and sold, increasing the speed and efficiency of transactions. High-frequency trading (HFT) and algorithmic trading have become prevalent, contributing to market liquidity and efficiency.
- Fintech Innovations: Financial technology (fintech) innovations, such as block chain, cryptocurrencies, and digital payment systems, are transforming capital markets. These technologies offer new ways to raise capital, trade assets, and manage risk, potentially lowering costs and increasing access to financial services.

2. Regulatory Harmonization:

- International Standards: Efforts to harmonize regulatory standards across countries, such as the Basel III framework for banking regulation and the International Financial Reporting Standards (IFRS), aim to create a more level playing field and reduce regulatory arbitrage.
- Cross-Border Cooperation: Enhancing the stability of the financial system and managing the risks related to international capital flows are made easier by increased collaboration among regulatory authorities, such as that which is facilitated by the International Organization of Securities Commissions (IOSCO).

3. Growth of Institutional Investors

- Global Investment Funds: The rise of global investment funds, including mutual funds, pension funds, and sovereign wealth funds, has led to a significant increase in cross-border investment. These institutions seek to diversify their portfolios by investing in various markets around the world.

- Exchange-Traded Funds (ETFs): Exposure to foreign markets has become simpler for investors because to the growth of exchange-traded funds (ETFs).ETFs provide a cost-effective and liquid means of investing in foreign equities, bonds, and other assets.

4. Emerging Markets:

- Increased Access: Emerging markets have become more accessible to international investors due to economic reforms, improved regulatory frameworks, and efforts to enhance market transparency.
- Attractive Growth Opportunities: Emerging markets often offer higher growth potential compared to developed markets, attracting investment from those seeking higher returns. Countries like China, India, and Brazil have become major destinations for foreign capital.

5. Geopolitical and Economic Factors:

- Global Trade Agreements: Trade agreements, such as the North American Free Trade Agreement (NAFTA) and the European Union (EU), facilitate the free flow of capital by reducing barriers to trade and investment.
- Economic Policies: Economic policies, including monetary policy and fiscal policy, significantly impact capital flows. For instance, low-interest rates in developed countries can drive investment into higher-yielding emerging markets.
- Geopolitical Stability: Political stability and favorable investment climates attract foreign investment, while geopolitical tensions and uncertainties can lead to capital flight and market volatility.

6. Integration of Financial Markets:

- Cross-Listing of Securities: Companies increasingly list their shares on multiple stock exchanges around the world, providing greater access to capital and broader investor bases.
- Global Financial Institutions: The presence of multinational financial institutions facilitates investment the flow of capital across borders. These institutions provide a range of services, including banking, asset management, and advisory services, contributing to the integration of global markets.

7. Risk Management and Diversification:

- Hedging Strategies: The use of financial derivatives and other hedging strategies allows investors and firms to manage risks associated with currency fluctuations, interest rate changes, and commodity price volatility.
- Portfolio Diversification: Investors seek to diversify their portfolios internationally to reduce risk and enhance returns. This diversification helps mitigate the impact of country-specific economic and political risks.

Historical developments and significant modern trends have shaped the complex process of capital market globalization. The increasing interconnectedness of global capital markets can be attributed to various factors such as technological advancements, harmonization of regulations, growth of institutional investors, emergence of emerging markets, geopolitical and economic factors, integration of financial markets, and sophisticated risk management strategies. While there are many benefits to globalization for issuers and investors alike, there are drawbacks as well, like rising market volatility and the possibility of financial contagion. Navigating the intricacies of the contemporary financial landscape requires an understanding of these dynamics.

13.11 REGULATORY ENVIRONMENT IN INTERNATIONAL CAPITAL MARKETS

International capital markets are subject to a complicated web of laws and organizations that are there to protect equity, stability, and openness. National and international regulations are essential for preserving investor confidence, reducing systemic risk, and promoting market integrity. Key characteristics are:

1. Securities Regulation- oversight of securities issuance, trading and disclosure.
2. Capital adequacy- Requirements for financial institutions to maintain sufficient capital.
3. Risk Management- Guidelines for managing various types of financial risk.
4. Cross- border coordination- cooperation among regulators to address global market issues.
5. Financial reporting- Standards for accounting and disclosure.
6. Investor protection- Safeguards for investors including dispute resolution mechanism.
7. Anti- money laundering and combating the financial of terrorism- Measures to prevent illicit financial activities.
8. Market conduct- Rules governing market behaviour, including insider trading and market manipulation.

Regulatory bodies like the SEC (Securities and Exchange Commission) in the US, the European Securities and Market Authority (ESMA) in the EU, and the International Organization of Securities Commission (IOSCO), Basel Committee Supervision (BCBS), globally play an important role in shaping and enforcing these regulations. This environment is constantly evolving to address emerging challenges and innovations such as Fintech, Crpto currency and sustainable finance.

13.12 RISKS IN INTERNATIONAL CAPITAL MARKETS

International capital markets are subject to a complicated web of laws and organizations that are there to protect equity, stability, and openness. National and international regulations are essential for preserving investor confidence, reducing systemic risk, and promoting market integrity.

1. Market Risk - Market risk, sometimes referred to as systematic risk, is the possibility of suffering financial loss as a result of changes in market prices. Diversification is ineffective in removing this kind of risk because it is innate to the entire market. Calculating market risk in international capital market involves assessing the potential impact of market fluctuations on an investment portfolio. Steps to consider are-

- Identify market risk fact: Interest rates, exchange rates, stock prices, and commodity prices can all impact market risk.
- Assess exposure: Determine the extent to which your portfolio is exposed to each risk factor.
- Use risk models: Models like Expected Shortfall (ES) and Value-at-Risk (VaR) can help estimate potential losses.
- Stress testing: Examine the performance of your portfolio in the event of a volatile market.
- Diversification: To reduce risk, diversify your investments across asset classes and geographical areas.
- Hedging: Use derivatives or other instruments to mitigate specific risks.
- Monitor and adjust: Continuously review and rebalance your portfolio as market conditions change.
- Some popular metrics for calculating market risk include:
    - Beta: Measures sensitivity to market movements
    - Duration: Measures sensitivity to interest rate changes
    - Volatility: Measures the standard deviation of returns

- Market risk can't be eliminated, but it can be managed with careful analysis and risk mitigation strategies.

2. Credit Risk - Credit risk, also known as default risk, is the risk that a borrower will not be able to meet its financial obligations, leading to a loss for the lender or investor.

- Counterparty risk: Risk of default by a counterparty in a transaction.
- Sovereign risk: Risk of default by a government or country.
- Credit spreads: Compensation for taking on credit risk (e.g., bond yields vs. risk-free rates).
- Credit ratings: Independent assessments of creditworthiness (e.g., Moody's, S&P, Fitch).
- Credit exposure: Amount and tenor of credit extended to a counterparty.
- Collateral and guarantees: Mitigants that reduce credit risk.
- Diversification: Spreading credit exposure across multiple counterparties and sectors.
- Credit derivatives: Instruments that transfer credit risk (e.g., credit default swaps).
- Some popular metrics for calculating credit risk include:
    - Probability of Default (PD): Estimated likelihood of default.
    - Loss Given Default (LGD): Estimated loss in the event of default.
    - Expected Loss (EL): PD x LGD.
    - Credit Value-at-Risk (CVaR): Estimated potential loss due to credit risk.
- To manage credit risk in international capital markets:

    1. Use credit derivatives.
    2. Monitor credit exposure.
    3. Collateralize transactions.
    4. Conduct thorough credit analysis.
    5. Diversify credit portfolios.
    6. Set credit limits.
    7. Regularly review credit ratings.

- Credit risk can be reduced but not eliminated. Understanding and managing credit risk is important in international capital markets. Investors can determine the risk of a debt instrument by looking at credit ratings. While lower-rated securities offer higher yields to offset increased risk, higher-rated securities are thought to

be safer but have lower yields. To manage credit risk, diversify their holdings, and make well-informed decisions about purchasing bonds, investors rely on credit ratings.

3. **Exchange Rate Risk -** Changes in the value of one currency in respect to another give rise to currency risk, also known as exchange rate risk. This has an effect on investors and companies that deal in other currencies.
    - Translation risk: Risk of loss while converting foreign currency financial statements to the local currency owing to exchange rate fluctuations.
    - Transaction risk: Risk of loss due to exchange rate fluctuations when converting currencies for transactions.
    - Economic risk: Risk of loss due to exchange rate fluctuations affecting the competitiveness of a firm's products or services.
        - Factors that influence exchange rate risk:
        - Interest rate differentials
        - Trade balances
        - Political and economic stability
        - Central bank interventions
        - Inflation rates
    - Metrics for calculating exchange rate risk:
        - Expected Shortfall (ES): It measures the average loss exceeding VaR.
        - Value-at-Risk (VaR): It estimates the potential losses due to exchange rate fluctuations.
        - Sensitivity analysis: It measures the impact of exchange rate changes on cash flows.

- Strategies to manage exchange rate risk:
    - **Hedging:** Using derivatives (e.g., forwards, options) to mitigate exchange rate risk.
    - **Diversification:** Spreading investments across multiple currencies.
    - **Matching**: Matching assets and liabilities in the same currency.
    - **Currency swaps:** Exchanging cash flows in one currency for another.
    - **Foreign currency accounts:** Holding assets or liabilities in foreign currencies.
- Best practices to manage-

- Monitor exchange rates regularly
- Assess exposure to exchange rate risk
- Develop a hedging strategy
- Diversify investments
- Stay informed about market development
- Exchange rate risk has a major effect on both the principal and income components of

- Returns on foreign investments and to safeguard the value of their operations and investments, financial managers, international investors, and multinational corporations must effectively manage currency risk.

4. **Political and Economic risks -** Risks associated with politics and economy are those that could result in monetary loss as a result of shifting political or economic circumstances. Although they can also have an impact on developed markets, these risks can be especially important in emerging markets.

- Geopolitical Events:
  - Political instability, conflicts, changes in government, and geopolitical tensions can create uncertainty and volatility in financial markets.
  - Examples include wars, revolutions, sanctions, and changes in trade policies, which can disrupt markets and affect investment returns.
- Economic Policies:
  - Changes in economic policies, such as fiscal policies (taxation and government spending), monetary policies (interest rates and money supply), and trade policies (tariffs and trade agreements), can impact market conditions and investment performance.
  - Central bank activities such as changes in quantitative easing programs or interest rates can influence exchange rates, inflation, and overall economic growth.
- Measurement and Management:
  - **Country Risk Analysis**: Investors can assess political and economic risks by conducting country risk analysis, which evaluates the stability, economic performance, and policy environment of a country.
  - **Political Risk Insurance:** Companies and investors can purchase political risk insurance to protect against losses due to political events such as expropriation, nationalization, or political violence.

- Diversification: Diversifying investments across different countries and regions can help mitigate the impact of political and economic risks.

- Implications:
  - Political and economic risks can lead to significant volatility and ambiguity in global capital markets, affecting market stability and investment returns.
  - Understanding and managing these risks are vital for financial managers and investors to protect their portfolios and safeguards long-term profitability.

Thus, it comes to the conclusion that investing in global capital markets involves various risks, including market risk, credit risk, exchange rate risk, and political and economic risks. Appropriate risk management strategies, such as diversification, hedging, and thorough risk analysis, are necessary for navigating these challenges and attaining successful investment outcomes in global markets.

13.13 INTERNATIONAL INVESTMENT STRATEGIES

Investing internationally provides a extensive range of opportunities for investors looking to diversify their portfolios and capitalize on global growth. Key to explore international investment strategies includes the benefits of diversification, the comparison between active and passive investment strategies, and the potential opportunities and challenges of investing in emerging markets.

1. Diversification Benefits: Spreading investments across a variety of assets, industries, or geographical areas is known as diversification, and it is a risk management technique used to lessen the impact of a single investment's poor performance on the portfolio as a whole. This idea is expanded upon by international diversification, which incorporates assets from several nations.

Risk Reduction through International Diversification

The principle behind international diversification is that financial markets in different countries are not perfectly interrelated. Economic conditions, political environments, and market dynamics vary across regions, leading to different performance arrays.

- **Risk Reduction:** By investing in a mix of international assets, investors can reduce the overall risk of their portfolio. Poor performance in one country or region may be offset by better performance in another.
- **Enhanced Returns:** International diversification can potentially enhance returns by providing exposure to high-growth markets and sectors that may not be available in the investor's home country.

- **Currency Diversification:** Holding assets in different currencies can provide a hedge against currency risk and potential depreciation of the investor's home currency.

Examples:

- An investor holding a portfolio of U.S. stocks might add European, Asian, and emerging market equities to reduce the portfolio's volatility.
- During the financial crisis of 2008-2009, markets in different regions were affected to varying degrees and at different times. Investors with globally diversified portfolios could better manage and recover from losses.

Challenges:

- Market Knowledge: Effective international diversification requires knowledge of foreign markets, economic conditions, and political environments, which can be complex and resource-intensive.
- Costs: Investing internationally may involve higher transaction costs, taxes, and fees, reducing the net benefits of diversification.
- Currency Risk: While currency diversification can be a benefit, it also introduces the risk of adverse currency movements affecting the value of international investments.

2. Active vs. Passive Investment Strategies: When building their portfolios, investors have a choice between active and passive investment strategies. The methods used by these strategies to manage portfolios and choose investments vary.

Active Investment Strategies:

The aim of active investment methods is to outperform a benchmark index by carefully choosing individual shares or assets. Active managers rely on research, market analysis, and their judgment to make investment decisions.

- Active strategies can include stock picking, sector rotation, market timing, and using derivatives for hedging or speculative purposes.
- Active managers aim to generate alpha (excess returns above the benchmark). However, achieving consistent outperformance is challenging, and many active funds underperform their benchmarks after accounting for fees and expenses.
- Active management typically incurs higher costs due to research, trading, and management fees, which can erode returns.

Passive Investment Strategies:

It involves imitating the performance of a benchmark index by holding a similar portfolio of securities. The goal is to match, rather than outperform, the index.

- Common passive strategies include investing in index funds or exchange-traded funds (ETFs) that track specific market indices.
- When compared to active management, passive techniques often yield market returns at reduced expenses and fees. Over the long term, passive strategies often outperform active strategies due to lower expenses and the difficulty of consistently beating the market.
- Passive management involves lower costs as there is no need for extensive research or frequent trading. Lower fees can significantly enhance net returns over time.

Comparisons:

- **Risk and Return:** Although active strategies have a higher potential for returns, they also carry a higher degree of risk and unpredictability. With less risk, passive strategies offer more consistent returns that match the market.
- **Efficiency:** Passive strategies typically perform better in efficient markets where prices react to information quickly. Active strategies may be more successful in spotting mispriced securities in less efficient markets.
- **Investor Preference:** An investor's preference for a management style, investment horizon, risk tolerance, and market outlook all influence their decision between active and passive strategies.

3. **Emerging Markets:** The term "emerging markets" describes economies that are rapidly industrializing and growing. For investors, these markets present particular opportunities as well as difficulties.

Opportunities:

- **High Growth Potential:** Emerging markets often exhibit higher economic growth rates compared to developed markets, driven by factors such as industrialization, urbanization, and increasing consumer demand.
- **Diversification:** Investing in emerging markets provides diversification benefits due to low correlation with developed markets. This can enhance risk-adjusted returns.
- **Undervalued Assets:** Emerging markets may offer undervalued assets due to lower levels of market efficiency. Active investors can potentially identify attractive investment opportunities.
- **Demographic Trends:** Favorable demographic trends, such as a young and growing population, can drive long-term economic growth and investment returns.

Challenges:

- **Political and Economic Stability:** Emerging markets can be more prone to political instability, economic volatility, and changes in regulatory environments, which can increase investment risk.
- **Market Infrastructure:** Emerging markets may have less developed financial markets and regulatory frameworks, leading to higher transaction costs, lower liquidity, and increased operational risks.
- **Currency Risk:** Currency fluctuations can significantly impact returns, particularly if the local currency depreciates against the investor's home currency.
- **Information Asymmetry:** Limited availability of reliable information and lower levels of transparency can make it difficult for investors to make informed decisions.

Examples:

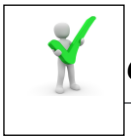
- China and India: These countries have been popular destinations for investors due to their large populations, rapid economic growth, and increasing consumer markets. However, they also face challenges such as regulatory changes, political risk, and currency volatility.
- Latin America and Africa: Regions like Latin America and Africa offer significant growth opportunities in sectors such as natural resources, agriculture, and technology. However, investors must navigate risks related to political instability, economic policy changes, and market infrastructure.

International investment strategies are a collection of methods designed to manage inherent risks and take advantage of opportunities around the world. Investors looking to maximize their portfolios and secure long-term success in the global financial landscape must take into account the advantages of diversification, the choice between active and passive strategies, and the potential of emerging markets.

13.14 IMPORTANCE OF UNDERSTANDING INTERNATIONAL CAPITAL MARKETS

The future of international capital markets is shaped by ongoing technological advancements, evolving investment strategies, and emerging opportunities and challenges. By understanding these dynamics and staying informed about global developments, stakeholders can navigate the complexities of international finance and contribute to the growth and stability of the global economy.

- **Global Economic Integration:** As economies become more interconnected, understanding international capital markets is essential for navigating the complexities of global finance. Knowledge of market dynamics, investment strategies, and regulatory environments helps stakeholders make informed decisions and manage risks effectively.
- **Strategic Decision-Making:** Investors, policymakers, and financial professionals must stay informed about emerging trends, technological advancements, and regulatory developments to adapt to evolving market conditions and seize opportunities.
- **Risk Management:** Awareness of potential risks, including market volatility, credit risk, and geopolitical uncertainties, is crucial for developing strategies to protect investments and ensure financial stability.



Check Your Progress-B

Q1. What are the primary benefits of international diversification for investors?

Q2. How do geopolitical events impact international capital markets?

Q3. What is the difference between active and passive investment strategies?

Q4. Multiple Choice Questions

i. Which technological advancement has significantly increased the speed and efficiency of transactions in capital markets?

a) Electronic Trading

b) Fintech Innovations

c) Blockchain Technology

d) Digital Payment Systems

ii. What is the primary goal of international regulatory harmonization efforts in capital markets?

a) Increase transaction speed

b) Create a level playing field and reduce regulatory arbitrage

c) Facilitate high-frequency trading

d) Promote cryptocurrency adoption

iii. Which investment vehicle provides a cost-effective and liquid means of investing in foreign equities and bonds?

a) Mutual Funds

b) Hedge Funds

c) Exchange-Traded Funds (ETFs)

d) Sovereign Wealth Funds

13. 15 SUMMARY

The international capital market is a place where people around the world can invest their money. It's like a big, global meeting point for people who have money and those who need it. Imagine you have some savings and you want to make it grow. You can invest it in different ways, such as buying shares in a company or lending money to a government. These activities happen in the international capital market. This market helps countries get money from other parts of the world**.**

13.16 GLOSSARY

Primary Market: The market where new securities are issued and sold for the first time. Companies and governments use this market to raise capital by offering new stocks and bonds to investors.

Secondary Market: The market where previously issued securities are traded among investors. This market provides liquidity and enables price discovery.

Stock Exchange: A centralized marketplace where stocks, bonds, and other securities are traded. Stock exchanges facilitate the buying and selling of securities, providing transparency and liquidity.

Over-the-Counter (OTC) Market: A decentralized market where securities are traded directly between parties without a centralized exchange. OTC markets allow for customized contracts but carry higher counterparty risk.

Equity Instrument: A financial instrument that represents ownership in a company. Common types include common stocks and preferred stocks.

Debt Instrument: A financial instrument representing a loan made by an investor to a borrower. Common types include bonds, debentures, and notes.

Derivatives: Financial instruments whose value is derived from the value of an underlying asset. Common types include options, futures, and swaps.

Institutional Investor: An organization that pools large amounts of capital to invest in securities, real estate, and other investment assets. Examples include pension funds, mutual funds, and insurance companies.

Smart Contract: A self-executing contract with the terms of the agreement directly written into code. Smart contracts are typically implemented on blockchain platforms.

Diversification: An investment strategy that involves spreading investments across different assets or markets to reduce risk. Diversification aims to minimize the impact of any single investment's poor performance on the overall portfolio.

13. 17 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress A

Answer 1: The secondary market allows investors to buy and sell existing securities among themselves, providing liquidity and enabling price discovery for securities.

Answer 2: Political stability attracts foreign investment by creating a predictable and secure environment, which reduces the risk of capital loss due to political unrest or sudden changes in government policies.

Answer 3. MCQs

1. B) A market where new securities are issued and sold to investors for the first time.

2. D) Stable political environment

3. B) They facilitate the trading of equity securities with transparency.

Answer 4. Fill in the Blanks with appropriate word or words.

1. primary market
2. Interest rates
3. Derivatives
4. Technological advancements
5. Efficient Market Hypothesis

Check Your Progress –B

Answer 1. International diversification allows investors to spread risk across various countries, reducing the impact of poor performance in a single region. It can also enhance returns by providing exposure to high-growth markets and offers currency diversification as a hedge against currency depreciation.

Answer 2. Geopolitical events, such as political instability, conflicts, or changes in government policies, can create uncertainty and volatility in international capital markets. This can affect investment returns and lead to capital flight or market instability.

Answer 3. Active investment strategies involve selecting individual securities to outperform a benchmark index, often involving higher costs and risk. Passive strategies aim to match the performance of a benchmark index by holding a similar portfolio, generally offering lower costs and more consistent returns.

Answer 4. Multiple Choice Questions

1. b) Electronic Trading
2. b) Create a level playing field and reduce regulatory arbitrage
3. c) Exchange-Traded Funds (ETFs)

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13.20 TERMINAL QUESTIONS

1. Discuss the role of key global stock exchanges and compare their mechanisms. How do these exchanges impact international financial markets?

2. What are the main features of over-the-counter (OTC) markets, and how do they differ from exchange-traded markets?

3. Differentiate between primary and secondary markets. How do they complement each other in the context of global capital markets?

4. Describe the main types of equity and debt instruments in international capital markets. Provide examples of each.

5. How do institutional investors influence international capital markets? What are the benefits and potential risks associated with their activities?

13.21 CASE LETS/CASES

Real-Life The Impact of Brexit on International Capital Markets

The decision by the United Kingdom (UK) to leave the European Union (EU) in 2016, commonly referred to as Brexit, had significant implications for international capital markets. The uncertainty surrounding Brexit negotiations led to market volatility, particularly in the UK and EU financial markets. London, one of the world's leading financial centers, faced challenges as financial institutions began to relocate parts of their operations to other EU cities to maintain access to the European market. The value of the British pound fluctuated dramatically, impacting investors and businesses with exposure to UK assets. Additionally, the regulatory environment became more complex, with UK-based firms needing to navigate both UK and EU regulations post-Brexit. The long-term effects of Brexit continue to unfold, with ongoing implications for trade, investment, and market dynamics.

Questions:

1. What was the immediate impact of Brexit on the value of the British pound?
2. Why did some financial institutions relocate operations from London to other EU cities after Brexit?
3. How did Brexit affect the regulatory environment for UK-based firms??

UNIT 14 INTERNATIONAL BOND MARKET

14.1 INTRODUCTION

International bonds are the type of bonds that are issued outside India. This market is rising rapidly as organizations are looking for different means to borrow money. Through this, even a company can connect to a large number of investors with this option.

Investors can access a variety of international investment options through the international bond market, which extends beyond national borders. The risks associated with currency changes, regulatory variances, and geopolitical developments must be carefully evaluated and managed by investors, even if foreign bonds can increase portfolio diversification and potentially yield excellent returns.

14.2 OBJECTIVES

From this unit, you will get the information about:

- About International bond market.
- Categories of International Bond market.
- Instruments available with International Bond Market.

- Risks connected with Bonds.

14.3 INTRODUCTION TO BOND MARKET

Bond Market is the one of the market in which the participants involved can buy or sell the bonds whenever required with predetermined set rules. A variety of avenues are available in the bond market for transactions. This market involves bonds issued by both Government and Corporates. In comparison to shares, the values of bonds move in a restricted range that's why these securities are not too risky for investment purpose.

Primary and Secondary Markets:

- **Primary Market**: Issuers sell newly issued bonds to investors directly in this market. Bond issuers use it as their first point of sale to raise money to finance their operations and initiatives.

- **Secondary Market**: In this market, Buying and selling of the bonds take place by the participants involved. Aspects, such as interest rates, credit worth, and market demand, need to be considered and their impact on the bonds.

Participants:

- **Issuers**: To raise cash, organizations including governments, businesses, municipalities, and government-sponsored enterprises issue bonds.
- **Investors**: In order to diversify their portfolios and obtain fixed income streams, individuals, pension funds, and institutional investors buy bonds.
- **Intermediaries**: By putting issuers and investors in touch and supplying market liquidity, broker-dealers, investment banks, and market makers facilitate bond transactions.

Types of Bonds:

- **Government Bonds**: National governments issue these bonds to control their debt and pay for public expenses. Low risk bonds is another name for these bonds.
- **Corporate Bonds**: These are bonds that companies issue to finance acquisitions, expansions, and business operations. The level of credit risk associated with corporate bonds varies according to the issuing company's financial standing.
- **Municipal bonds** are allotted by municipalities or indigenous governments for funding of public projects such as schools and infrastructure. Investors may benefit from them in terms of taxes.

- **Asset-Backed Securities (ABS):** Bonds backed by asset pools, such as mortgages, auto loans, and credit card receivables. Investors can access the underlying assets' cash flows through them.

Market Dimensions:

- **Liquidity**: The simplicity with which bonds can be purchased or sold on the market without a large price change. Generally speaking, government bonds are more liquid than corporate bonds.
- **Interest Rates**: Yields and bond prices move in the opposing ways. Bond prices decrease when interest rates rise and vice versa. Investors must comprehend this relationship in order to manage their bond portfolios.
- **Credit Risk**: The chance that the bond issuer may fall behind on payments, either principle or interest, on time. Investors assess credit risk with the use of credit ratings from agencies such as Standard & Poor's and Moody's.
- **Market Sentiment**: Bond yields and prices are influenced by investor views of the state of the economy, inflation forecasts, and geopolitical developments.

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14.4 INTRODUCTION TO INTERNATIONAL BOND MARKET-

Bonds which are issued outside our home country are International Bonds. This market had grown to a great extent due to its popularity amongst the stakeholders.

The international bond market offers investors a plethora of options that transcend national boundaries. For instance, whereas Eurobonds are issued outside of the issuer's home country and are valued in the local currency of the issuing country, global bonds are issued in both domestic and foreign markets.

Market Dimensions:

- **Growing Market**: As businesses look for more affordable ways to borrow capital and diversify their funding sources, the global bond market is expanding quickly. Technological progress and innovative financial practices have enabled this growth.
- **Investor Access:** Purchasing foreign bonds exposes investors to a wider choice of markets and issuers, thereby presenting chances for risk management and portfolio diversification.
- **Tools for Risk Management**: Interest rate swaps and currency hedges are two popular derivatives used to reduce the risks involved with buying foreign bonds.

14.5 CATEGORIES OF INTERNATIONAL BONDS:

1. Domestic Bonds:

- **Issuer**: Bonds that a government or business issues inside its own boundaries.
- **Currency:** Pronounced in the issuer's own currency.
- **Regulations:** Subject to the laws and rules of the issuer's native nation.
- **Example**: As an illustration, a British business issues bonds in the UK, with payments issued in British pounds (GBP).

2. Eurobonds:

- **Issuer**: Bonds sold and issued outside of the nation's domestic market.
- **Currency**: Issued in a currency other than the country of origin of the issuer;
- **Regulations**: International law usually takes precedence over domestic law.

3. Foreign Bonds:

- **Issuer**: Foreign government or corporation bonds sold on local markets outside of the issuer's native nation.
- **Currency**: At the moment of issuance, their value is expressed in the national currency.
- **Regulations**: Governed by the laws and regulations of the country in which they are reproduced.

Key Differences:

- **Currency of Denomination**: Domestic bonds are valued in the issuer's native currency; Eurobonds and foreign bonds, on the other hand, may be valued in currencies other than those of the issuer.
- **Regulatory Environment**: Domestic bonds are governed by the laws of the issuer's home country; in contrast, foreign and Eurobonds may be subject to national and international regulations as well as those of the nation in which they are issued.
- **Market Access**: Unlike domestic bonds, which are restricted to the issuer's local market, Eurobonds and foreign bonds give issuers access to global capital markets and a wider investor base.

14.6 FEATURES OF INTERNATIONAL BOND

1. Fundraising Market:

Businesses, governments, and other organizations rely on the global bond market to raise capital from investors. By expanding their bond offerings internationally, issuers can

potentially secure better terms than on domestic markets, diversify their funding sources, and connect with a larger pool of investors.

2. Debt Market:

The instruments of this market are issued by organizations looking to borrow money from investors are known as international bonds. When investors buy these bonds, they expect to receive principle repayment at maturity along with periodic interest payments, or coupon payments. In contrast to equity instruments, which denote ownership holdings in a business, bonds have a legal requirement to pay back borrowed money.

3. Fixed-Income Instrument:

International bonds are classified as fixed-income securities because they give investors a steady stream of income in the form of interest payments. The rate, also known as the coupon rate, is typically set at the time the bond is issued and provides investors with steady cash flows over the bond's duration. Conversely, some bonds may have variable or floating interest rates, which are linked to benchmark rates such as LIBOR or the yield on government bonds.

4. Issued in Foreign Currency:

International bonds are allotted in other currencies other than the home currency of the issuer. For feature, currency risk affects both investors and issuers and the exchange rate fluctuation can affect bond returns and payments. Issuers can obtain finance by issuing bonds denominated in foreign currencies at low cost.

14.7 RISK OF INVESTING IN BOND

Investing in bonds carries various risks that investors need to consider when building their portfolios.

Inflation Risk: Inflation risk is the possibility that an economy's cash supply will decline. Growing inflation reduces future cash flows' buying power, which lowers the actual value of bond returns, particularly for fixed-rate bonds.

Interest Rate Risk: It is a type of risk that explains how the prices of the bonds varies with the market prices. With increase in interest rates, the bonds with lower coupon rates become less valuable and in this case, investors seek higher yields to offset the expense of retaining bonds that yields lower value.

Default Risk: Default risk, sometimes referred to as credit risk, is the chance that the bond's issuer will not have enough cash on hand to pay the principal and interest on time when the bond expires, increasing the likelihood of default.

Downgrade Risk: It is a type of risk that explains how bond's credit rating will be depressed by rating agencies indicating a signal of deteriorating creditworthiness. This downgrade causes decline in the prices of that particular bonds in the market and investors avoid to invest in these bonds as, they might face more risks.

Liquidity Risk: Liquidity risk is the possibility that a dearth of market contributors or trading movements may prevent investors from purchasing or selling bonds at the going rate. Bonds that lack liquidity may exhibit increased bid-ask spreads or volatile prices, which could lead to investors receiving less attractive execution prices.

14.8 ADVANTAGES& DISADVANTAGES OF INVESTING IN INTERNATIONAL BONDS:

Advantages:

1.Diversification: By diversifying your portfolio over numerous countries and currencies, investing in foreign bond funds helps you lower your overall investment risk.

2. **International Fundraising Tool**: By giving issuers access to a worldwide investor base, international bond funds enable them to raise capital more effectively and maybe at a cheaper cost.

3.Fixed Income Market: By exposing investors to the fixed income market, international bond funds give investors a reliable source of income in terms of interest payments.

4. Investment Avenue (Short Term as well as Long Term): International bond funds provide flexibility to investors with different investment horizons by acting as an avenue for both short-term and long-term investment strategies.

Disadvantages:

1.Outperformed by Mutual Funds: Indexed bond exchange-traded funds (ETFs) may perform worse than actively managed mutual funds, which could give investors less than ideal investment returns.

2.Fees: Buying and selling shares in foreign bond funds on a regular basis might result in large costs, which lower the fund's overall returns.

3.Risk: Investing in foreign bond funds exposes investors to additional risks such as uncertainty in the global economy, geopolitical unrest, and concerns about international markets.

4.Limited Selection: Investors looking to gain exposure to particular countries or currencies may find that there is a less range of international bond funds available than with other ETFs.

14.9 INSTRUMENTS OF INTERNATIONAL BOND MARKET

A vast array of instruments is available in the global bond market to accommodate different investor needs and issuer requirements. An overview of some of the most well-liked common instruments in the global bond market is provided below:

1.Fixed or Straight Income Bonds:

Together with defined interest payments made on prearranged dates during the bond's duration, principal is returned at maturity. At launch, the coupon or interest rate is set. These consist of a predetermined payback timeline, flat payments for issuers, and known income for investors.

2. Partly-Paid Bonds:

Standard bonds have a principal amount that is only partially paid by investors on the issuance date, with the remaining amount payable at a later date. Issuers are able to customize payments to meet their cash flow needs.

3. Zero-Coupon Bonds:

These are bonds that don't pay interest on a steady basis; instead, investors get the proceeds at the time of issuance and principal repayment when the bonds mature. These bonds are the best option for initiatives that won't yield money right away, even though they have a larger credit risk and are issued by borrowers with high rating.

4. Floating Rate Notes (FRNs):

These are medium-term bonds whose interest rates are periodically reset. Usually, the rate is determined by adding a margin to a rate, such as LIBOR. Because of its lower price and longer maturities, it is appealing to issuers and provides capital protection through periodic coupon rate resets.

5. Dual-Currency Bonds:

Bonds where the principal is paid in one currency and the fixed-rate coupon payments are made in another. These bonds give issuers the ability to match currency cash flows, but they derive with a greater yield and greater risk for investors.

6.Bonds with Warrants:

These are bonds that have separate, tradeable warrants that give investors more investing choices. These bonds lower the cost of the host bond for investors while offering warrants that could increase value.

7. Convertible Bonds:

Bonds that can be easily swapped or changed into other assets as per the bond holder’s decision option at a fixed conversion rate. These bonds also offer investors steady coupon payments and give them the right to convert it when required.

14.10 SOME OTHER BONDS

Dollar-denominated Bonds

Dollar-denominated bonds promote diversity by providing investors with a range of options and paying out in US dollars. The two primary types of bonds with dollar values are Yankee and Eurodollar bonds

1. Eurodollar Bonds:

These Bonds sold and issued outside of the nation's domestic market. This type of bonds is issued in a currency other than the country of origin of the issuer; International law usually takes precedence over domestic law.

2. Yankee Bonds:

Yankee bonds are tradable on the local market and have a US dollar value, just like Eurodollar bonds. Yankee bonds are subject to US securities regulations because they are traded on American marketplaces. Although investors receive a greater yield from these bonds, they are also more susceptible to concerns like currency risk.

Non-Dollar-Denominated Bonds:

1. Domestic Bonds:

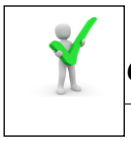
Domestic bonds are distributed by borrowers in their own nation and denominated in local currency. Better liability and asset matching for businesses, lower currency exchange risk, and easier access to a larger pool of investors have all contributed to the rise of domestic markets.

2. Foreign Bonds:

These bonds can be traded on indigenous markets outside of the issuer's native nation. At the moment of issuance, their value is expressed in the national currency. Government plays an important role as these bonds are administered by the laws and regulations of the country in which they are dealt.

3. Euro Bonds:

These Bonds sold and issued outside of the nation's domestic market. This type of bonds is issued in a currency other than the country of origin of the issuer; International law usually takes precedence over domestic law.



Check Your Progress-A

Short Answer Questions

1.What is the dissimilarity between a foreign bond and a Eurobond?

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2. Define International Bond Market?

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3. Distinguish between Convertible and Non-Convertible Bonds?

4.What are Zero Coupon Bonds?

Multiple Choice Questions

1. What proportion of newly issued global bonds are likely to be Eurobonds as opposed to foreign bonds?

a) 80%

b) 45%

c) 25%

d) 15%

2.Yankee Bonds are known for:

a) Foreign bonds denominated in dollars and formerly traded to US investors

b) Foreign bonds denominated in yen that were first sold in Japan
c) Foreign bonds denominated in pounds sterling that were first sold in the UK

d) none of the above

True /False

1.International bonds are the type of bonds that are issued inside India.

2. Bonds with no periodic interest payments; instead, investors receive the proceeds at issuance and the repayment of principal at maturity are known as Euro Bonds.

3. There is no risk associated with investing in International Bond market.

4. Non-convertible Bonds that can be exchanged or converted into other assets at the holder's option at a fixed conversion rate.

14.11 PROCESS OF BRINGING AN INTERNATIONAL BOND TO THE MARKET

An international bond is introduced to the market through a series of stages that are usually aided by underwriting syndicates and investment banks. Below is the detailed the process:

Step 1: Initiation and Engagement

An investment bank is contacted by a borrower, such as a company or governmental body, to act as the lead manager of a syndicated underwriting for the purpose of selling bonds. To oversee the bond issuing process, the borrower chooses an investment bank with experience in bond distribution and underwriting.

Step 2: Syndicate Formation

To form a managing group, the lead manager extends an invitation to other investment banks. This team works together to evaluate market circumstances, oversee the issuance process, and negotiate terms with the borrower. The managing group may assign specific roles and obligations to each member, such as arranging the offering and promoting the bonds to stockholders,

Step 3: Underwriting

Other banks and the managing group have committed to underwrite the offering. At a discount to the issue price, the underwriters agree to buy the bonds from the borrower in order to take on the risk of selling them to investors. Additionally, underwriters buy the bonds from the borrower using their own cash, giving the borrower access to funds right once after the bonds are issued.

Step 4: Allocation of Spread

The spread, which is generally in the range of 2 to 2.5 percent of the issue size, signifies the compensation received by the underwriting syndicate for their services. The lead manager gets the full spread and others receives a smaller portion which is based on their involvement and association level.

Step 5: Distribution and Sale

The bonds are marketed to investors by the underwriting syndicate via presentations, roadshows, and other marketing initiatives. Their goal is to create demand for the bonds

and obtain investor commitments to buy them. Bond prices are set and investors are assigned bonds once investor interest has been verified. In order to ensure a successful issue, the underwriting syndicate makes it easier for investors to purchase and receive the bonds.

14.12 SUMMARY

A plethora of international investment opportunities are accessible to investors via the global foreign bond market. Even though foreign bonds can boost portfolio diversification and potentially offer exceptional returns, investors still need to carefully examine and manage the risks associated with currency movements, regulatory differences, and geopolitical developments.

In the global financial scene, international bonds are important because they give issuers access to a variety of funding sources and investors can earn good amount of return from their Portfolios. It is also very important to know the risk and return associated with particular type of bond in order to make better decisions and profits while investment.

International bond funds provide flexibility to investors with different investment horizons by acting as an avenue for both short and long range investment strategies. By exposing investors to the fixed income market, international bond funds give investors a reliable source of income in the form of interest disbursements.

A vast array of instruments is available in the global bond market to accommodate different investor preferences and issuer requirements. With a variety of instruments to suit varying risk appetites and investment goals, this market offers issuers and investors flexibility and choice in the global bond market.

14.13 GLOSSARY

International Bond Market: Bonds issued outside of India are referred to as international bonds. This sector is expanding quickly as more businesses search for alternative ways to borrow money. Investors can access a variety of international investment options through the international bond market, which extends beyond national borders.

Convertible Bonds: These are bonds that, at a predetermined conversion rate, may be swapped or changed into other assets at the holder's discretion. These

bonds give investors the chance to convert into equity with the possibility of upside if that happens, in addition to receiving regular coupon payments.

Euro Bonds: These Bonds sold and issued outside of the nation's domestic market. This type of bonds is issued in a currency other than the country of origin of the issuer; International law usually takes precedence over domestic law.

Zero-Coupon Bonds: These are the bonds that are bought at a significant discount to face value, have no interest paid to bondholders, and are fully paid back when the bonds mature. These bonds are perfect for projects that won't pay off right away, even though they come with a larger credit risk and are usually issued by borrowers with excellent credit ratings.

14.14 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress A

1. a 2. a

1. False 2. True 3. False 4. False

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14.17 TERMINAL QUESTIONS

1. Elaborate as how International Bonds Markets forms the crucial paradigm in International Finance Markets?
2. Why increase number of investors considered investing in international bonds?
3. "International bonds are often securities issued in one nation that are purchased with local currency by an investor living in another one." Discuss? Also, explain the various bonds available for investing in International Market?
4. Discuss the numerous categories of risks linked with financing in International Bonds?
5. How the International Bonds are brought or familiarized in the market? Write the numerous steps involved?
6. Write a note on diverse types of Bonds available for investing in International Market?

UNIT 15 INTERNATIONAL BANKING AND MONEY MARKET-AN INTRODUCTION

15.1 INTRODUCTION

Like all other businesses, finance markets have also witnessed globalization and its impact on their businesses. They have increased their geographical footprint and technological advancement has helped them in reaching out to their clients faster and in a more secure way than before. International banking refers to providing banking services to non-residents in home country or residents outside home country. This is done through bank's international branches and collaboration with banks in other countries. The products include deposit facilities for non-residents in home and foreign currency, loans to non-residents, international fund transfers for payments and receipts, foreign exchange transfers and conversions, investments etc. Some of these activities are similar to domestic banking like accepting deposits, providing credit, issuing letters of credit and bank guarantees etc but some of them may be unique like dealing in foreign exchange. The international banking operations facilitate in international expansion of business in a

big way as through their own and alliance branch network across the world. The risks associated with international banking (normally referred to as country risk) are also unique and require special mitigation techniques.

15.2 OBJECTIVES

After reading this unit you will be able:

- To understand the scope of international banking in finance.
- To know about the various types of services offered by international banks to their customers.
- To appreciate the role of international banks in facilitating world trade and finance.
- To understand the significance of international money market in globalised economy.

15.3 FUNCTIONS OF INTERNATIONAL BANKING

International banks are engaged in a wide variety of operations to facilitate international operations of their customers. The internationalization of banks have not only provided them with better opportunities across markets but also led to overall economic efficiency in the way that capital flows from surplus to needy markets lot more easily. The key functions of international banking are as under:

International Financing

One of the key activities of international banks is to lend in international market. Their customers include export and import firms, international and global corporations, governments, peer banks and consumers. The various financing options include interbank financing, consortium financing, loans to overseas subsidiaries of domestic firms etc. In modern liberalized trading regimes, corporate have more freedom to source funding from international markets. However, unlike domestic banks, in addition to credit risk these banks are also exposed to country risk and foreign exchange risk. The country risk refers to the risk arising out of the unique circumstances arising in a particular country due to political, economic and social reasons. Exchange risk refers to the risk arising out of adverse movement in exchange rate.

Trade Services

The services rendered by international banks are vital in facilitating international trade. These credit facilities may be fund based as well as non fund based and include letters of credit, bankers acceptances, receivables financing, discounting of trade acceptances, bank

guarantees, overdrafts etc. These are necessary in normal courses of trade and are essential for undertaking certain transactions like exports and imports.

Investments

The International banks are engaged in lot of investment activity in international markets depending upon their surplus funds. The investment may be in foreign debt securities or debentures. They also provide host of investment opportunity to their clients along with investment advisory services and portfolio management. They offer products across wide range of markets in different currencies as per requirement of the clients.

Other Services

This involves services like personal bank accounts, international fund transfers, asset management, tax planning, foreign exchange services, cash management etc. International banks are known to provide confidentiality in operations to their clients which however has become questionable after strengthening of regulatory provisions and exchange of information among countries at government level.

15.4 NEED AND BENEFITS FOR INTERNATIONAL BANK

International banks are large in size and operate in various countries. There are various advantages for them to expand their operations globally. Some of the prominent benefits that accrue to these banks for going international are listed as under :

1. Establishing operations in a new country has lower marginal cost as the bank can always use the managerial competency it has gained in the home country. Many systems, procedures, marketing campaigns can simply be duplicated in foreign markets. Also, the international experience gained by their human resources through offices spread over the world helps in quick adaptability to new markets.
2. The international bank's foreign operations can always be aided by the information bank, liaisoning capabilities and other competency of its international staff whenever required. The new subsidiary can always bank upon the expertise of its parent institution in establishing liaison or undertaking credit investigation activities in the foreign location.
3. The large size of international banks always adds to their prestige and credibility which helps them to get big customers like multinational companies. The bigger the scale of operations and geographical diversity of the Institution, the higher is its credibility and eligibility for undertaking international finance opportunities.
4. Normally, foreign banks are less subject to government regulations and controls as compared to their home counterparts. This reduces the burden of local regulatory compliance on the branches which not only saves time and money but also helps them to have more flexibility in their operations.
5. Many times, the banks tend to expand their customers based upon the expansion of business by their big clients. They follow their customers so that they do not lose the

business to their competitors. This becomes a motive for their expansion. Also, the global banks are increasingly competing in retail segments for broadening their customer base.

6. If the home markets are not growing at desired rates or are stagnant, the international bank can look forward to growth coming from other promising markets. This is especially true in case of developed economies which offer little growth opportunities while the developing economies provide far greater opportunities for investment.
7. Diversification always leads to reduction in investment risk and this is achieved by the international banks which have a wide footprint across the world. As the established principle of investment, the unsystematic risk can be reduced to a great extent by operating in multiple markets.

15.5 INTERNATIONAL BANKING OFFICES

International banks operate through various types of organizational structure which caters to the specific needs of the clients. They have arrangements with other banks to carry out various tasks in respect of which they earn income. Some of these types of offices are as under:

Correspondent Bank

This relates to a local bank working as an agent for a foreign bank. The Correspondent bank conducts all usual banking functions for the foreign bank like treasury, foreign exchange, fund transfer, investments and facilitating trade. The bank charges fee for conducting such operations and both the banks maintain account with each other. The multinational firms can operate in different countries and undertake transactions through correspondent bank of their home bank. They undertake what is called as MVTS i.e. Money or Value Transfer services which refer to acceptance of money to transmit it to a third party by any modern banking means.

Representative Offices

These are offices opened by banks in international markets as a first step in venturing outside. Their main objective is to establish rapport with target customers and undertaking research about the concerned foreign market. They do not provide transaction based banking services and hence do not earn any income. These offices have o submit a certificate to the Central bank regarding the scope of work undertaken by them. Such offices are not subject to the banking regulations applicable to normal banks. They may be established to facilitate the operations of international clients and are involved in marketing, research and liaison activities.

Foreign Branches

These are more like local bank branches which are owned by foreign banks. They provide much larger scale of banking operations and are subject to all the regulations. They have to follow the norms prevailing in both the host and home country. In India RBI mandates the foreign bank branches to be incorporated locally to ensure that it has its own separate entity from its parent. Such branches cater to local as well as international customers and are opened after the parent bank is assured about the attractiveness of the market.

Offshore Banking Centers

These are kind of shell branches of foreign banks. Their location is restricted to a certain location like the Special Economic Zones in India. These branches enjoy complete freedom from domestic regulations and deal with foreign currency. However, they cannot deal with domestic customers and are mainly set up for handling international finance which is denominated in foreign currency. Some locations like Bahamas, Panama, Hong Kong, Singapore etc are recognized as offshore banking centres by IMF.

NOSTRO, VOSTRO AND LIRO Accounts

International banks maintain relationships with various other banks across the globe in order to transact business, serve their clients, earn commissions or pursue strategic interests. In the course of these, they normally deal with three types of accounts namely Nostro, Vostro and Liro. These are Italian words used to describe the nature of accounts maintained by banks in international transactions. They are used when one bank keeps the money of some other bank of a foreign country origin. Let us understand these three terms in detail.

1. ***Nostro Accounts-*** When Bank A has an account with Bank B then Bank A can refer that account as its Nostro account with Bank B. In common parlance we refer to it as *'our account with you'*. Such account will be needed by Bank A when it does not have any of its own branches in the country where Bank B is situated. It can use this account to settle various transactions in that country. This account will be maintained in the currency of country B.

2. ***Vostro Account-*** This can be referred to as the reverse of Nostro account. The same account described above will be described by Bank B as a Vostro account which in common parlance means *'your account with us'*. This account for B will be in home currency in the name of a foreign bank. Alternatively, Bank A can have a vostro account of Bank B in its country in local currency. Like Nostro, such accounts may be used for activities like trade finance and foreign exchange related transactions.

3. ***Loro Account-*** When Bank A keeps a bank account of C (a third party) on behalf of Bank B, then it is called as keeping a loro account. In common parlance it is known as *'their account with us'.* Such accounts are less common and used in cases like syndicate banking for internationally funded projects. If Bank A has an account with

Bank B in the home country of Bank B, then bank C can refer to that account of Bank A as loro account.

15.6 LENDING BY INTERNATIONAL BANKS

Lending in international markets requires special expertise because of the special risks involved in the process as well as the unique products dealt in this market. Each bank has a clearly laid down policy with relation to the processes, credit standards and products to be adopted in the international market. They can fix specific credit limits for specific countries depending upon the attractiveness of the market and risks involved. Similarly, the denomination or currency of loan has to be decided carefully. Foreign accounting standards and financial statements have to be analysed keeping in mind various factors. Some of the key products used in finance of trade are discussed as under:

International Letters of Credit

A letter of credit is a guarantee given by the bank that the exporter (seller) will be paid his dues on the agreed date. This creates confidence about the transaction and the seller (exporter) can reduce the risk of default by the importer (buyer) because if the buyer fails to pay, the bank has to compensate for the default to the seller. The letter of credit may involve two or more banks. One of the banks is called as issuing bank (the bank which gives guarantee on behalf of the buyer) while the other is called as the confirming bank (typically the sellers bank which verifies the issued letter of credit).Sometimes a correspondent bank is also involved to bring these two banks together. This type of facility can also be availed in the form of a credit limit which is known as revolving letter of credit. There is another type called Commercial Letter of Credit under which the issuing bank directly pays to the seller on presentation of certain documents proving supply of goods/services to the buyer. These are also classified as revocable and irrevocable letter of credit. The revocable letter of credit can be revoked or cancelled by the issuing bank under certain circumstances while the irrevocable letter of credit cannot be revoked upon its presentation. The letter of credit may be received by the exporter through issuing or correspondent bank. Since lot of international banks and businesses are involved, the letters are issued in standard format as per *Uniform Customs and Practice for Documentary Credits (UCPDC)* which are issued by International Chamber of Commerce. The banks charge fee for issuance of letter of credit and are shown as contingent liability in their balance sheets as the liability is due only in case of default by buyer.

Bankers Acceptances

These can be defined as time drafts issued by banks which guarantee payments of a particular amount on the due date. These are drawn on and accepted by issuing bank or some other bank (known as accepting bank) which indicates the bank's guarantee of payment. This 'acceptance' is what gives it the name. These are used to finance trade and are also negotiable. Hence these serve the same purpose as letter of credit as they help to

mitigate the risk of the exporter. The holders of these instruments (for example exporters) can sell them at discount in the secondary market which makes them highly liquid. These are issued to the buyer after the bank is satisfied with the financial capability, business record and security offered by the customer.

Foreign Receivables Financing

These relate to obtaining funds by pledging the foreign receivables (amounts due from importers) by exporters from the bank. After the sale is executed, the exporter can pledge these receivables which are normally due in a short period of two to three months. The bank can release funds by a specific limit (for example 50%) against the pledge of these receivables. For this facility, the bank will impose strict conditions on the way the consignment is shipped and documents are drawn. The exporter should have strong financial capability and reputation in order to be eligible for this facility.

Loans to Foreign Banks

Many banks are involved in inter-bank financing in the international market. Modern and fast communication methods have increased the market for foreign bank finance. These loans are used for facilitating foreign transactions or trade finance. The borrower bank can ask for working capital limits so that it can use these funds to provide finance to its home customers. The lending bank will select the borrowing bank based upon its reputation, history and financial strength. The loans may be given on cash collateral or opening a deposit account of the borrower bank.

Government guaranteed Trade Finance

Many banks provide their customers funding for international business under schemes / programs supported by the government. As we all know, each country especially the developing economies provide encouragement to exporters to earn precious foreign exchange. This can be done by providing various incentives like interest subvention, credit guarantees etc. This helps the bank to rely on the business as repayment is guaranteed by the government.

Home Country Loans

These loans refer to the credit facility provided by banks to their customers for international transactions which are undertaken to boost sales in the domestic market. The repayment of these loans will be dependent on performance of domestic market but since transaction is happening with parties outside country so it is processed by the international department of the bank. The loans sanctioned to overseas subsidiaries of domestic firms can also be classified under this category.

Loans to Foreign Individuals / Businesses

This refers to lending to foreign firms or individuals and is normally done by banks with substantial presence internationally. The application will be processed by analyzing the credentials of the case in particular along with general risks like country risk and foreign exchange risk which are peculiar to international financing. Security for the loans may be

provided by some guarantees by government, associated companies or businesses in the home country.

Syndicated Loans

These are loans which are given by a bank in association with other banks. Often large amount of loans are given by banks through a syndicate in which one bank takes the lead and other banks join it. This leads to division of risk as no one bank can lend huge amounts to a single business. It also helps to share expertise in lending between different banks and the decisions are taken by consensus among all participating banks. Various banks who do not have dedicated resources for international finance processing can enter the market through syndicated loans.

15.7 OTHER BANKING ACTIVITIES BY INTERNATIONAL BANKS

Apart from lending, international banks are also involved in various other activities like investment, deposit acceptance, personal banking etc. They invest surplus funds in options like debt instruments / debentures available in the international capital markets. They are considered to be safer than lending to struggling economies and investment in these securities can lead to diversification of this risk. The reason for these investments can be many. These may be to comply with local regulations, maintain liquidity or for strategic reasons. Some countries might provide yields higher than trade finance products. The return on these investments will depend upon the country risk, exchange rate fluctuations and economic conditions prevailing in the host country. Banks with wide network of foreign branches take up more extensive investment banking functions like underwriting. Another important service provided by international banking is personal banking to individuals of high net worth. These customers might be from domestic as well as foreign markets. These include normal banking services like savings and investment accounts, fund transfers, financial consultancy etc.

15.8 OVERVIEW OF INTERNATIONAL MONEY MARKET

The international money market refers to the market where currency transactions take place between various central banks or large financial institutions of different countries to meet their short term currency needs. The money is lent or borrowed by the participants as per requirement. The size of transactions is huge and since the parties involved are governments or large financial institutions, the risk of default is very low. Due to this low level of risk, the returns in the market are also comparatively lower. Modern technology and increased cross border movement in funds has made the money market more lucrative than ever.

In these markets deposits are made in a variety of currencies with the most popular being the US dollar, Euro, Japanese Yen, British Pound, Canadian dollar and Swiss franc. The

trade volumes in these markets run into thousands of billions of dollars each day. The Euro-currency deposit market refers to making deposits in a currency other than the home currency of the accepting bank's location. An example can be a US dollar deposit in a London based bank branch. The rates offered across each market are different depending upon the bank and country of their location. Presently, Currency Futures and Interest Futures are two of the most popular products dealt with in the international money market. These are derivative products sold at exchanges which essentially are standardized contracts mentioning payment on a future date at a fixed price. Interest rates are linked to currency value on the basis of the performance of the economy. If an economy starts doing well, the increase in income leads to a price rise. To control inflation, the central bank hikes interest rate which makes the market suitable for investment by foreign investors. This brings foreign currency in large amount to the country leading to appreciation in home currency exchange rate.

The US (New York) and UK (London) are the most prominent money markets with maximum transactions. However other European and Asian centres are also playing an important role and it is difficult to measure the scale of these markets. Exchange rate movements between currencies are closely monitored in this market. Although this market functions largely on the basis of market demand and supply, sometimes interventions are made by governments to overcome major adverse movements in their currencies. This is normally done in developing economies which are very sensitive to major volatility in exchange rates. Any steep fluctuation in exchange rates in these economies could have a severe impact on financial stability of the country and make it difficult to achieve the economic welfare. To avoid this, the central bank intervenes in the market by buying or selling currency in the market.

15.9 SIGNIFICANCE OF INTERNATIONAL MONEY MARKET

The International money market has grown at a huge pace over last few decades. Increased globalization has led to faster and larger movement of funds across countries. The market contributes to international trade and economic development in the following ways:

- This market is essential for development and functioning of international trade. Commercial banks can arrange loans / funds for their international business clients in the currency of their choice due to this market. This helps in optimizing cost of capital as well as timely availability of funds. For example, if an Indian firm has to make a payment in Euro, it can borrow from Eurocurrency market if the rates are found attractive. Firms can also benefit from positive changes in exchange rate of borrowed currency.
- International currency movements lead to global equilibrium and stability in exchange rates. This is so as the free movement in currencies leads to development and

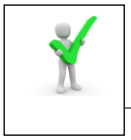
investment demand in developing economies which leads to upliftment of these countries. This eventually leads to appreciation of their home currency. Also, free movement restricts the activities of speculators.

- The international market for funds has helped in lowering cost of capital. Since this market has larger number of participants than domestic market, the competition is higher and in addition there are lots of currencies to choose from. On the other hand, the lenders get the benefit of risk reduction due to diversification across various economies.
- International market participants usually have lesser regulatory compliances to follow as compared to domestic institutions. This not only decreases their operational cost but also gives them more flexibility in taking investment decisions.

POPULAR PRODUCTS AND SERVICES IN INTERNATIONAL MONEY MARKET

- **Eurocurrency Market-** These are time deposits in any international bank in the currency outside of its origin. For example, US dollar deposits in a bank located in any European country. They are normally interbank deposits in denominations of millions. These deposits fetch interest on some reference rates like LIBOR (London Interbank Offered Rate) or EURIBOR (Euro Interbank Offered Rate)
- **Euro-credits-** These are short to mid term loans made available to corporate houses at flexible rates using any reference rate like LIBOR. By their very name, they are denominated in foreign currencies i.e. in currencies belonging outside the home country of the Eurobank. Many times, in case of large amounts of credit limits, many banks may form a syndicate to share the credit risk.
- **Forward Agreements-** International inter-bank transactions can also involve forward rate contracts. These are primarily hedging instruments against interest rate movements. The buyer and seller enter into an agreement to compensate each other for any adverse market movements in exchange or interest rates.
- **Euro-notes-** These are short term promissory notes issued in international market with a maturity period of up to 60 days and are hence money market instruments. The main characteristic is that they are issued outside the home country of the issuer and hence are in a currency which does not belong to the issuing bank's country. These are normally underwritten by a group of international commercial or investment banks are normally issued at a discount and redeemed at face value. Medium term notes called as Euro-medium term notes may also be issued by business corporations on a revolving basis.
- **Euro-commercial Paper-** Like the normal commercial paper, these are also short term money market instruments with maturity range of one month to six months. They are issued by business houses or banks and floated through dealers. The term euro indicates that they too are denominated in currencies outside of the host

country. They offer higher yields as they are considered to be riskier than domestic commercial papers.



Check Your Progress-A

Fill in the Blanks

1. _____ risk is unique to international banking.
2. Banks in international money market are subject to _____lesser regulatory provisions.
3. _____ is the bank office which doesn't undertake any financial transaction.
4. A bank working as an agent of other bank is called _____.
5. _____ letter of credit provides credit limit facility to international traders.
6. Bankers Acceptance can be _____ in the secondary market.
7. International funding involving many banks is called as _____ lending.
8. _____ market provides funds in currency outside of home country.

15.10 PRESENT TRENDS IN INTERNATIONAL BANKING

- Cross border credit to non bank customers for most of the international banks are constantly growing which is a good indication of the expansion of the international banking business. Also many of these have been related to emerging market economies which shows the integration and contribution of international capital markets in the development of these countries. Data shows that a huge part of this was trade finance which is classified as short term credit.
- The biggest credit customers for international banks include investment and hedge funds and the amount was around USD six trillion (Source: BIS) in March 2018. These were primarily concentrated in the United States, Japan, Ireland and Luxembourg. In Asia, China received almost half of the total debt flows.
- Technology is fast removing the role of intermediaries in undertaking banking transactions and also leading to faster and secure transaction. Blockchain is being considered as a revolutionary concept to achieve secure and tamper proof online transactions.

- Indian banks are now venturing into the international banking space with many public sector banks as well as private sector banks are venturing into international banking space by establishing overseas centres and liaison with international counterparts.
- With expansion of international trade, the international banks are also expanding rapidly. China is home to four of the ten largest banks in the world. The table below shows the major players in the global banking sector.

Top 10 largest banks in the World

Rank	**Bank Name**	**Country of Origin**	**Value of Assets as on March 2017 (in trillion USD)**
1	Industrial & Commercial Bank of China	China	3.62
2	China Construction Bank Corp	China	2.94
3	Agricultural Bank of China	China	2.82
4	Bank of China	China	2.63
5	HSBC Holdings	England	2.57
6	JP Morgan Chase	United States	2.45
7	Mitsubishi UFJ Financial Group	Japan	2.45
8	BNP Paribas	France	2.40
9	Bank of America	United States	2.15
10	Credit Agricole Group	France	1.91

15.11 SUMMARY

Banks worldwide in their quest of increasing customer base have stepped out of domestic market and are providing services globally. International banks are large in size and have operations spread over. They provide normal banking functions along with foreign exchange service and financing of international trade. International lending involves country risk and requires special expertise to take decision on credit proposals. Special instruments like International Letter of Credit, Bankers Acceptances etc are used and various banks collaborate with each other to widen their service network. International Money Market involves flow of funds across markets by large financial institutions with products like currency and interest futures which helps in providing short term investment and liquidity.

15.12 GLOSSARY

International Trade Finance- Finance facility obtained for international trade of goods/services.

Country Risk- The risk which is particular to a country due to its political, social and economic factors.

Letter of Credit- Letter issued by a bank containing guarantee of payment under fulfillment of specific conditions.

UCPDC- Uniform Customs and Practice for Documentary Credits – Guidelines which are uniformly flowed by banks around the world for issuing letter of credit.

Bankers Acceptance- A note promising payment by a bank on a specific date.

Syndicated Loans- Loan facility provided by a group of lenders involving various banks.

Eurocurrency Market- Markets providing funds in outside currency.

15.13 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress A

1. Country
2. Less
3. Representative Office
4. Correspondent Bank
5. Revolving
6. Traded
7. Syndicated
8. Eurocurrency

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5. International Economics: Trade and Finance, 11ed, ISV (WSE) by Dominick Salvatore

15.16 TERMINAL QUESTIONS

1. Discuss the important functions carried out by international banks.
2. List some of the ways by which lending is done by international banks.
3. Explain the significance of international money market.
4. What do you understand by Nostro, Vostro and Loro accounts.
5. How has international trade benefited from international banking?

UNIT 16 INTERNATIONAL BANKING AND MONEY MARKET- ADVANCED INSIGHTS

16.1 INTRODUCTION

International banking is a complex area that incorporates international investments as well as cross-border transactions. International banking précises all services offered by banks to enable international trade including investments, lending procedures and cross-border connections.

16.2 OBJECTIVES

From this unit, you will get the information about:

- About International Banking
- Reasons for International Banking

- Types of International banking
- About International Money Market
- International Money Market Instruments

16.3 DEFINITION OF INTERNATIONAL BANKING

International banking undeniably incorporates various services that span across different countries. This form of banking facilitates global trade and investment by providing financial services to individuals and companies operating internationally.

In another words, International Banking involves cross national banking actions. It covers the movement of money internationally through various organizations comprising off shore branches of banks, limited branches, subsidiary banks, M&A with foreign banks.

1. **Expansion**: International banking helps companies in expanding their business and projects outside their domestic countries. Companies seeks opportunities outside their home countries for economic growth, favourable business climates, and competitive advantages and Banks play a very important role and helps the companies in Trade and investment internationally.
2. **Legal and Regulatory Framework**: For International Banking to be successful, there should be proper flexible legal and regulatory framework. Fast approvals, easy compliance requests, and stable political environments inspire businesses to enter new markets outside their home country.
3. **Cost of Capital**: Admittance to capital at modest charges is essential for companies operating globally. Banks act as financial mediators and give expert advices and helps to make the most of arbitrage opportunities across diverse markets.
4. **Current Account and Capital Account Transactions**: International banks play an essential role in enabling trade finance and investment prospects across the borders. Banks provide various financial services and even support in activities related to imports and exports. Moreover, banks facilitate the movement of reserves through their extensive network and correspondent banking engagements.
5. **Risks**: Although, International Banking helps a lot and provides various services for conducting business overseas but, it also involves various risks, comprising currency risk, political risk, and regulatory risk. Variation across numerous markets helps lessen these risks, permitting global investors to seek harmless investment while aiming for better returns. Even, the occurrence of international banks in diverse time zones also exposes them to risks like operational and market risks.

16.4 REASONS FOR ENGAGING IN INTERNATIONAL BANKING

Growing business overseas is a tactical move for banks as they intent to enhance their income and revenue, acquire funds from foreign markets and diversify their undertakings Below are the reasons for engagement in Global Banking:

1. **Inundation of Domestic Market**: When the domestic market reaches a saturation point, banks look for international markets for earning profit and growth opportunities. Expanding overseas allows them to tap into new customer divisions and revenue streams.
2. **Profitable Opportunities in Other Countries**: Banks may discover profitable opportunities in overseas countries, such as emerging markets with growing economies or underserved financial opportunities.
3. **Economy of Scale**: Banks also achieves economies of scale by expanding their operation capacities which ultimately leads profit for them and growth in the overseas markets.
4. **Low Marginal Costs**: Since, the banks already expertise and had knowledge dealing domestically and this knowledge helps them to take advantage internationally also in new markets.
5. **Access to Home Country Information Services**: International banks can provide native companies in overseas markets with comprehensive facts on trade and market sentiments in their homebased countries, giving them a reasonable edge over domestic banks.
6. **Prestige**: Large international banks also enjoy high apparent prestige and with this they attract new customers for economic growth and earning profits.
7. **Regulatory Advantage**: International banks work under different regulatory frameworks in comparison with domestic banks, which provides them with directing advantages that can improve their attractiveness and flexibility.
8. **Transactions Costs**: International banks may have the ability to evade government currency reins and reduction in transaction costs for their customers who are engaged in engaged in cross-border trade.
9. **Growth**: It also offers various opportunities other than domestic market for expansion and increasing profit to a great extent.

16.5 TYPES OF INTERNATIONAL BANKING

1. **Correspondent Banks**: These banks ease the relationships between various banks in different countries. They usually provide facilities to international

companies for serving their international banking needs. These banks are usually smaller in size and tailor the requirements of customers residing outside their domestic country.

2. **Edge Act Banks**: These banks are categorized as federally employed divisions of U.S. banks which are situated there only. These banks provide various types of banking facilities which the customers look for.
3. **Offshore Banks/Banking Centers**: Offshore banking centers are the centers that offer banking amenities to the account holders outside India. When compared to other banks, these banks function differently due to their own framework and laws. Additionally, these banks also provide a wide range of services as per the customer's requirements.
4. **Subsidiaries**: In this type of banks, the Parent bank in another nation own all or a portion of subsidiary banks, which are integrated into a nation. The parent bank still maintains ownership and management of these banks.
5. **Foreign Branch Banks**: These banks operate abroad but are nonetheless affiliated with a parent bank. These banks have to abide by the laws and rules of both their home nation and their place of business. With the help of foreign branch banks, the parent bank can expand into other areas without having to establish a separate legal company

16.6 THE WORLD'S LARGEST BANKS

- City Bank
- HSBC (Honkong and Shanghai Banking Corporation Limited)
- Bank of America
- BNP Paribas
- JP Morgan Chase group
- Royal Bank of Scotland Group.
- Deutsche Bank
- Mizuho Financial Group
- Santander Central Hispano

16.7 INTERNATIONAL MONEY MARKET

Money Market: The is a type of market where transaction or dealing of short-range investment options takes place. Various participants are involved in this market including-individuals, institutions, Corporations and Government and dealing is done for the investment alternatives whose maturity is less than a year. Treasury bills, Certificate of deposits, Commercial papers and so on are some of the instruments of the money

market. This market plays a dynamic role and ensures liquidity and growth for the investors.

International Money Market: It is the market that extends its dealings and transactions worldwide by bringing borrowers and lenders from different countries together. Central banks, Multinational Corporations, Institutions and Other banks plays a very important role in international market and the market deal with huge amount of currencies. Also, Central bank manages foreign reserves, exchange rates and transactions of various types in this market. The international money market plays a significant part in safeguarding the effective allocation of wealth across borders, enabling international trade and investment, and maintaining firmness in the global financial system.

16.8 HISTORY OF INTERNATIONAL MONEY MARKET

The International Monetary Market (IMM) certainly has an important historical background and plays a key role in the worldwide economic markets.

The market was founded in December 1971 as a replacement for the Bretton Woods system, which had fixed exchange rates backed by gold. The Smithsonian Contract of 1971 and President Nixon's decision to remove the US dollar's gold convertibility put an end to this scheme. The market officially started operating in 1972.

Originally, this market was shaped as a separate entity within the Chicago Mercantile Exchange (CME). It received a solid basis from this organization in addition to access to the CME's infrastructure and resources. Over time, the IMM expanded to rank among the world's biggest futures markets, especially when it came to currency volume. Its prominence in the financial markets was highlighted by the fact that it was listed as the second-largest futures exchange globally in terms of exchange volume.

The market's primary goal is to make currency futures exchanges easier. Market participants are able to protect themselves against currency risk through currency futures agreements. These contracts are standard contracts that include the purchase and sale of currencies at predetermined prices and future dates. Currency futures, including those for the British pound, Swiss franc, German Deutschmark, Canadian dollar, Japanese yen, and French franc, are first merchandised against the USD ($). The Australian Dollar, the Euro, and a number of emerging market currencies, such as the Russian Ruble, Brazilian Real, Hungarian Forint, Polish Zloty, Mexican Peso, and South African Rand, were included over time.

16.9 INSTRUMENTS OF MONEY MARKET

The following are instruments of money market;

- **Promissory Notes**
- **Commercialize Paper**

- **Treasury Bills**
- **Money Funds**
- **Deposit's Certificates**
- **Municipal Note**
- **Instruments of International Money Market**

1. **Promissory Note**: A promissory note is a written agreement between two parties- one party (the issuer or buyer) and other (the seller or holder) to pay a predetermined sum within a specified period of time. It functions as an officially obligatory agreement and can be pleased either on-demand by the party or at a prospect date. These notes are commonly used in saleable contracts and can be custom-made according to the desires of the parties.
2. **Commercial Paper**: It is a type of instrument in which the corporations who are in need of short-term funds issues debt mainly short-term to meet their needs. It commonly has a maturity period of up to 270 days and is used for various operations and meeting expenses including finance operating expenses, inventory purchases, and other short-term liabilities. When a commercial paper matures, it is redeemed at face value and traded at a discount. It is widely traded in the international market and serves as an important source of liquidity for businesses.
3. **Treasury Bills**: Treasury bills (T-bills) are short-range government securities distributed by central banks or government agencies for funding of government operations and manage cash flow. The maturity of treasury bills ranges from few days to one year. T-bills do not pay consistent interest; instead, they are traded at a discount to their face value. Stakeholders earns profit by purchasing them at a discount and getting paid the full face value when they mature,

   T-bills are actively traded in the worldwide market and are considered a safe investment option.
4. **Certificate of Deposit (CD)**: Banks and other financial institutions offer time deposit instruments called certificates of deposit. In return for a certain interest rate, it enables investors to deposit money for a predetermined amount of time. CDs usually provides more interest in comparison to savings accounts. Even, the CDs can be purchased in other currencies through cross border transactions.
5. **Money Market Funds**: Mutual funds that invest in short-term, low-risk securities including Treasury bills, commercial paper, and certificates of deposit are known as money market funds. They provide investors with an appropriate means of earning a competitive return on their cash reserves while maintaining capital preservation and liquidity. Money market funds are widely used by universal financiers who are looking for low-risk investment options.
6. **Municipal Note**: Municipal notes are short-range debt securities issued by local governments and agencies to fund investment projects and other expenditures.

They are typically issued for one year or less than a year Municipal notes also provides tax-exempt income to investors and are commonly used to increase capital in the global market.

16.10 INTERNATIONAL INSTRUMENTS OF MONEY MARKET

The following are international money market instruments;

- Euro Currency
- Euro Credits
- Forward Rate Agreement
- Euro notes
- Euro commercial paper

Euro Currency:

- One kind of instrument that is essential to the global financial system is cryptocurrency.
  Any currency reserved in overseas Banks (other than domestic) is referred to as eurocurrency.
- For instance, Eurodollars are securities denominated in US dollars held in banks other than U.S and Euro yen are deposits denominated in yen held outside of Japan.
- It is noteworthy that the foreign bank that is in possession of the Eurocurrency deposit does not necessarily need to be situated in Europe. Transactions using euros can take place in main worldwide financial centers like New York, London, Singapore, and Zurich.
  Large sums of money are usually involved in cryptocurrency transactions; the starting point is sometimes $1,000,000 or more. Most of these transactions are interbank exchanges between sizable financial institutions.

Common reference rates are used in Eurocurrency markets to calculate interest rates. Some of the most widely used reference rates are:

- LIBOR (London Interbank Offered Rate): is a standard interest rate that indicates the average amount that major London banks can borrow from one another.
- PIBOR (Paris Interbank Offered Rate): Based on interbank lending rates in Paris, this rate is comparable to LIBOR.
- SIBOR (Singapore Interbank Offered Rate): is a measure of the standard interest rate used by Singaporean banks to lend to one another.

Euro credits:

An essential part of the Eurocurrency market are Euro credits, which provide short- to medium-range borrowing in currencies other than the Euro bank's native currency. The primary characteristics of Euro credits are as follows:

1. Loan Denomination: Euro credits have a currency value other than the lending bank's own currency. For instance, a London-based Euro bank may offer a loan with a value of either Japanese yen or US dollars.

2. Short to Medium-Term: The maturity periods of euro credits are generally short to medium-term. For a duration of a few months to a few years, these loans are used to support a multiplicity of corporate activities involving working capital needs, trade finance, or capital expenditure projects.

3.Syndication: Euro credits are often too big for a solo bank to underwrite on their own because of their magnitude. Several banks frequently band together to establish a syndicate in order to jointly supply the financing for these loans, thereby spreading the risk involved. Each member bank shares in the risks and benefits related to the loan as well as contributing a portion of the total amount.

4. Flexible Rate: The interest rate structure of euro credits is normally flexible. These loans have interest rates that are frequently linked to a base rate, or reference rate, like LIBOR. It is possible to change the interest level.

Forward Rate Agreements:

Banks and other financial organizations use forward rate agreements, or FRAs, as useful financial tools to manage interest rate risk and make predictions about future changes in interest rates. Below is a summary of their main traits and applications:

1. Interbank Contract: AFRA is a legally binding agreement between a buyer and a seller. Usually, these agreements are merchandized in the interbank market, which is where financial institutions and banks deal with one another.
2. Payment Structure: In the event that interest rates drop below a certain threshold, the buyer of an FRA contract undertakes to reimburse the supplier for the additional interest expense on an estimated amount. In contrast, if interest rates hike over the negotiated rate, the trader agrees to reimburse the purchaser for the additional rate of borrowing money. These reimbursements get settled with maturity.

3. Hedging: As hedging tools, FRAs are widely used to manage interest rate risk associated with current assets or commitments. An example of this would be a bank that has signed an FRA for a three-month Eurodollar loan to protect itself from the risk of increasing interest rates. By providing a "three against six" FRA, which effectively locks in the interest rate for a future six-month period, the bank lessens the risk of interest rate fluctuations.

4.Speculation: FRAs offer chances for conjecture regarding the path that interest rates will take in the future. Based on their predictions of changes in interest rates, investors and financial institutions may enter into FRA contracts. For example, a bank may enter if it believes that interest rates will increase in the future, it will go for FRA agreement in order to gain from speculation.

Thus, when it comes to controlling interest rate exposure and maximizing investing strategies in the financial markets, forward rate agreements provide flexibility and diversity. For investors and financial organizations, FRAs are essential for risk management and capital allocation, regardless of whether they are utilized for speculating or hedging.

Euro Notes:

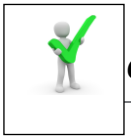
- Usually, a group of commercial banks or foreign investment banks underwrite euro notes. The efficient distribution of the notes to investors worldwide and wide market access are guaranteed by this syndicated underwriting arrangement.
- When Euro notes mature, the issuer repays the full face amount, which is typically sold at a discount. The investor's interest or yield is represented by this discount. In the debt markets, it is customary to sell securities at a discount and redeem them at par when they mature.
- Euro notes are appropriate for short-term financial needs because their maturities typically range from three to six months. This brief period enables swift money conversion and gives issuers and investors flexibility.
- Corporations issue fixed-rate instruments in the form of euro notes. For the duration of the note, the issuer and the investor can be certain of the interest payments due at these set interest rates.
- Euro Medium Term Notes, often known as Euro-MTNs, are frequently continuously issued and sold, enabling the borrower to raise capital as needed. Because of their adaptability to shifting market conditions and finance needs, Euro-MTNs are a flexible financing solution

Euro Commercial papers:

- Euro commercial papers are a fascinating financial tool. They give banks and businesses an adaptable source of short-term funding. Since they don't demand security because they are unsecured, issuers may find this advantageous. Nonetheless, this suggests an increased risk for investors in contrast to secured securities.
- Issuers can obtain funds more swiftly and effectively thanks to the process's streamlining provided by the direct placement with the public via a dealer.

Additionally, they provide a somewhat short-term answer for finance demands, with maturities usually in the range of one month to six months.

- The higher rates attached to euro commercial papers in comparison to their American equivalents reflect the heightened risk. In order to make up for the lack of assurance and possibly weaker credit quality, investors seek larger returns.
- The global financial markets rely heavily on euro commercial papers as they provide banks and businesses with global access to liquidity and short-term borrowing options.



Check Your Progress-A

Short Answer Questions

Q1. Define International Banking?

Q2. What are Euro commercial papers?

Q3. Define Money Market.

Q4. What are Forward Rate Agreements (FRA)?

Q5. Distinguish between Money and Capital Market?

True/False

1. The RBI regulates interest rates on FCNR(B) deposits in India, and these rates are based on LIBOR.

2.International banking is a composite field encompassing letters of credits, investments as well as cross-border transactions.

3. Federally chartered Correspondent Banks are physical U.S. subsidiaries of U.S. banks. They are permitted to carry out the whole spectrum of global banking operations.

4.Money market instruments are not known for their high level of safety and security.

Multiple Choice Questions

1.Identify What best describes the money market.

a. Liquidity

b. Inflexibility

c. Instability

d. Flexibility

2. International Banks enables:

a) Cross Border Trade and Services

b) Domestic Trade and services

c) Commodities trade

d) Movement of money

3. The RBI regulates interest rates on FCNR(B) deposits in India, and these rates are based on LIBOR., what is the full form of LIBOR?

a) London Inter-Bank Off Rate

b) London Inter-Bank Offend Rate

c) London International Bank Offered Rate

d) Lion Inter Bank Offered Rate

Fill in the Blanks

1----------are short-term notes that a consortium of global commercial or investment banks underwrites.

2. ----------involves cross national banking actions. It encompasses the movement of money internationally through various institutions

3.----------is the full form of SIBOR.

4.A ----------is a type of time deposit that financial organizations and banks offer. In return for a certain interest rate, it enables investors to deposit money for a predetermined amount of time.

16.11 INTERNATIONAL ASPECTS OF INTERNATIONAL MONEY MARKET

The international aspects of the International Money Market undeniably play a vital role in easing various financial actions on an international scale.

1. Financing Trade: The funds required for international trade operations are provided by money market instruments including commercial papers and foreign exchange contracts. These tools make cross-border commerce operations more seamless and effective by facilitating currency conversion and short-term funding.
2. Investment Safety: The products of this market are renowned for their exceptional security and safety. These products are frequently used by investors looking for low-risk investing solutions that will help them save their wealth while yet generating a profit. In an international setting, where investors may be exposed to heightened risks as a result of currency fluctuations and geopolitical considerations, this safety feature is especially crucial.

3. Fund Management: Particularly in the context of global corporate operations, the money market provides an essential platform for the gathering, application, and administration of funds. Funds can be effectively allocated to support overseas operations and manage foreign exchange risks through a variety of money market products, including Treasury bills and certificates of deposit.
4. Assistance for Central Banks: Money market instruments are crucial in helping central banks keep the banking system and the economy stable. By providing liquidity and short-term financing options, these instruments assist central banks in managing financial policy i.e. Monetary, regulating markets, and ensuring the smooth operations of the overall financial system.

5. Liquidity and Flexibility: Money market instruments are quite appealing in an international setting due to their inherent qualities of flexibility and liquidity. Because they have a short maturity duration and no set maturity date, they are easily liquidated as cash demands arise, giving issuers and investors alike flexibility.
6. Industrial Development: The money market supports global industrialization and economic development by providing small enterprises and industries with easily accessible funding options. Businesses can invest in growth prospects, meet working capital requirements, and promote general economic development by using short-term finance tools.

16.12 SUMMARY

International banking is essential to enabling trade and investment around the world because it deals with a diversity of services that are suited to the requirements of companies and individuals doing business internationally. International banking operations require effective risk management techniques, flexible regulatory frameworks, and easy access to capital.

For banks looking to diversify their business, increase revenue and profit margins, or obtain resources from other markets, expanding operations overseas is a calculated strategic decision. Correspondent banks, representative offices, foreign branches, subsidiary and affiliate banks, Edge Act Banks (in the USA), and offshore business are some of the various forms of international banking. These organizations are international in scope, offering a vast array of financial services to people, companies, and governments in various nations and areas.

The international money market extends the concept of the national money market to a global scale. It makes it easier for users from many nations to borrow and lend money to each other. Key actors in the global money market comprise- central banks, large commercial banks, multinational companies, and institutional investors. Because financial markets are worldwide in scope, transactions in this market typically involve substantial sums of money, frequently in the trillions, and happen continuously.

The money market instruments are essential to international finance because they offer governments, corporations, and investors worldwide access to liquidity, financing choices, and investment opportunities.

16.13 GLOSSARY

International Banking: This wide field of study covers cross-border investments and transactions. This kind of banking offers all the services that banks offer to support global trade, such as lending, investing, and cross-border transactions.

Money Market: The money market is a financial marketplace where short-term securities are traded. It is less concerned with actual things and more with the supply and

demand of money. This market is used by people, companies, governments, and financial institutions that lend or borrow money for short periods of time, usually less than a year.

International Money Market - It is the market that extends its dealings and transactions worldwide by bringing borrowers and lenders from different countries together. Central banks, Multinational Corporations, Institutions and Other banks plays a very important role in International market and the market deal with huge amount of currencies.

Financing Trade: The money required for international trade transactions is provided by money market instruments including commercial papers and foreign exchange contracts.

16.14 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress A

1.True 2. True 3. False 4. False

1. a

2.a

3.c

1.Euro Notes 2. International banking 3. Singapore Interbank Offered Rate 4. Certificate of Deposits

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16.17 TERMINAL QUESTIONS

1. What are the factors leading to growth of International Banking?
2. What are different practices of International Banking?
3. Define International Money market? Write in detail about the various instruments available in International Money market?
4. Distinguish between Euro Notes and Euro Commercial Papers?
5. There are various kinds of international instruments of Money market? Elaborate
6. Discuss in detail about international aspects of Money market?
7. Write a note on different types of International banks?

Block IV
International Corporate Finance

UNIT 17 INTERNATIONAL PROJECT APPRAISAL

17.1 INTRODUCTION

Projects are a collection of tasks that must be executed in a a given amount of time in order to achieve a set of objectives. Projects represent the dedication and distribution of substantial advantages that will materialize over an extended period of time in the future. Therefore, projects involve long-term expenses, which are typically considerable. One crucial feature that sets them apart projects from routine working capital expenses is their permanence. It is challenging to recover from once committed, without suffering significant loss. It follows naturally that making a mistake in judgment when dealing with projects has a very high cost. This is the reason capital investment decisions must be thoroughly considered and evaluated before making a commitment of money. Investing money overseas will undoubtedly provide new challenges. How should a multinational project be evaluated? This unit's primary goal is to answer this question. However, before we can respond to this query, we must first address the one that asks: What are the differences between domestic and foreign projects? Which fundamental methods of project appraisal are there? Could the methods used for project appraisal be the same for both local and foreign projects? How and why not, if not? What does a strong framework of analysis for evaluating multinational initiatives mean? In international investment analysis, How

would you respond to various different issues such as cash flows from parents versus projects, discount rates between parents and projects, country currency between parents and projects, inflation, political risk, etc.?

Word may be one market giving a universe of initiatives to a foreign investor. Therefore, should a project be evaluated by a foreign investor as a "stand alone" or as a component of a portfolio? What are the ramifications or problems with the portfolio strategy for evaluating multinational projects? How can they be resolved?

The nature of foreign projects, how they vary from home projects, various project assessment approaches, evaluation of the project under certainty and uncertainty, actual option value, and Using a portfolio to evaluate projects are all covered in this subject. We will also examine a thorough case study to exemplify our conversation.

17.2 OBJECTIVES OF THE UNIT

Here are the objectives of the unit;

- Understand the concept of project appraisal in an international context.
- Analyze key criteria for assessing international projects.
- Examine financial and economic evaluation techniques for international projects.
- Explore methods for financing international projects.

17.3 INTERNATIONAL PROJECTS

Projects, as we mentioned in the introduction, basically represent a capital expenditure commitment to increase production capacities. When an entrepreneur or promoter commits to investing capital to increase productive capacities within their own nation, it is referred to as a home project; however, When they leave their national borders, it is referred to as an international, or more frequently, foreign, project. These multinational initiatives could take many different shapes. An Indian's establishment of a paper mill in Thailand, as well as his purchase of an existing or failing paper mill there, are both international projects. The former is an example of a green-field project, whilst the later may be an expansion or two diversification through acquisition and turnaround. One thing unites all of these endeavors, though: the investor buys foreign real estate in the form of machinery and plants. Foreign direct investment (FDI) is the term used to describe such investmentsin the literature. It should be noted, nevertheless, that a company's overseas operations might manifest in distinct ways,including exports, affiliates in sales and distribution, licensing agreements, and management contracts. However, we will not be referring to any of these when we discuss overseas initiatives within this section. FDI or affiliates in production are what we mean instead.

17.4 PROJECT APPRAISAL: MEANING AND IMPORTANCE

Essentially, project evaluation is determining How to proceed or not provide money to the project. It only means balancing the cash outlay with the investment's return. A project would only be worthwhile to invest in if the return outweighed the initial outlay of cash. Naturally, this assumes that the goal and justification for starting a project is to make a profit.

Various strategic, behavioral, and economic factors, such as "follow the leader,""bandwagon effect,""market seekers,"" follow the customers,"" raw material seekers, ""efficiency seekers,"" cutting cost," or "taking advantage of lower labor or input cost in other countries,""preemption of competition," and "international diversification," may be highlighted in an overview of the literature on the driving forces behind foreign direct investment. As far as maximizing shareholder value is concerned, project appraisal in the financial sense pertains to figuring out how likely it is to yield a return on investment greater than the funding cost.

This is the case because maximizing the risk-adjusted rate of return, or the suitably adjusted differential between return and cost of money business risks—is the only method to maximize shareholder wealth. The financial appraisal of the projects is the phrase used to describe the aforementioned method of project appraisal.

Other project appraisal methodologies, such as economic or social appraisal, are also mentioned in the literature. It's crucial to remember that all project appraisal methods, whether they be financial, economic, or social, basically compare a project's costs and benefits in an effort to find excess. The type of the cash flows under consideration is the only difference. Cash flows flowing the project that are predicated on market prices are considered in the financial evaluation. Economic pricing, also referred to as shadow prices, are considered throughout the economic evaluation process and are based on estimated cash flows. The project's social and environmental surroundings are included in the social appraisal together with economic cash flows that are dependent on prices. In this section, we will limit the scope of our discussion on international project appraisal to the financial assessment of multinational projects. It is important to note that there are other evaluations, such as the financial assessment, that come before the financial assessment of a project. The social appraisal takes into account the project's social and environmental surroundings in addition to economic prices-based cash flows. We shall restrict our discussion of international project appraisal in this unit to the financial evaluation of international projects. It is worth mentioning that prior to the financial assessment of a project, there are additional assessments such as the market and technology assessments. Assessing the market's demand for the project's product is the goal of market appraisal. This indeed forms the basis for revenue and estimates of cash inflows utilized in financial evaluation. Technological appraisal include evaluating the needs for the project's phases of building, commissioning, operation and maintenance, and abandonment. Financial appraisals employ estimations of costs and cash outflows that are derived from this type of exercise. The two most important pieces of information in the entire project appraisal process are cash inflows and outflows

and the expected economic life of the project, as we will see under techniques of project appraisal.

Importance of International Project Appraisal

1. It is important to contrast the organization's shortcomings with those of its prosperous rivals. When combined with environmental analysis, this astute self-evaluation enables facilities management to identify opportunities and address risks to the environment.
2. International corporate planning places a great deal of importance on international project appraisal. It will be impossible to develop an organization's economic strategy objectively without such an exercise.
3. It assists the management in determining which specialisation is best for the company.
4. There may be economic opportunities everywhere in the world.
5. The organization's position audit exposes its unique strengths, which might be the foundation for a profitable international company empire. Additionally, it helps management create an effective competitive strategy.
6. It concentrates intensely on the regions in which it is most potent and capable of functioning.The management can determine what kind of business to engage in a country and what business to discontinue with the help of this kind of analysis.
7. It gives the management insight into the organization's deficiencies, enabling them to take long-term action to eliminate those weaknesses.

17.5 TECHNIQUES OF PROJECT APPRAISAL

Businesses have developed a variety of project evaluation techniques throughout time. The two basic categories are DCF and Non-DCF classified. Discounted Cash Flow is what it stands for. The main difference between DCF and non-DCF methodologies is that the former use undiscounted or unadjusted cash flow data, while the latter use discounted or adjusted time value of money cash flows. The idea of time value of money is essential for project evaluation. The temporal value of money means that one rupee now is worth more than one rupee tomorrow. To put it another way, a rupee's value decreases with time. This is true as long as there is inflation in the economy. Inflation reduces the purchasing power of money. Consequently, in an inflationary environment—which is undoubtedly present in all forms of economics worldwide—a rupee's value increases or decreases depending on the each weekday. If you were to pick between having Rs. 100 now and Rs. 100 in five years, you would prefer to have Rs. 100 now. You might even decide to accept little less than two rupees instead of one hundred in five years now.

You are aware that a hundred and Due to inflation, the value of rupees in five years will definitely be less than it is today. It is important for you to know that you can choose to develop your wealth over a five-year period and reinvest it to receive more than one hundred

twenty hundred rupees five years later. The concept of time value of money is essential to project appraisal since the advantages of the project will manifest at different points in time across time.

For instance, building and equipping a factory to produce tractors might take two years, but then there will be ongoing costs for upkeep and operation over a longer period of time, and cash flow will be be realized over an extended period of time. As a result, when evaluating a project, Time worth of money needs to be considered into consideration.

Non-DCF Techniques

The two project appraisal methods that are The accounting rate of return and payback time are included in the non-DCF group. An attempt is made to forecast how long it will take to recover the initial investment made in the project throughout the payback period. Touse a straightforward example, a project will probably see the following cash flows:

Period:	**0**	**1**	**2**	**3**	**4**	**5**
Cash flows (RsLakhs)	**-10000**	**2000**	**3000**	**5000**	**2000**	**1000**

The cash flow data shows that the first investment will be an outflow of Rs. 10,000 Lakhs in cash, or 10,000 Lakhs minus 10,000 Lakhs. Net cash inflows, shown as positive Rs. 2000, 3000, 5000, 2000, and 1000 lakhs, will therefore occur. The difference between operating and maintenance cash outflows and revenue realization cash inflows over the project's anticipated five-year economic life is known as net cash inflows. How long will it take the project to make back the Rs. 1 initial investment 10,000 crores?

You can quickly calculate the response was three years. The project will realize Rs. 2000 Lakh, Rs. 3000 Lakh, and Rs. 5000 Lakh in the first three years of its existence, which is equivalent to the initial investment of Rs. 10000 Lakh. As a result, the project will take three years to pay for itself. If only a percentage of net cash inflows within a given year are sufficient to recoup the four initial investment, the payback period is adjusted. The conventional view is that the net cash inflow for that year will remain unchanged. For the sake of argument, let us imagine that in the prior situation, the net cash inflow amount for the third year would have been Rs. 6000 lakhs instead of Rs. 5000 lakhs. This the project would be profitable in less than three years. Two years and ten months will pass. In the third year, it will only take ten months to recover Rs. 5000 from Rs. 6000 Lakhs that flow in at a consistent rate throughout 12 months.

Check your Knowledge

Calculate the payback period for the given for instance, presuming that all other all other factors stay the same.

i) The first year's Inflow of net costs is Rs. 3000 Lakhs rather than Rs. 2000 Lakhs.

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ii) The total sum received by the second year is Rs. 4000 Lakhs as opposed to Rs. 3000 Lakhs.

The The tenet of project appraisal and selection is that the project is better if the payback period is shorter. Nevertheless, it's evident that this tactic has its limitations. It largely ignores the money's worth of time. Second, cash flows that happen outside of the payback period are not taken into account. Some managers determine the payback period using discounted cash flows in order to get around the first restriction. However, the second constraint still stands.

Additionally, it is thought that if cash flow discounting is going to be used, then why Avoid using discounted cash flowmethods directly? Why only go halfway? Here, convenience and ease of use might be the key. However, as previously said, the choice of technique for project appraisal should not be based solely on approach convenience, given the high cost of making a mistake in judgment.

The next method in the group of non-DCF methods, As previously mentioned, the Accounting Rate of Return (AROR) seeks to overcome the second disadvantage of the payback period, but it too suffers from neglecting the time worth of money. Reviewing the cash flow data used in the prior example is an option available to you. The accounting rate of return for the project is information provided.

$$\text{AROR (for 5 Years)} = \frac{Total\ net\ cash\ inflows - initial\ investment}{\text{Initial Investment}}$$

$$= \frac{13000-10000}{10000} = \frac{3000}{10000} = 30\%$$

$$\text{AROR (Average per year)} = \frac{30\%}{5} = 6\%$$

Some managers replace the original investment in the denominator half the aforementioned computation, assuming that the initial investment will lose all of its value over the project's economic life. Thus, in our scenario,

$$\text{AROR (for 5 Years)} = \frac{3000}{5000} x100 = 60\%$$

$$\text{AROR (Average per annum)} = \frac{60\%}{5} = 12\%$$

That will be easily understood by you, as much as 6% or 12%. AROR has a significant flaw in that it ignores time worth of money. Now, let's talk about DCF strategies that get over this restriction and offer The worth of money in time.

DCF Techniques

The two most widely used DCF methods for project appraisal are Net Present Value (NPV) and Internal Rate of Return (IRR). Let's discuss and demonstrate these two approaches in brief. The net present value technique of project assessment is used to determine a project's net present value. It does this by discounting project cash flows at the required rate of return or the weighted average cost of capital. Ideologically,

$$NPV = I_0 - \sum_{t=1}^{n} \frac{NCFt}{(1+r)^t}$$

Where,

NPV = Net Present Value

I_o = Initial outlay (or project cost)

NCFt = Net cash flow over period $t_1 - t_n$, often known as the project's economic life or the time frame during which it is anticipated to continue being profitable or economical.

The weighted average of the costs related to the two primary sources of funding—equity and debt—with the proportions 5 of each source of funding used as weights is equal to r = weighted average cost of capital, commonly known as the needed rate of return. The required rate of return is WACC adjusted for project risk.

In order to calculate NPV for the same project, let's apply this NPV formula to the circumstances of our illustration. The required rate of return, or WACC, will be taken to be 18% p.a. For the purpose of clarity, the details of the example were as follows:

Period	0	1	2	3	4	5
Net Cash Flows	10000	2000	3000	5000	2000	1000

We will now do the following actions to determine the project's net present value:

Step I:

Compute and add the The estimated net cash flow stream's discounted value or present value over the project's five-year economic life is what this example refers to. To calculate present value 2 or discounted value, you will solvevalue.

$$NPV = \sum_{t=1}^{n} \frac{NCFt}{(1+r)^t}$$

P V = Present value

r = Discounted Rate

t = Time Span

Thus, we will find a solution for

$$\frac{2000}{(1+.18)^1} + \frac{3000}{(1+.18)^2} + \frac{5000}{(1+.18)^3} + \frac{2000}{(1+.18)^4} + \frac{1000}{(1+.18)^5}$$

To determine the NPV, present value tables are useful. You will practice present value factors as a starting step. A present value factor is the current value of a rupee that is received at the end of the term. Given a yearly discount rate of 18%, the present value of a rupee at the conclusion of the first, second, and up to the fifth year is as follows:

Period	1	2	3	4	5
PVF	**.847**	.718	**.609**	.516	**.437**

To obtain multiplying these present value 7 1 factors by the relevant net cash flows for these periods and the value of the cash flows that a project is creating sum the results.

In this illustration, it isas given below:

Year	PVF @ 18%	NCF	PV of NCF
I	.847	2000	1694
II	.718	3000	2154
III	.609	5000	3045
IV	.516	2000	1032
V	.437	1000	437
		Total	8362

Step 2: To determine NPV, compare this project's PV with the initial investment. This project's net present value is negative by Rs. 1638 Lakh. Remember:

$$\text{NPV} = I_0 + \sum_{t=1}^{n} \frac{NCFt}{(1+r)^t}$$

$$= 10{,}000 - 8362 = \text{Rs.}1638$$

The rule of thumb The process of evaluating and selecting projects using net present value (NPV) involves identifying those with a positive NPV and determining which project, out of two or more, has the highest net present value. Therefore, funding for this project should not be authorized based on the examination of the provided facts.

Internal Rate of Return

The reasoning of the internal rate of return (IRR) approach is pretty similar to that of NPV. With the project's net cash flows, we must compute the implicit or internal rate of return using this method and compare it to either the needed WACC stands for weighted average cost of capital. Investment in the project will only be permitted if the IRR is higher than the needed rate of return or the WACC. Let's talk about and show IRR in brief.

The internal rate of return is the rate of discount at which the initial investment and the present value of the projected stream of net cash flows over the project's economic life are equal. In symbol terms, IRR denotes

$$I_0 = \sum_{t=1}^{n} \frac{NCFt}{(1+r)^t}$$

The meaning of the symbols used above is the same as that of the NPV formula. Therefore, as previously mentioned, in order to determine the IRR for our example project, we must solve for:

$$10000 = \frac{2000}{(1+\text{r})^1} + \frac{3000}{(1+\text{r})} + \frac{5000}{(1+\text{r})^3} + \frac{2000}{(1+\text{r})^4} + \frac{1000}{(1+\text{r})^5}$$

It simply implies that we must determine the amount that r. That represents the project's internal rate of return. It is easy to understand that determining IRR is a procedure that requires repetition. With the use of a computer, the "Excel" program, this operation is quite simple to complete. If we don't have access to a computer, we may still calculate IRR using present value tables, which we previously used to calculate NPV. We may attempt this using r, randomly selected. Let's say we decide on r = 18%. Will it be equivalent to Rs. 10000 Lakh in terms of the present value of the projected net one-time cash flows for the project? As can be shown from NPV estimations at 18%, the project's present value of net cash flows

is equal to Rs. 8362 Lakhs rather than Rs. I0000 Lakhs. As a result, the IRR for this project is not 18%. That suggests that we should give it another go. However, before attempting again with a new r, we must ascertain whether it will be more or less than 18%. The inverse relationship between r and present value (PV) in the IRR formula could be useful in this case. This suggests that if r is higher, PV will be lower and vice versa. Now that we have a lower r than 18%, we ought to attempt it to increase PV derived from Rs..8362 Lakhs to up to Rs. ten thousand lakhs. if we attempt 15%. The present value of the project's future net cash flow stream is Rs. 8939 Lakhs. Again, this is not equal to ten thousand rupees. Therefore, the internal rate of return for this project is not 15%.

Year	PVF @ 15%	NCF (Rs in Lakhs)	PV (Rs in Lakhs)
	.870	2000	1740
II	.756	3000	2268
III	.658	5000	3290
IV	.572	2000	1134
V	.497	1000	497
		Total	8939

Now, try 10%

Year	PVF @ 15%	NCF (Rs in Lakhs)	PV (Rs in Lakhs)
I	.909	2000	1818
II	.826	3000	2478
III	.751	5000	3755
IV	.683	2000	1366
V	.621	1000	621
		Total	9038

10% is not IRR for this project, and now try 5%

Year	PVF @ 15%	NCF (Rs in Lakhs)	PV (Rs in Lakhs)
I	.952	2000	1904
II	.907	3000	2721
III	.864	5000	4320
IV	.823	2000	1646

V	.784	1000	784
		Total	11375

5% is also not IRR of the project. However, there's definitely no reason to test a different rate. Since Rs. 10,000 crore is between Rs. 9038 lakh, the PV at 10%, and Rs. 11375 lakh at 5%, we now know that the IRR will be between 10% and 5%. We can use the following formula to get the IRR:

IRR = L + $\frac{NPV_L}{NPV_L+NPV_H}$ (H-L), where

NPV_L = Net Present Value at the lower rate i.e. PV @ 5% - lo

NPV_H = Net Present Value at the higher rate i.e.. PV @ 10% - lo

H = Higher rate of PV tried

L = Lower rate of PV tried

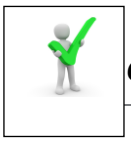
Thus,

IRR = 5 + $\frac{(11375-10000)}{(11375-10000)+(9038-10000)}$ (10-5)

= 5 + $\frac{(1375)}{(1375)+(-962)}$ (5)

= 7.94% approx

Thus, approximately 7.94% is the IRR of this project



Check Your Progress-A

1. The rate of discount at which NPV equals 0 is referred to as IRR. Do you concur? Give justifications.

Selection between NPV and IRR

Even though both NPV and IRR use the same logic—namely, to account for time value of money—managers typically favour IRR over NPV due to its perceived appeal as an objective rate of return expressed as a percentage. In contrast to IRR, which assumes various reinvestment rates equal to each competing project's individual IRR, NPV assumes a uniform

reinvestment rate equal to the rate of discount for competing projects. This makes NPV technically superior than IRR.

Project Appraisal under Risk and Uncertainty

Uncertainty and risk have an impact project appraisal, which is something we overlooked in our previous talk. A variable outcome deviates from the most predicted outcome in the presence of uncertainty and danger. From our earlier discussion of NPV/IRR, it is clear that three data points are essential to the entire computation. They are as follows. net cash flows (i.e., the difference between the initial outlay (lo) and the inflows and outflows of cash over the project's economic life), and the cost of capital, or discount rate.

We have used deterministic figures for each of the three sets of data in each of our illustrations. The initiatives are unquestionably non-deterministic. They are heuristic, probabilistic, uncertain, and risky. As a result, every project assessment should take risk and uncertainty into account. For managing risk and uncertainty in project evaluation, probability analysis and one sensitivity analysis are the two most widely used techniques. To enhance the estimation of net cash flows, probability analysis entails adding probabilities to estimates of cash influx and outflow across the project's economic life.What if analysis is essentially used in sensitivity analysis to predict what might happen in certain circumstances. Ad hoc increases in necessary rates of return or discount rates for various project types—namely, expansion, related and unrelated diversification, modernization or refurbishment, and so on—are also rather typical. In the end, The optimal method for managing risk and uncertainty in project assessment is determined by the value at risk and the degree of system sophistication obtained.

17.6 ISSUES IN INTERNATIONAL PROJECT APPRAISAL

International project appraisal has many more difficulties than domestic project appraisal. The following variables are specific to international project appraisal:

a. The host nation may impose certain limitations on the cash flows from foreign projects.

b. Blocking funds can be fully or partially released to promote early investment in the host country.

c. Cash flows from overseas projects must be changed into the parent company's currency. d. Cash flows from overseas projects may replace exports to the host country that generate income.

e. Profits from initiatives undertaken in other countries may be subject to taxes in both the parent and the host countries.

f. International ventures may be more profitable if the host country offers concessionary finance agreements and other benefits.

g. The corporate strategy of growth and increasing market share to outpace competitors may benefit from foreign investment.

h. The parent company's stockholders may gain from international investment concerning variety.

i. Terminal value estimation is more difficult than it is for domestic projects. It's possible that potential purchasers in the host nation or from elsewhere will place a different value on the facilities than the parent company does. other countries place on them.

Noteworthy is the fact that the net present value (NPV) method of project appraisal is equally relevant to domestic and foreign project appraisals. But given the particular complications as mentioned earlier, International project appraisal is demonstrated to be more appropriate for the Adjusted Present Value (APV) technique.

17.7 ADJUSTED PRESENT VALUE TECHNIQUE

Essentially, Because distinct cash flow components can be discounted independently, the Adjusted Present Value approach provides the flexibility required to allow a wide range of project features and variables to impact the outcome. This16 approach additionally permits the application of different discount rates for the different elements of the total cash flow, contingent on the degree of certainty regarding each segment's future realization.

Furthermore, before taking into consideration all the complexity, Using the APV paradigm, the capital budgeting analysis may evaluate the foreign project's profitability. In the event that the project is approved, no further evaluation based on different cash flow accounting will be necessary. In the event that it does not meet the acceptance requirements, an additional part is added and the evaluation process is repeated.

For instance, the analysis could be done using contractual cash flows that are remittable to the parent company in line with the host country's existing foreign currency legislation. In order to ascertain whether or not the project helps pass the hurdle rate, another cash flow component—such as the cash flow that the firm can unblock using the transfer pricing mechanism—will be included if the project fails to cross the hurdle rate. Concessional finance, subsidized loans, and cash flow from tax savings are examples of other components that can be included. This approach is then utilized to illustrate via a case study. Let's now examine each component of the APV separately method.

1. Initial Investment

The project cost, which is expressed in Indian Rupees (INR), includes any local loans for working capital as well as the cash and other assets that the parent company—an Indian company—contributes to the project. The remaining portion of the investment must be paid at the spot rate in Indian Rupees (INR). Should the overseas project unblock money that the

parent ownership in the nation where the project is being carried out, the face value of any blocked funds that are activated by the project will be regarded as a reduction (assuming that these funds have no opportunity cost) of initial investment. This component can be broken down as follows:

$-[I_o(INR)+(I_o(local) \times S_o(H/L) - UF \times S_o(H/L)]$

Where;

Io(INR) is the parent company's initial INR investment.

Initial local investment stated in local currency is denoted by Io(local).

Spot exchange rate expressed in home currency per unit of local currency at period zero (the year of the original investment) is called So(H/L).

Unblocked money denominated in local currency (UF)

2. Projects' Remittable Cash Flows

The financial flows of the project are divided into many components. The principal constituent comprises the cash flows derived from sales within the host country, subtracted by the amount of money forfeited from the previous 34 exports made by the parents to the domestic market. Included are cash flows from the new project's sales to third-country markets, less any losses on cancelled shipments to these to these markets.

Royalties and other payments that the parent and affiliate have decided upon for the use of the parent's patents and services, respectively, are also included in remittable cash flow. Interest on loans made by the parent to the affiliate is covered by the contractual payments to the parent. Stress should only be applied to the financial flows that are really remittable to the parent and are included in this section of the APV calculation. One could describe it as follows:

$$\sum_{t=1}^{n}\left[\frac{(NCF_t^*)(S_t^*(H/L)-L_t)\,[I-T]}{(1+r_1)^t}\right]+\frac{(NCF_{t2})S_t^*(H/L)}{(1+r_2)^t}$$
$$+\left[\frac{(NCF_{t3}^*)(S_t^*(H/L)-L_{t3})}{(1+r_1)^t}\right][I-T]$$

Where

Net cash flows produced by anticipated sales in the host nation during time period t is equal to NCFt*.

St* (H/L) is the home currency per unit of local currency, or the predicted exchange rate for the given period (t).

L1 is the amount of lost export revenue to the host nation in time t, represented in local currency.

T = the relevant tax rate, whichever is higher, in the home or host country. NCFt2* is the predicted cash flows for the time period t from royalties, fees, and other contractually remittable transfers.

NCFt3* is the net cash flows estimated to be produced in time period t by anticipated sales in third country markets.

St* (H/O) = anticipated exchange rate in terms of one unit of the currency of the home country in time period t.

Lt3 is the amount of lost revenue on exports to third nations during time t, stated in units of local currency. The project's cash flows from sales in the host and third country markets are discounted at a rate of one

(r1). This rate represents the discount rates that have been applied to projects with comparable risk in the home or host country.

t = life expectancy of the project, or the number of years over which cash flows are expected to materialize;

r2 = discount rate applicable to transfer of contractual payments, r, is lower than r1, because both the materialization and transfer of such flows are subject to less uncertainty than the cash flows generated.

3. The Project's Use of Subsidies and Concessions

The majority of the host nation's subsidies, incentives, and other benefits have an automatic impact on cash flows. These could include tax breaks, cheaper import charges, lower user fees, and the supply of free land for the project site—all of which are thought to minimize initial costs. Therefore, in order to incorporate these benefits into the valuation process, the APV method does not need to establish a new term. A concessionary arrangement that needs to be handled differently in the APV context is when a local financial institution gives the project a loan at a low interest rate**.** framework. This type of loan contributes one-time to the project's APV and is typically given to cover all or a portion of the working capital required for the foreign project. This contribution is computed as the difference between the face value of the loan and the total amount of repayments in terms of home currency, discounted to the present at the expected home country borrowing rate that would have been incurred had the concessionary loan not been available. One could describe this as follows:

$S_o\,(H/L)\left[CL - \sum_{i=1}^{n} \frac{LR_1}{(1+r_3)^t}\right]$

Where:

CL is the local currency face value of the concessionary loan.

Loan repayments in local currency for concessionary loans are denoted by LR1.

The home country's borrowing rate is an appropriate rate, denoted as r3 = relevant discount rate.

4. Tax Reductions and Additional Parent Transfers

Usually, the APV computation excludes this more speculative cash flow component unless the project's remittable cash flows, as well as the contribution of subsidies and other concessions, show it to be unacceptable. By using the transfer pricing mechanism, multinational corporations can transfer money to tax havens or from high-tax areas to low-tax areas, so delaying their tax obligations. The project's profitability is enhanced by the tax savings from these operations, which reduce the effective tax rate used to calculate net cash flows.

These companies can also influence transfers beyond the legally remittable cash flows due to the transfer pricing mechanism. It can also be used as a method to partially overcome any future barriers to the transfers of lawfully remittable contractual payment flows.

The potential tax savings and additional remittable income should be discounted at a significantly higher rate compared to contractually remittable income to acknowledge the increased level of risk. This concept can be articulated as follows:

$$\sum_{t=1}^{n} \frac{(S_t^* \, (H/L) \, (TS\&AT_1)}{(1 + r_4)^t}$$

where :

($TS\&AT_1$) = tax savings and additional expected transfers in period t.

r4 = appropriate discount rate for such transfers.

Terminal Value

If there isn't an existing Estimating the terminal value of an overseas project can be the most difficult part of the evaluation process if there isn't agreement with the host country's government or local private investors. In some cases, the host government requires the projects to return to it for a nominal sum following a set number of years. If

this is the case, or if management of the parent firm feels that the terminal value is to be negligible, the appraisal procedure does not require an adjustment.

In reality, international business companies see their overseas affiliates as ongoing projects, much like their domestic operations. However, taking into consideration the The terminal value may prove to be a crucial stage in the financial assessment of foreign projects, as much as it is in the assessment of domestic ones. The tricky aspect is figuring out a reasonable estimate of the terminal value based on the most realistic assumptions. The assessment may be based on the project's potential value if it is maintained as a going business or if it is liquidated and sold to local investors, there could be a very large range of probable values.

It is especially crucial to estimate a realistic terminal value for capital-intensive projects and for evaluation processes based on relatively short project life durations. Numerous approaches have been used by multinational firms to arrive at a workable approximation of the final value. One approach is to assume that net cash flows created in the terminal year won't change for a predefined period of time. At the terminal year, the annuity's present value, discounted at a rate that most likely represents local interest rates, will therefore be the terminal value.

An alternative would be to calculate the break-even terminal value. This figure is the value at which the project's Acceptance Point Value (APV) would be zero, meaning it is very nearly acceptable. The management then looks to determine if the predicted market values are likely to equal or exceed that sum at the terminal value that was calculated in this manner. If the project is able to attain a positive APV without taking the terminal value into consideration, then this adjustment would not be necessary in any scenario.

The final element The expected terminal value of the APV computation will be discounted at r1, the same rate that is applied to the cash flows from sales in the host nation, as follows:

$$\frac{(S_t^*\ (H/L)\ (TV_t^*)}{(1+r_1)^t}$$

Where;

The expected terminal value is shown by TV*.

Now, the several parts of the APV formula are combined as follows:

The APV is equal to -{Io(INR) + Io(local) x So(H/L) - UF x So(H/L)}, which represents the original expenditure less the amount of unblocked funds, plus

$$\sum_{t=1}^{n}\left\{\frac{(NCF_t^*)(S_t^*\,[H/L]-L_t)\,[I-T]}{(1+r_1)^t}\right\}+\frac{(NCF_{t2})S_t^*\,(H/L)}{(1+r_2)^t}$$
$$+\left\{\frac{(NCF_{t3}^*)(S_t^*\,(H/L)-L_{t3})}{(1+r_1)^t}\right\}[I-T]$$

that is, the present value of the project's cash flows that are remittable.

$S_o\,(H/L)\left[CL-\sum_{i=1}^{n}\frac{LR_1}{(1+r_3)^t}\right]$

that is, the present worth of concessions and subsidies, plus

$$\sum_{t=1}^{n}\frac{(S_t^*\,(H/L)\,(TS\&AT_1)}{(1+r_4)^t}$$

i.e., present value of increased transfers and tax savings made possible by the transfer pricing mechanism, plus

$$\frac{(S_t^*\,(H/L)\,(TV_t^*)}{(1+r_1)^t}$$

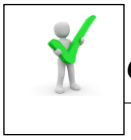
i.e., the expected terminal value less the present value of the cash flow.

The final two factors—the present value of tax savings and additional transfers made possible by the transfer pricing mechanism and the present value of cash flow from estimated terminal value—are added to the calculations if the project under evaluation fails to meet the acceptability criteria based on the first three factors—the initial investment less the value of unblocked funds, the present value of the project's remittable cash flows, and the present value of subsidies and concessions. The project is reevaluated in these circumstances using the so-called two- or multiple-stage technique, gradually incorporating the new components.

Thus, it is clear that APV is a good fit for evaluating international projects. It considers the unique traits and intricacies of multinational undertakings. The primary distinction between NPV and APV, as you may have seen, is that NPV employs a one discount rate. APV uses a variety of discount rates. Similar to APV, it is definitely more acceptable to use several rates of discount given the differences in the nature of different cash flow components (in terms of riskiness or uncertainty) in multinational projects.

17.8 BEYOND APV: REAL OPTION VALUE

Although APV is a well-known worldwide project appraisal method, it disregards the importance of the "option" components that are included in every project. Option is a term used to describe a right rather than a duty in financial 29 writing. You may be familiar with stock, currency, and interest rate options. These are many types of financial options. These options do not impose any duties, but each one grants the holder the right to buy or sell a designated asset at a specific price on or before a three-day deadline. Let's just state that actual choices are those parts of options—that is, rights without obligations—that are integrated into projects without getting into further detail regarding the 23 financial options. They are called "genuine" options" because the value of real options derives from actual projects, as opposed to financial options, which get their value from a "underlying" asset. For a minute, imagine that a multinational corporation (MNC) is considering the construction of a 600-megawatt power plant on a Build-Operate-Transfer (BOT) basis in order to quickly understand genuine option value. Either the plant can be set up right away or after two years. Following the project's timely commissioning, it would also be qualified to establish a second 300-megawatt plant.



Check Your Progress-A

Q1. What is international project appraisal?

Q2. What factors are considered in international project appraisal?

Q3. Why is risk assessment important in international project appraisal?

Q4. What financial metrics are used in international project appraisal?

Q5. What role does market analysis play in project appraisal?

Q6. How are environmental and social impacts evaluated?

Q7. What is the significance of local partnerships in international projects?

17.9 PORTFOLIO APPROACH

Let's discuss the portfolio method to international project appraisal before we round out this unit. Early in the 1950s, Harry Markowitz—the first recipient of the Nobel Prize in Economics—developed the portfolio method for investing. Harry Markowitz's seminal work suggests that investment risk can be reduced for a given level of return or raised for a given level of risk through good portfolio diversification. Combining assets with weakly possibly connected or negatively correlated assets returns was the essence of efficient diversification.

Later, empirical research from the stock and bond markets offered substantial proof of the soundness of his findings, and the portfolio approach to investing gained popularity. International project investments are made similarly to other types of investments. The only thing that separates investing in overseas projects from bond and equity investing is that the former are financial assets while the latter are actual assets. You may recall that

one of the primary motivations for foreign direct investment (FDI) is the aim to fulfill the benefits of diversification.

In addition to acting as a multinational corporations profit from country-specific diversification, which acts as a natural hedge against political and foreign exchange risks. It also reduces the total variability in cash flow, which increases the firm's overall valuation. It goes without saying that diversification through direct investment in overseas markets reduces the systematic risk the company faces, since economic cycles are likely to be in various phases. Global diversity reduces the risk of economic and financial instability since different countries have distinct economic and financial conditions and because business cycle stages in various countries are occasionally not synchronized the portfolio.

A further indication of the portfolio approach to investing is the fact that a lot of investors attempt to purchase shares of varied worldwide business firms in order to reap the rewards of international diversity. It is thought that investors can profit from the shortcomings in the product and factor markets 19 3 in order to overcome challenges and imperfections in the domestic securities market by acquiring shares of a multinational corporation corporation. We may therefore sum up our thesis by saying that when international business firms evaluate international projects, they typically see them as a portfolio of projects rather than as standalone endeavours. Put differently, when selecting foreign initiatives, they do take the benefits of variety into account.

17.10 SUMMARY

International project appraisal is a comprehensive evaluation of the financial, economic, and operational feasibility of a project that crosses national borders. It involves assessing the viability of projects in terms of market demand, financial returns, risks, and socio-political factors. Key elements of international project appraisal include:

1. Market Analysis: Evaluating the demand for products or services in the target market, including competition and growth potential.

2. Financial Evaluation: Calculating key financial metrics like Net Present Value (NPV), Internal Rate of Return (IRR), and payback period to assess profitability.

3. Risk Assessment: Identifying risks such as political instability, currency fluctuations, and regulatory hurdles in the host country, and developing strategies to mitigate these risks.

4. Environmental and Social Impact: Evaluating the project's alignment with sustainability goals and its potential social benefits, such as job creation and infrastructure improvements.

5. Technological and Operational Feasibility: Assessing the technical readiness of the project, its innovative components, and the capacity for successful implementation.

6. Partnerships and Collaboration: Leveraging local partnerships and international financing to reduce risks and ensure smooth project execution.

The goal of international project appraisal is to ensure that the project is both financially sound and strategically beneficial, while also considering its broader social and environmental impact.

17.11 GLOSSARY

Net Present Value (NPV): A financial metric that calculates the present value of all future cash flows of a project, discounted to the present. It indicates whether the project will generate more value than its cost.

Internal Rate of Return (IRR): The discount rate at which the net present value of a project is zero. It is used to evaluate the profitability of an investment.

Payback Period: The amount of time it takes for an investment to generate cash flows sufficient to recover the initial cost of the project.

Market Analysis: The assessment of market conditions, competition, demand, and growth potential in the target country, crucial for determining the project's success.

Risk Assessment: The process of identifying, evaluating, and mitigating potential risks (political, financial, legal) associated with international projects.

Political Risk: The risk of losses due to political instability, changes in government policy, or expropriation in the host country.

Currency Fluctuation (Exchange Rate Risk): The risk that changes in foreign exchange rates will affect the profitability of the project, especially when revenues are earned in a foreign currency.

Regulatory Environment: The legal and regulatory framework of the host country, including rules on taxation, labor, and environmental standards, which affect the project's operation.

Financial Feasibility: An analysis of whether the project is financially viable, focusing on profitability, cash flow projections, and funding requirements.

Environmental Impact: The assessment of how a project affects the natural environment, including factors like carbon emissions, resource use, and waste management.

Social Responsibility: The consideration of how the project benefits or affects local communities, including job creation, education, and infrastructure improvements.

Hedging Strategies: Financial techniques used to protect the project from exchange rate risks or other financial uncertainties, such as forward contracts or options.

Technological Feasibility: The evaluation of whether the technology required for the project is available, reliable, and suitable for the host country's conditions.

Foreign Direct Investment (FDI): Investment made by a company or individual in one country into business interests in another country, often used for international project funding.

Cross-border Partnerships: Collaborations between foreign investors and local firms, crucial for gaining market insights and navigating regulatory and operational challenges.

Sustainability: The project's ability to meet current needs without compromising the ability of future generations to meet their own needs, focusing on long-term environmental and social impacts.

Cultural Differences: Differences in business practices, social norms, and cultural expectations that can affect project operations and partnerships in the host country.

Project Viability: The overall potential for the project to succeed based on financial, market, and risk analyses.

International Funding: The financial resources obtained from international investors, banks, or development agencies to fund large-scale international projects.

Exchange Rate Risk: The uncertainty of changes in the value of a country's currency, which can affect international project costs and profits when conducting cross-border transactions.

17.12 SUGGESTED READINGS

1. International Finance: Theory and Policy by Marc Melitz, Maurice Obstfeld, and Paul Krugman
2. International Finance and Open-Economy Macroeconomics by Giancarlo Gandolfo
3. Multinational Business Finance by Arthur I. Stonehill, David K. Eiteman, and Michael H Moffett
4. International Economics: Theory and Policy (10th Edition) (Pearson Series in Economics) 10th Edition by Paul R. Krugman , Maurice Obstfeld , Marc Melitz
5. International Economics: Trade and Finance, 11ed, ISV (WSE) by Dominick Salvatore

17.13 TERMINAL QUESTIONS

1. How can companies use NPV and IRR to evaluate the long-term viability of an international project?

2. What strategies can a firm adopt to reduce the risks associated with exchange rate fluctuations in international projects?

3. How would you assess the potential market for a renewable energy project in a developing country?

4. What are the pros and cons of relying on Foreign Direct Investment (FDI) for financing international projects?

5. How can companies balance profitability with corporate social responsibility in international projects?

6. What are the challenges in conducting environmental impact assessments in international projects, and how can they be overcome?

7. How can the cultural differences in the host country affect the success of an international project, and what measures should be taken to address them?

8. What role do government incentives play in making international projects more attractive to foreign investors?

9. How can international project appraisals account for rapidly changing technological advancements?

10. What would be your approach to evaluating the sustainability of an international infrastructure project in a politically unstable region?

11. What are the primary financial metrics used in international project appraisal, and how do they influence investment decisions?

12. Explain the role of political risk in international project appraisal and how companies mitigate it.

13. How does currency fluctuation affect the profitability of international projects?

14. What are the key factors to consider when analyzing the market demand for a project in a foreign country?

15.Discuss the significance of social and environmental impact assessments in the context of international projects.

16. Why is it important to form local partnerships when conducting international projects?

17. How do regulatory environments influence the success or failure of international projects?

18. What methods can be used to assess the technological feasibility of a project in a foreign market?

19. In what ways can international project appraisal be used to support sustainable development goals?

20. Describe the importance of a thorough risk assessment process when planning international projects.

17.14 CASE STUDY

Background

International New Technology Limited (INTL) is a global tech company specializing in developing cutting-edge technology products. In recent years, INTL has been evaluating expansion into new markets through international projects that leverage their expertise in artificial intelligence, blockchain, and renewable energy solutions. One such project is a joint venture in a developing country, where INTL intends to introduce a new solar energy solution. This project will serve both as a business expansion and as a corporate social responsibility initiative aimed at increasing access to renewable energy.

Project Overview

INTL's solar energy project involves the installation of solar panels in remote areas of a developing country. The objective is to supply reliable and affordable energy to underserved communities, while also creating a sustainable business model that can scale across multiple countries. The project requires a significant capital investment of $50 million, with an expected payback period of 7 years. INTL is partnering with local firms and international investors to share the financial risk.

Key Project Appraisal Considerations

1. Market and Demand Analysis:

Target Market: Remote communities in the country that lack access to the national grid.

Demand Forecasting: The demand for solar power is expected to grow at 10% per annum, driven by government incentives for renewable energy and increasing electricity demand in rural areas.

Competition: While there are local competitors in the energy sector, none have advanced solar solutions comparable to INTL's technology.

2. Financial Evaluation:

Cost Structure: The project requires an initial outlay of $50 million, with operational costs of $2 million per year.

Revenue Projections: Projected revenues start at $10 million annually, growing by 5% per year due to increasing adoption of solar power in the region.

NPV and IRR Calculations: INTL projects an internal rate of return (IRR) of 12%, with a net present value (NPV) of $8 million, assuming a discount rate of 10%.

3. Country and Political Risk:

Political Stability: The host country is politically stable, but changes in government could affect energy policies and tax incentives.

Currency Risk: As revenues will be earned in the local currency, there is an exposure to exchange rate fluctuations. INTL plans to hedge this risk using forward contracts.

Regulatory Environment: The government has a favorable stance toward renewable energy, offering tax incentives and grants. However, the regulatory process can be slow and cumbersome, posing potential delays in approvals.

4. Environmental and Social Impact:

Sustainability: The project aligns with global trends towards sustainability and clean energy. INTL plans to minimize environmental impacts by sourcing materials from eco-friendly suppliers.

Social Responsibility: By providing clean energy to rural communities, the project is expected to improve living conditions, create jobs, and reduce reliance on fossil fuels. INTL also plans to implement training programs to upskill the local workforce in solar panel installation and maintenance.

5. Technological Risk:

Innovation and Reliability: INTL's solar technology is relatively new, and while it has been tested in controlled environments, there is a risk of underperformance in the field. To mitigate this risk, the company has partnered with local technical teams to monitor and maintain the equipment.

6. Partnerships and Collaboration:

Local Partnerships: INTL has formed strategic partnerships with local contractors for construction and installation, ensuring local market knowledge and cost efficiency.

International Investors: To reduce capital risk, INTL is working with international development funds and private equity investors that focus on sustainable projects.

Conclusion

The solar energy project by International New Technology Limited presents a promising opportunity to expand into a new market while aligning with the global trend of renewable energy. Despite certain risks, such as currency fluctuations and political changes, the project's strong financial returns, positive social impact, and environmental sustainability make it a viable investment for the company. With appropriate risk mitigation strategies in place, INTL's venture into the solar energy sector can serve as a successful model for future international projects.

Recommendations:

Risk Management: INTL should continue to monitor exchange rate movements and implement hedging strategies to protect against currency risk.

Government Relations: It's essential for INTL to maintain strong relationships with local government officials to ensure that regulatory processes are smooth and incentives remain available.

Project Scaling: Based on the success of the initial project, INTL should explore expanding the solar energy initiative to other regions or countries with similar needs.

This case study demonstrates the critical importance of comprehensive project appraisal in international ventures, particularly in industries like renewable energy where both financial and non-financial factors must be weighed carefully.

UNIT 18 FINANCING INTERNATIONAL TRADE

18.1 INTRODUCTION

Over the years international trade of the nations has increased considerably it is due to the fact that there is rapid globalization of businesses. International trade has also grown over the years across nations due to better finance facilities however financing of international trade is not as easy as compared to financing domestic trade by financial institutions. Financing of International trade involves numerous difficulties like;

- The exporter might have a doubt whether the importer will be able to make payment or not.
- Even if the exporter is convinced with the creditworthiness of the importer , then also government might implement such policies and rules which may create difficulties in making payment to the exporter.
- Thirdly, importer might have a doubt on the intention of the exporter with respect to delivery of goods which he has ordered.
- Even if importer is convinced with the delivery of goods, the time and distance involved in international trade may cause delay in the timely availability of the goods ordered.

Therefore, financial manager should decide and develop such methods of financing international trade so that they can carry export and import activities in such a manner that helps in maximizing the benefits of International trade available for the organization.

18.2 OBJECTIVE OF THE UNIT

Following are the major objectives of this unit;

- The utmost objective of this unit is to explain in detail various methods of financing International trade.
- To elaborate upon the various methods of payment adopted by traders in International trade.
- To deliberate upon various specialized bodies operating for smooth functioning of International trade like financing and insurance etc.

18.3 PAYMENT METHODS FOR INTERNATIONAL TRADE

In any international trade related activity, seller or the exporter provide credit facility or by the buyer or importer also, not only this financial institutions also support in financing trade activities. The supplier may have enough cash balance to finance the entire trade cycle that is starting from the production activities till final payment made by the buyer of the goods. This is known as supplier credit. Exporter may also require banking institutions to finance its cash flow. If in some situation exporter may lack in providing financial aid then buyer will have to finance the entire transaction himself either internally or externally , through its bank also. This shows that banks plays a vital role in financing trade.

Five basic methods of payment involves in international trade which help in settling international transactions are as follows and it also involves different level of risks to the exporter and importer.

18.3.1 Prepayment
18.3.2 Letter of credit
18.3.3 Drafts (sight/time)
18.3.4 Consignment
18.3.5 Open account

18.3.1 Prepayment:

Under this method of payment, the goods will not be deliver by the exporter unless the buyer has made payment to the exporter. Mode of making international payment can be in the form of internet based transfer to the exporter's bank account or foreign bank draft. With the advancement of technology electronic commerce has made possible for firms to engaged in international trade in order to settle their online credit and debit transactions with the help of an intermediary bank which is playing the role of a mediator. This method involves highest degree of

protection to the suppliers and for the first time it is being favored by the those buyers whose financial status is unknown or whose countries lack in financial resources. However, in actual practice most of the buyers hesitate in prepayment keeping in mind the risks involved in advance payment.

18.3.2 Letter of credit

It is considered to be an instrument which is being issued by a bank on behalf of the buyer (importer) to the exporter. It is a kind of promissory note.

It is a promise made by the buyer (importer) to the seller (exporter) that when he/she presents the shipping documents in according to the terms and conditions mentioned in the trade contract the payment will be made to him/her.

It gives certain advantages to both the parties that is to say both buyers and sellers get certain benefits with this method of payment. The bank assured the exporter that he will get the payment as long as he gives all the required documents according to the letter of credit and terms of trade. In this banks are under obligation to make payment on behalf of the importer. Importer can also be in a comfortable position since he/she is not required to make payment in advance.

18.3.3 Drafts:

It is also known as bills of exchange. It is an unconditional promise made by one party , generally made by exporter only, where he gives order to the importer to make payment (face value of the draft) upon presentation .

It can also be defined as a kind of demand made by exporter to his importer for making payment of the amount required. It is not as protective in nature as compared to letter of credit (L/C) because in this banks are not under obligation to make payment on behalf of the buyer which was normally the case in case of letter of credit (L/C).

Most of the trade transactions that are carried on the basis of a draft are required to pass through banking channels. In banking terms it is also known as documentary collections, where banks plays a vital role and acts as an intermediary in the process of shipping documents and also for the collection of payment and settlement from the parties involved in the trade.

If suppose shipment is made by sight draft , the exporter will be paid only when shipment will made and the draft will be presented to the buyer for the payment. The shipping documents will not be released by the bank to the buyer unless the buyer has paid the draft. This method of payment is also known as documents against acceptance in the trading parlance as under this method b accepting the draft the buyer is accepting to pay the exporter at a specified future date. It acts as a protective shield for the exporter because banks will release the shipping documents only when it receives the related instructions from the exporter. However, under this method the exporter is bearing a greater risk as he/she is depending upon the financial ability of the

buyer to pay off the debt on the specified date thus this type of financing in International trade is referred as exporter based financing. Though, deciding to supply goods on the credit of a draft offers some comfort to the exporter in the sense that not two parties in the trade are involved but two financial institutions (banks) also get involved with the inclusion of draft, one which issues the draft and the other in which the draft is presented for payment. The only risk is if the importer fails to pay the draft at the time of maturity then the bank would not be under any sort of legal obligation to pay to the exporter on behalf of the draft presented.

18.3.4 Consignment

It is an arrangement in which goods are handed over to another party to sell out however the ownership of the goods remains with the exporter. The importer uses the goods on behalf of the exporter and is only liable to make payments once the goods are sold and the payments are received by the importer. In the method it is the exporter who is completely relying on the importer to use goods on his behalf and then deposit the necessary payment in the accounts of the exporter for all these activities the importer is assured of a fixed margin however if the importer fails the exporter has limited recourse.

Variety of products are dealt under consignment and they are as follows -

1 Artwork

2 Clothing

3 Accessories

4 Books

Due to the fact that this method of export financing is having limited recourse (highly risky) it is not used very frequently in actual practice and such method is more popular amongst companies which are subsidiary or are under contractual relationship.

18.3.5 Open Account

In this method exporter deliver the goods to the importer with the expectation of receiving payment from the importer according to the agreed terms and conditions.

In this method exporter totally depend upon the importer's financial conditions and his reputation. This method can be taken as a method which is just the opposite of the method of prepayment. In spite of the risk involved this method is used widely in International trade particularly amongst exporters and importers who share strong mutual trust and who are in constant trading relationships over a period of time. This method of trading is quite popular amongst the exporters and importers of European countries.

18.4 TRADE FINANCING METHODS

From the above discussion we can conclude that banks plays a vital role in financing international trade and thus helps both the parties to carry out their transactions smoothly and successfully. Following are some more methods of financing international trade which are being used commonly by traders in case of International trade:

18.4.1 Factoring
18.4.2 Accounts receivable financing
18.4.3 Letters of credit
18.4.4 Bankers acceptance
18.4.5 Working capital financing
18.4.6 Medium-term capital goods financing
18.4.7 Countertrade

18.4.1 Factoring

Many a times exporter deliver the goods before he receives the payment of goods from the importer, this increases the balance of bills/accounts receivable. The exporter himself finances such transactions and monitor the collections of receivables. Due to some reason if buyer delays the payment or does not make payment at all it will create problem for the exporter, therefore exporting firms decides to sell out the accounts receivable to a third party, this third party is known as factor. In this type of financing account receivables are being sold without any recourse by the exporter to the factor. Under this method of financing the factor fulfills all the administrative responsibilities which are involved in the process of collection of money from the importer and the associated credit exposure. Before purchasing the receivables, the factor himself performs its own credit approval process on the foreign buyer in order to check the credit worthiness of the importer, therefore he undertakes the sole risk of default. Since the factor is undertaking the entire risk of bad debts or failure of payment on the part of importer, plus the additional services that he renders for checking the credit worthiness of the buyer therefore he charges a special fee in the form of a commission on the face value of the account receivables which is referred to as the discount, this becomes the profit of the factor when he realizes payment from the buyer. For example; if the face value of the bill is INR 1000 and the discount is INR 200, then only INR 800 is paid to the exporter by the factor while at the time recovering payment from the importer the factor receives INR 1000 therefore this discount of INR 200 now becomes the profit for the factor.

It provides various advantages to the exporter and they are as follows :

- By selling the account receivables, exporter is free from any kind of accounting responsibility which involves maintaining and monitoring accounts receivable ledger.

- Factor helps in evaluating the credit worthiness of the buyer, therefore exporter is not required to appoint staff in order to check the financial position of the foreign buyer, thus further expenses of the exporter is minimized.
- This method is also beneficial for the exporter as it is helpful in immediate realization of cash from the factor and thus it saves the exporter from the burden of additional working capital requirement and facing liquidity bottle necks.

  Since in case of International business long distances are involved therefore at times a network of factoring organizations are involved who have sufficient information about exporter and importer.

18.4.2 Accounts receivable financing

In some of the cases it is found that exporter himself is willing to deliver the goods to the importer without getting any assurance of receiving payment from bank of the importer on delivering the goods, it happens when the exporter is having a long term trading relation with the importer and is quite satisfied with the credit worthiness of the importer. This can be called as an open account shipment.

Before delivering the goods to the importer , exporter himself checks the financial position of the importer and if he founds the financial position in a stable condition he will grant credit to the importer.

In case of some contingencies if the exporter needs fund within a short period of time or immediately he may visit the bank for financial help. This process is known as accounts receivable financing. In this method the bank will grant secured loan to the exporter by an assignment of the account receivable. The bank will give credit keeping in mind the exporter's financial position. Meanwhile, if the buyer fails to give payment to the exporter for any reason, then also the exporter is responsible for repaying the money to the bank as it is used to the exporter and not to the importer. As there are many risks involved in such type of financing methods chosen by banks such as long distances, changing government policies, taxation rules and exchange rate fluctuations therefore the rate of interest charged by banks on such financing is quite high and such loans are also issued for generally a short time period.

18.4.3 Letters of credit (L/C)

It is one of the oldest form of financing method for International trade. As it gives various benefits and protection to both the parties i.e exporter and importer therefore it is considered as an important aspect of many international trade transactions.

It is considered to be an instrument which is being issued by a bank on behalf of the buyer.

It is a promise made by buyer's bank (importer) to the exporter that when he presents a shipping documents in accordance to the terms and conditions mentioned in trade and letter of credit his claim will be honored.

It gives certain advantages to both the parties that is to say both buyers and sellers get certain benefits with this method of payment. The bank assures the exporter that he will get the payment as long as he gives all the required documents according to the letter of credit. In this banks are under obligation to make payment on behalf of the importer. Two banks are involved in this process- exporter's bank as well as importer's bank.

Sometimes it happens that exporters are not relying upon the promises made by the issuing bank due to its location in a foreign county. Even if the issuing bank is famous all over the world then also exporter is worried about the payment made by the issuing bank due to the restrictions or political control imposed by the ruling government and its policies. In order to avoid the above problem, the exporter approaches a local bank and request them to confirm letter of credit and ask them for an assurance that all the responsibilities will be taken care of by the issuing bank . The confirming bank is under obligation to honor drawings which is made by the beneficiary according to the terms of the letter of credit and it (confirming bank) has nothing to do whether issuing bank is financial able to make the payment or not on the due date.

Types of letter of credit:

Letter of credit which are related to international trade related activities are known as commercial letters of credit or import/ export letters of credit. There are two types of letters of credit and they are as follows :

- **Revocable letter of credit**
- **Irrevocable letter of credit**

- **Revocable letter of credit:**

This type of letter of credit can be cancelled at any time before giving any information to the beneficiary of the same though it is not very commonly used in actual practice.

- **Irrevocable letter of credit:**

This type of letter of credit cannot be cancelled without taking the permission or consent of the beneficiary of the same. Those banks which issues the letter of credit to their clients are known as **issuing bank.**

The issuing bank sends letters of credit to the bank which is situated in beneficiary's country (exporter) is called **advising bank.** This kind of credit makes the issuing bank under obligation to honor all drawings presented in accordance with the terms and conditions of letters of credit.

The bank which issue letters of credit will make payment only when they submit all the required documents according to the terms and condition of credit. Importer is required to repay the amount along with the additional fees chargeable to obtain the letters of credit.

- **Draft:**

It is considered to be an unconditional promise drawn by exporter usually it is drawn by one party. Importer is being requested by the exporter to pay the face amount of the draft at a specified future date.

If the draft is drawn at sight then , after presenting all the required documents only it will be payable. Draft is also known as trade acceptance when it is payable at a future date and is being accepted by the importer himself. If draft is presented under the provision of letter of credit it means that exporter is asking for the payment. The time period of most time drafts ranges from 30 to 180 days. The draft is also known as bills of exchange.

- **Bill of Lading:**

It is considered to be a important document in international shipment under letter of credit. It acts as a receipt for shipment and a detail of freight expenses. The most important part of bill of lading is that it transfers title of the merchandise to the buyer (importer).

If goods are being deliver by sea route then the carrier will issue a note or bill which is known as **ocean bill of lading** and if goods are being delivered by air route then the bill which is being issued by the carrier is known as **airway bill**. These documents will be presented to the exporter by the carrier and exporter will present these documents in addition with other required documents to the bank .

The most important feature of bill of lading is that it can be used as a negotiable instrument. It has all the terms and conditions of the contract of carriage. This can also be used as an evidence for insurance purpose. It is said to be a transferable document which can be easily transferred by endorsement or by with the help of law. It possess the following provisions and they are as follows :

- A detail information of the goods
- Marks to identify the goods
- Evidence of loading of goods on the carrier
- Name of the exporter (seller)

- Name of the importer (buyer)
- Information related to freight charges (prepaid or collect)
- Date of shipment

- **Commercial invoice:**

In this document the exporter sends all the details of his goods which are being sold to the importer , it is known as commercial invoice. This contains following details and they are as follows:

- Name and address of the seller (exporter)
- Name and address of the buyer (importer)
- Date of shipment
- Mode of payment & other important requirements
- Details relating to price which includes- freight, handling charges, and insurance charges if required as per terms of trade
- Details relating to quantity, weight, and packaging etc.
- Information relating to shipping & delivery of goods.

Under letter of credit shipment, the details relating to the goods mentioned in the invoice should match with the details mentioned in the letter of credit. The information should exactly be same in both the documents.

- **Types of letter of credit:**

There are many types of letter of credit which are used in financing international trade. They are very useful in financing international trade and help to reduce obstacles in financing the trade.

A **standby letter of credit** is used to gives guarantee to the supplier for invoice payments. It is a promise to pay the person (exporter), if in case buyer fails to give payment to him or her, in such a case the payment will be made by the financial institution issuing the letter of credit. For carrying out international activities standby letter of credit are used with government related contracts.

In both international and domestic trade the seller will deliver the goods to the buyer on terms and conditions being provide by the standard open account , till standby letter of credit for a specified amount and terms is being provided by the buyer. If due to some contingencies buyers fails to make payment to the exporter, in this case exporter can approach to the bank for the payment with all the

required documents and request the bank to make payment. But buyer's bank give guarantee to the seller that buyer will make payment to the seller.

A **transferable letter of credit** is a variation of the standard commercial letter of credit , it permit the original holder or beneficiary to transfer all or part of letter of credit to the third party (broker/agent). The third party will be entitled for the same right and protection as given to the original holder.

Brokers/Agents, who are not the actual suppliers use this type of letter of credit.

For example, In certain transactions the importer takes helps of a broker in order to locate a preferable supplier (exporter) in such cases the broker is the party interacting with the exporter therefore it becomes mandatory for the importer to issue a letter of credit to the broker who can present it to the exporter such letter of credit is called transferrable letter of credit.

Another type of letter of credit is **assignment of proceeds.** It is a document which transfers all or part of the rights from a letter of credit to a third party known as beneficiary. The bank assures or promises the third party to make payment according to the assignment instructions to him or her when he presents all the required documents according to the terms and conditions of the letter of credit. This will be valid till the beneficiary presents all the required documents according to the terms and conditions of the letter of credit. The issuing bank is not obligated to make payment to the third party if supplier or original holder does not deliver the goods or fails to follow the terms mentioned in the letter of credit.

18.4.4 Bankers Acceptance:

Earlier it is also known as bill of exchange or time draft which is drawn on and accepted by a bank. The accepting bank is under obligation to make payment to the holder of the draft at maturity.

The first step involved in generating a bankers acceptance is that- importers give order of the merchandise to the exporter of the goods, then the importer approaches the issuing bank and request them to issue letter of credit on his behalf. The letter of credit permits the exporter to draw a bill for making the payment of the goods which are being exported. The exporter will give the bill along with other necessary documents to his bank and then exporter's bank presents the bill and the supporting documents to the importer's bank. After analyzing all the required documents & bill importer's bank accepts draft and this process is termed as banker's acceptance. In case due to any reason exporter is under immediate cash requirement then he also has the option of selling the banker's acceptance in money market and then this instrument may be used by the purchaser at the money market to recover cash at the time of maturity.

18.4.5 Working Capital Financing:

Under this method of financing the activities of importer may be financed by the bank as financing for working capital requirements. Under such finance, the funds are made available to the importer by the bank right from the time of purchase of inventory and are required to be repaid at the time of completion of business cycle i.e when the raw-materials are converted into finished goods and sales proceeds are recovered from the market.

18.4.6 Medium- Term Capital Goods Financing (Forfaiting):

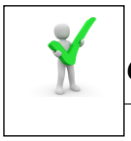
An importer may not be in a position to make payment for the goods within a short span of time as capital goods are very expensive in nature thus a longer period of time is required for financing of trade in case of capital goods. In such case exporter might help the importer in financing but he might not be willing to do so because it may involve a very long period of time. In such situations forfaiting can be used by the importer.

Forfaiting refers to a process where bills of exchange or promissory notes are being purchased without recourse to the original holder usually the exporter. In such transactions the importer issues a promissory note to the exporter who at the time need sells these promissory notes before the maturity date to the forfaiting bank at a discount which in turn present it to the importer at the time of maturity.

18.4.7 Counter trade:

It means all types of foreign trade in which goods are sold to one country which is connected to the purchase or exchange of goods from same country thus it represents a kind of barter trade.

Barter is a type of trade which was in practice in ancient times. However, since the world is becoming a global economy day by day, the countries are dependent upon one another for some product or other this again led to the requirement of counter trade. The best part of this type of international trade is it do not involve any medium of exchange and hence there is no financing requirement on the contrary a merchandise serves the purpose as payment.



Check Your Progress-A

Short Answer Questions:

1. **What is Prepayment?**

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2. **What is called as Consignment?**

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3. **What are the two types of Letter of Credit?**

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4. **Explain EXIM as an export financing institution.**

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5. **What is counter trade?**

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6. **What is Bill of Lading?**

18.5 AGENCIES THAT MOTIVATE INTERNATIONAL TRADE IN INDIA

In India there are various bodies which facilitate International trade these organizations include government bodies, public sector organizations and financial institutions. Together these bodies help in conduct of trade by framing necessary guidelines and ensuring proper environment for trading. Some of these organizations are as follows;

18.5.1 Department of Commerce:

Department of Commerce is the main body responsible for promotion of industries and trading in India. It is responsible for ensuring better relationship for foreign countries in order to enhance trade relations with other nations. It is also engaged in drafting of such policies which boost international trade of the nation.

18.5.2 Export Promotion Council:

Export promotion council are non-profit organizations working on the financial assistance of the central government. They are formed basically for promotion of export of specific commodities from India. Presently there are 21 Export promotion Councils operating in India. One of the task of these councils is to build a global image of India as a exporting nation which can be trusted for the supply of various quality products.

18.5.3 Indian Institute of Foreign Trade (IIFT):

IIFT was established by government of India in the year 1963 as an organization with the sole objective of making international trade more professional in India in order to match international standards. This institute apart from framing policies and guidelines for international trade is basically dedicated for training and developing quality professionals who can contribute efficiently in the conduct of international trade in India as professionals.

18.5.4 Export Credit Guarantee Organization:

As the international trade involves long distances and different political and legal background of the participating countries therefore it becomes quite essential that the payment to be received are safeguarded or protected by certain institutional support. Hence, this requirement leads to the establishment of Export Credit Guarantee Organization in India with the basic intention of protecting the exporters of the nation from the risk of default on the part of importers. One more objective of establishment of this organization is therefore expansion of exports from the country.

18.5.5 Export-Import Bank of India (EXIM):

Export-Import Bank of India was established under a special act of the parliament in the year 1981. Its basic objective is to promote international trade. It acts as the major financial institution in the field of international trade and it works for coordinating and collaborating the efforts of various financial institutions engaged in the task of trade finance.

18.6 SUMMARY

International trade between countries is expanding day by day due to globalization of the world economy. International trade offers a good chance to the seller in terms of market expansion but it also comes with several challenges and one of them is the risk of default in terms of payment. In order to improve upon this facet of international trade there are various financing techniques like draft, banker's acceptance and letters of credit etc which are opted by the exporter and importer from time to time. Each of these financing techniques comes with their inherent merits and demerits. Parts from these in context of India there are several regulatory authorities like Export Credit Guarantee Organization and Export and Import Bank of India which operate with the basic purpose of making international trade smoother and more effective from the point of view of the traders.

18.7 GLOSSARY

Letter of Credit (L/C): It is considered to be an instrument which is being issued by a bank on behalf of the buyer (importer) to the exporter

Drafts: It is also known as bills of exchange. It is an unconditional promise made by one party , generally made by exporter only, where he gives order to the importer to make payment (face value of the draft) upon presentation .

Consignment: It is an arrangement in which goods are handed over to another party to sell out however the ownership of the goods remains with the exporter.

Bill of Lading: It is considered to be a important document in international shipment under letter of credit. It acts as a receipt for shipment and a detail of freight expenses.

18.8 REFERENCES

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- Albaum Duerr- International Marketing and Export Management, Pearson, 7th Edition.
- www.ibef.org
- www.cia.gov.in

18.19 SUGGESTED READINGS

1. Cherunilam F- International Business: Text and Cases, PHI
2. Aswathappa- International Business, McGraw-Hill
3. Daniels- International Business- Pearson

18.20 TERMINAL QUESTIONS

1. Write a brief note on the various agencies involved in promoting international trade in India.
2. Explain Letter of Credit highlighting various types of letters of credit.
3. What do you mean by factoring? What are the various advantages of factoring?
4. What are the five popular methods of payment used in international trade?

UNIT 19 MANAGING NET WORKING CAPITAL

19.1 INTRODUCTION

The process of managing current assets and liabilities to guarantee a business's smooth functioning and financial stability is known as working capital management. To maintain ideal working capital levels, this entails managing the business's cash, inventories, account receivable, and accounts payable. A company's ability to manage its capital effectively is critical to its success since it guarantee enough money for ongoing operations. Daily cost and activities, fulfilling immediate responsibilities, and funding growth-oriented projects. Inadequate capital management has the potential to cause insolvency, difficulties with cash flow, and failure to pay creditors and suppliers. Managing the cash conversion cycle, maximizing inventory levels, controlling receivables and payables, and funding working capital requirements are the primary components of working capital management. A delicate balance between liquidity and profitability is necessary for this. While too little working capital might result in missed opportunities and operational challenges, too much working capital can hog important resources. Therefore, a company's capacity to maintain its financial stability and achieve success depends heavily on its ability to manage its capital. A business that has enough

working capital may meet its immediate obligations, engage in expansion, and increase profit.

19.2 OBJECTIVES

The objective of this unit is to become familiar with:

- The concepts and components of working capital.
- Meaning of working capital.
- Working capital concepts.
- Types of working capital.
- Management of net working capital.

19.3 IMPORTANCE OF WORKING CAPITAL

The practice of overseeing a business's short-term assets and obligations in order to maintain everyday operations smoothly is known as Working Capital Management. The following explains why working capital management is necessary and crucial:

a) To pay everyday expenses: Working capital management assists the business in covering costs associated with paying employees, buying supplies, paying utility bills, and other daily operations. Insufficient working capital could cause problems for the business.

b) Effective use of resources: Working capital management done well guarantees effective use of company resources. This helps the company minimize unused resources, avoid surplus stock and reduce unnecessary debts.

c) Smooth production process: The Corporation can preserve a smooth production process by having enough working capital. This guarantees that there is no disruption owing to a shortage of funding and those raw materials and other inputs are available when needed.

d) Cash Flow Management: An organization can efficiently control cash flow by implementing working capital management. By doing this the business is able to keep a healthy balance between its cash inflows and outflows and prevent either a shortage or excess of cash.

e) Creditworthiness: A company's creditworthiness is determined by how well it manages its operating capital. When determining whether to lend money to a firm, banks and other financial institutions take its working capital position into account.

f) Maximization of profit: Effective management of capital can help a company to maximize profitability.

Profit can be increased by a corporation by decreasing idle resources, lowering debt, and optimizing inventory levels. For this reason, working capital management is essential to

the long and short profitable of a business. This supports the business in maximizing profitability, avoiding needless debt, maintaining a healthy cash flow, and maintaining its competitiveness in the market.

19.4 CONCEPTS OF WORKING CAPITAL

In essence, working capital is divided into two concepts: working capital and balance sheet. It has two meaning according to the balance sheet. A clean concept and a dirty concept. The idea of net working capital and the concept of two gross working capital both place an emphasis on the quantitative side of things emphasizes the qualitative aspect.

19.4.1. Concept of Gross Working Capital

According to this concept a company's investment in current assets means working capital. The amount of current liabilities is not taken into account and therefore it is not subtracted from current assets. In other words, it treats the term "total current assets" and working capital as interchangeable terms. Total working capital is also called working capital or working capital. There are two good reasons for this concept. First, if we treat fixed capital as the amount invested in fixed assets, then the amount invested in current assets should be treated as working capital. Second, current assets, regardless of whether they are sources of acquisition, are used in daily activities and their forms are constantly changing. Hence they should be treated as working capital. Therefore Bonnevilley and Deway said that any fund received that increases fixed assets can be called working capital. Proponents of the concept of gross working capital recommend the use of the concept in the financial management literature for the following reasons:

(i) working capital increases whenever the total investment in the company increases.

(ii) Total current assets represent the total amount of funds available for operations. Of course, management is more concerned with the total amount of current assets than with the sources of funds.

(iii) It has been established that profits are made through funds which are partly fixed and partly short-term. It is also a fact that both are partially financed with borrowed funds and additional interest charges are expected.

19.4.1.1. Gross working capital (GWC) and its implications

(a) Optimal investments in current assets and

(b) financing of current assets.

Consideration of the level of fixed investment should avoid the two dangers of over- and under- spending on permanent assets. Putting money into current assets must be just sufficient for the requirements of the business, neither more nor less. It must be understood that a business's requirement for working capital could alter as the business changes. This can often lead to an excess or deficit of working capital. Management

should be too quick to act and correct the imbalance. The financing of current assets is a further component of gross working capital. Every time working cash is required because of an increase in business activity or some other business reason, an agreement must be reached quickly. Similarly, if additional funds suddenly appear, they should not be left unused, but invested in short-term securities. Based on this, Information regarding working capital funding sources and investment opportunities where excess funds might be invested can and should be available to the financial management temporarily invested.

While net working capital is an accounting concept, gross working capital is a financial or operating notion.

The gross concept is recommended due to the following factors:

1. It makes it possible for the business to supply the appropriate working capital as needed.
2. The management is curious about the inventory that it is dealing with.
3. Working capital always rises in tandem with an increase in current assets.
4. The gross notion can be used to assess how profitable working capital investments are.

19.4.2. Concept of Net working capital

This is Danbill's notion of working capital, which states that working capital is defined as current assets less current liabilities. It further states that current liabilities, positive working capital, and the situation in which current assets surpass current liabilities are all included. Repayment of operating capital when working capital is declared as a liability, it conveys the idea that working capital is what makes the difference. As a result, this notion highlights the qualitative element that demonstrates the group's or company's liquidity status. Advocates of the net working capital concept present the following arguments in favor of their stance:
(i)The surplus of current assets over short-term liabilities has significance over the long term.
(ii) This idea makes it simple to evaluate one's financial situation and health, particularly from the perspectives of creditors and investors.
(iii) The amount that can be deemed sufficient to meet all potential expenses is represented by the excess of current assets over current obligations. This amount cannot be retrieved.
(iv) It is possible to compare the companies' financial positions accurately, particularly if their present assets are comparable.

Usually, all groups' working capital is allocated to cash, receivables, marketable securities, semi-finished and finished items, and raw material inventories. In all these forms, invested capital is constantly converted into money, and this money is again lost in the shape of additional convertible assets. Thus, it is always in a continuous loop. However, one must keep in mind that working capital cannot be measured in terms of money or the equal worth of all assets. The balance sheet's opposite side has a set of

liabilities, mainly bank overdrafts, debts, liabilities, unpaid expenses or other short-term liabilities. Such liabilities must be subtracted from using current assets, net working capital is calculated. If this isn't done, the business might think of itself as secure, but in actuality, it might not have any working capital at all. Thus, it seems sense to characterize working capital as the difference between current assets and short-term liabilities.

According to this concept, if a company's current assets exceed its current obligations, its working capital position is deemed stable and satisfactory. It can be inferred that the corporation utilized long-term assets to purchase fixed assets and short-term assets to finance working capital if short-term liabilities and short-term assets are equal. It goes without saying that this circumstance cannot speak to the company's financial soundness. When current liabilities exceed current assets, this is a sign of a financial crisis.

From the previous discussion because current assets are used in business, it can be stated that they can be understood as working capital in relation to business. However, from an accounting and technical perspective, there is a distinction. Working capital can be defined as current assets and current liabilities because the size of that difference emphasizes financial stability or another.

19.4.2.1. Net Working Capital (NWC) and its implications:

From a managerial perspective, the issue of controlling individual working capital in daily activities is addressed by gross working capital. But in order to have a long-term perspective on working capital, we must concentrate on net worth, which is an ongoing activity that is changing and controllable in the long run but constant for analysis and decision-making in the near term. Carry out tasks the difference between current assets and current liabilities is the standard definition of NWC. Usable working capital varies from company to company and depends, among other things, on the characteristics of the sector. Theoretically, a company's ability to pay its debts when they become due is determined by how well its current assets cover its short-term liabilities; this is why NWC is used to assess a company's solvency. Due to the mismatch between cash flows and inflows, payment NWC is required. Stated differently, there is some predictability in the non-synchronous settlement of the ensuing short-term liabilities. Cash flows are hard to forecast, though. Less NWC is required the more predictable the cash flows are. However, in the event that cash flows are unpredictable, current assets must be kept at a level that meets its short-term liabilities, i.e. NWC must be.

NWC might also mean the amount of present assets that are financed by long-term assets. As long as current assets are more than current liabilities, the excess must be financed with long-term assets as current obligations are the sources of current assets. Analysis of the trade-off between profitability and usefulness is better done with this alternative concept risk.

The network concept is preferred for the following reasons:

1. It enables and demonstrates the company's capacity to pay for operating costs and short-term liabilities.

2. It shows the margin of protection available for short-term creditors.

3. It is a sign of the company's impending solvency.

4. This suggests that some of the working capital needs to be financed by fixed assets of the companies.

19.4.3. Concept of business cycle

The business cycle has a significant relationship with the idea of working capital. The operating period is the period of time between the acquisition of inventory products (raw materials or goods) and their conversion to cash cycle. The term business cycle is otherwise known as the "cash cycle". According to Accounting Research Bulletin No. 43, the average time between the operating cycle is made up of the procurement of supplies or services needed for this procedure as well as the ultimate cash realization. The amount of time needed for a manufacturing organization to finish the following series of tasks is referred to as the operational cycle:

(i) Conversion of cash to raw materials
(ii) Conversion of raw materials to labor in progress;
(iii) Labor in progress converted to completed items;
(iv) Finished goods converted to accounts receivable
(v) Receivables are converted to cash.

19.5 COMPONENTS OF THE WORKING CAPITAL

According to the net concept, the working capital has two components: current assets and current liabilities.

19.5.1. Current Assets:

Current assets according to the words of Alexander Wall "are those assets which, in the ordinary and natural course of business, go through the various processes of production, distribution and payment of goods until they are converted into cash or its equivalent. , by which a debt can be immediately and instantly paid". Therefore, current assets are fixed assets utilized in business that can be turned into cash when the company is only temporarily in operation. To put it another way, short-term assets are those that can be quickly turned into cash during regular business operations after being purchased with cash operations.

This short-term operation or normal course lasts one year, because the cycle (money to cash) can be completed in no more than a year. It may take longer than a year in certain situations. No matter how long it takes to finish this cycle, inventory should always be

categorized based on utilization rather than duration. All items purchased with the intention of reselling them are treated as current assets.

These resources could consist of, among example:

(i) cash and bank account

(ii) debtors and accounts receivable (ie receivables)

(iii) inventories

(a) raw materials, supplies, supplies and spare parts (b) Work in progress

(e) Finished goods

(iv) Advances for expenses, purchases and other short-term advances

(v) Temporary investments from surplus.

(vi) Accrued Income.

19.5.2. Current liabilities:

A portion of the need to finance current Assets may be covered by credit and deferment, according to the arrangement of regular, usage or expense payment. The rest of the working capital requirement can be covered by short-term borrowing from financial institutions and bankers. These are collectively known as current liabilities. Liabilities and obligations/payments that are due within a year of the balance sheet date or on demand are categorized as current liabilities. Put otherwise, all obligations that are due within a year are considered current liabilities. Nonetheless, even long-term debt paid with present assets should be considered a current liability. Consequently, all long-term debts and loans can be short-term liabilities when they mature. Current liabilities include:

(i) Accounts payable, additionally referred to as accounts payable,

(ii) Accounts payable, additionally referred to as accounts payable,

(iii) Short-term public deposits,

(iv) Accounts payable or charges . ,

(v) creditors with open accounts or short-term loans,

(vi) overdrafts but not bank loans,

(vii) amount payable to subsidiaries,

(viii) provision for taxes or duties payable,

(ix) Unpaid or unclaimed dividends , but not scheduled dividends,

(x) Current maturity of financial debt or long-term debt due and payable during the current year.

19.6 TYPES OF WORKING CAPITAL

After the operating cycle is over, working capital is still required. Operating capital is needed as a minimum to run the business to ensure smooth production. It is the minimum undiscounted amount required to keep current assets in circulation. It is permanently attached to the business and is therefore called fixed, fixed or ongoing working capital. Working capital requirement above the base level typically vary based on shifts in production and sales quantities. The need for working capital can also fluctuate in response to odd and unpredictable circumstances or seasonal variations. Working capital requirements variations above the baseline are a reflection of seasonally and twelve random daily or monthly variations is referred to as variable working capital can be determined using the time and activity model divided into two categories:

(i) fixed or permanent working capital and

(ii) variable or variable or seasonal or temporary working capital.

19.6.1. Fixed or fixed working capital:

Working capital is required because of the operational cycle, which is a continuous process, as was previously mentioned. Even while there could always be a need for current assets, the amount invested in those assets could fluctuate over time, rising or falling. To keep the firm afloat, however, a minimum of two levels of current assets must constantly be maintained. This is the bare minimum needed to keep the duty cycle going. Invested in current assets that are inextricably linked to the business, this type of capital is also known as regular, fixed, or permanent working capital. Fixed capital has the following characteristics:

(i) Between assets, fixed capital is continuously changing in form. It does not maintain its form over sixteen times as long as fixed assets do.
(ii) It will always, in one way or another, be a part of the company.
(iii) As the business expands, so does its size. Generally speaking, long term sources are used to fund a fixed asset's working capital.
(iv) The working capital of a fixed asset is generally financed from long-term sources.

19.6.2. Variable working capital:

The percentage of total working capital that is needed in addition to basic working capital is referred to as variable or varied working capital. In addition to basic working capital, there is always a variable need for working capital based on fluctuations in the volume of operation. A working capital requirement of this kind may also alter as a result of unforeseen events or seasonal variations. For this reason, seasonal working capital is another name for variable working capital. There are situations when unique circumstances call for extra injections of working capital. Extra operating capital might

be required, for instance, to deal with intense market rivalry or to handle other scenario like lockout and sticks. Special projects require more working capital.

19.7 MANAGEMENT OF NET WORKING CAPITAL

A sufficient quantity of operating capital is important in business. Considering the needs of the company, the amount of working capital should not be more or less than required. Both situations can be dangerous for the company. But in addition to It is vital to consider the best degree of investment in different current assets as well as the best mix of short- and long-term liabilities for this level of investment when calculating the required amount of working capital. obligations Stated differently, we must identify the appropriate amounts for current assets and current liabilities, as doing so affects the amount of working capital that will be available. This is true for fundamental choices regarding the company's viability and the settlement of immediate debts. Stated differently, you need to look at what the company's liquidity needs are and when and over what time the short-term liabilities will be paid. Regardless of the current assets, in what volume and at what interest it is possible to convert these assets into money. It depends on how cash and marketable securities are managed, what is the group's credit policy and procedure, how inventory is managed and controlled, and how fixed assets are managed?

If a company manages fixed assets effectively, inventory is regularly controlled, and credit policies and procedures are scientific, one could argue that the return increases with decreasing the current asset to total asset ratio on total investment.

However, financing debt with short-term money is less expensive than financing debt with long-term funds. Therefore, the ratio or fraction of current obligations to total liabilities should be larger in terms of profitability. Furthermore, because a short-term fund can be reimbursed when the business no longer needs it, it might yield higher profits them.

It is obvious that the share of current assets on the balance sheet should be lower and the share of short-term liabilities in total liabilities should be larger based on the profit assumption. But the quantity of working capital would not only be small, but it could also be negative if the aforementioned principle is followed. In other words, if this principle is followed, there may be a business risk. This risk has anything to do with technical bankruptcy. A situation is considered legally insolvent when there are more liabilities than assets. Technically speaking, being insolvent refers to a company's inability to pay its debts as they become due. Only by examining the group's liquidity position can the risk be evaluated. The ability of a business to turn assets into cash quickly is referred to as liquidity. Thus, greater liquidity for these assets is required if we wish to maintain a low percentage of current assets; only then can we avoid risk loss. In actuality, figuring out how much working capital requires an integrated approach to all these aspects.

19.7.1 Working capital structure and concepts

Working on the issues that come up while attempting to manage current assets, short-term obligations, and their linkages are referred to as capital structure. Assets are defined as those that, in the regular course of business, can be held for a year without depreciating or turning into an asset. Liabilities that are transferred in conjunction with an acquisition and paid off in the regular course of business within a year after the group's inventory or profit are referred to as current liabilities. The reason working capital structure matters is because two reasons -

1. A sizable portion of all investments are made in current assets.
2. In response to variations in sales, investments in current assets and the amount of current obligations must be promptly modified. Naturally, long-term loans and fixed investments also respond to changes in sales.

However, this connection is not as tight and direct as when processing capital components. Working Capital Management The stock market is, by definition, working capital companies that lose their identity fairly quickly, usually within a year. In managing working capital, the time factor is therefore not decisive in the decision variable, as with fixed assets, which over the asset's lifetime. are obtained gradually and produce revenue throughout the course of the asset.

The purpose Managing the company's current assets and short-term liabilities is the goal of working capital management in order to maintain a sufficient amount of working capital. The issue of profitability, liquidity, and associated aspects is a crucial component of current assets of danger on the other hand, if the holding of such assets is relatively small, the overall profit will definitely improve, but it will adversely affect the liquidity position and make the company riskier. If the size of such assets is large, the liquidity position will improve, but profitability will decrease because the funds remain unused. A business runs the risk of going bankrupt or becoming insolvent if it cannot keep up a sufficient level of operating capital. The size of current assets must be sufficient to pay for immediate obligations to guarantee a suitable safety cushion.

To keep the company's liquidity intact, each current asset needs to be handled well, but one needs to be kept at an unreasonably high level. Managing current assets and current liabilities takes a lot of time for CFOs. Arranging short-term financing, negotiating favorable loan terms, managing cash transactions, managing receivables and monitoring inventory investments consume a lot of CFOs' time. The main components The definition, necessity, compromise between the ideal level of current assets, profitability, and the risk associated with the level of are all considered aspects of the theory of working capital structure that influence the variation in component levels. Liabilities and current assets of a working capital company, financing, leverage strategies, etc..

19.7.2. Changes in working capital

Changes in the level of working capital are due to three main reasons:

(a) change in selling and/or operating expenses;

(b) changes in politics and

(c) changes in technology.

19.7.2.1. Changes in Selling and Operating Expenses

The first variable that causes a change due to working capital requirements. First, selling and operating expenses. Changes in this factor may be due to a long-term changing trend. For example, the price of raw materials, such as oil, may be constantly rising, requiring large inventories to be held. Secular trends would primarily affect the need for fixed current assets. Second, the level of working capital is affected both permanently and temporarily by cyclical fluctuations in the economy that lead to ups and downs in business activity. A third source of change is the seasonality of sales. Seasonality – Peaks and troughs can be said to be the main source of variation in the level of temporary working capital.

The change in sales and operating expenses can be either an increase in the bill. An increase in sales volume is inevitably accompanied by an increase in cash, inventory and receivables. A decrease in turnover has the exact opposite effect - a decrease in the operating capital is required. The amount of working capital is impacted by changes in operational expense growth or decrease in the same way.

19.7.2.2. Policy Changes Another important cause of changes in working capital levels is policy changes initiated by management.

There are numerous varieties of real estate policies available today. The term "inventory policy" can be defined as the relationship between inventory and sales volume. In this regard, a company with a conservative policy, who’s The current asset level is pretty high compared to turnover, can consciously choose a less conservative policy and vice versa. These informed management decisions will certainly affect the working capital levels.

Due to uncertainty, capital investment cannot be defined unambiguously and would consist of a core component to meet normal requirements and a security component to meet unusual requirements and demands. The security component depends on how conservative or aggressive the company's current real estate policy is. A business with an extremely conservative inventory policy will have high inventories in comparison to sales. (This occurs because the element of safety is crucial.) A business with a modest inventory policy will have a respectable inventory level in relation to sales. Lastly, a company's inventory will be low in relation to sales if it has an extremely aggressive inventory policy. Based on these various current asset principles, the ratio of current assets to sales is displayed below.

A conservative inventory policy reduces risks. Excess inventory under this insurance allows the business to readily handle changes in sales, production schedules, and procurement times. Furthermore, this policy's enhanced liquidity lowers the chance of a technical failure. Still, lower risk is also linked to lower expected profitability.

19.7.2.3. Technological change

Finally, improvements in technology might also have an impact on the level of working capital. Working capital is less necessary if technology advancement leads to a new procedure that shortens the work cycle and vice versa.

19.7.3. The relationship between short-term financing and long-term financing

The company's Short-term obligations (trade creditors and reserves), short-term bank financing, and long-term sources of funding (mostly bonds and equities) all sustain current assets. What proportions of long-term financing sources and short-term bank financing should be used in each case? Regarding this, there are two broad policy options:

(i) conservative inventory financing policy and;

(ii) aggressive inventory financing policy.

A conservative current asset financing policy places more of an emphasis on long-term sources, like bonds, and less on short-term bank funding. Even long-term liabilities would be intended to be replaced with equity under an extremely cautious inventory financing strategy. Conversely, an aggressive inventory finance strategy mostly depends on short-term bank funding and aims to reduce dependence on long-term financing. A conservative inventory financing policy reduces the risk that the company will sometimes be unable to repay or replace short-term debt. However, this increases the cost of financing because the cost of long-term sources of financing, debt and equity are higher. The contrary is typically true for an aggressive working capital financing strategy focused on short-term bank funding. Although this increases the risk to the business, it also lowers the average cost of financing.

19.7.4. Choice of working capital policy

A company's overall in general, working capital policies might be aggressive, moderate, or conservative. A cautious approach to total working capital implies that the company chooses both a conservative inventory policy and a conservative working capital policy. Both an aggressive inventory policy and an aggressive working capital policy make up an aggressive working capital policy. The various approaches to integrate individual replacement and replacement financial policies are visually represented in the image below. as a component of the overall working capital strategy.

19.7.4.1. Assets are expected to be less profitable than fixed assets.

Another effect of an increase in the ratio is that the risk of technical default also decreases, because an increase in current assets, if current liabilities do not change, increases NWC. This is shown in the following example:

Balance Sheet of Company A

Liabilities	Amt. ₹	Assets	Amt. ₹

Current Liabilities	3,200	Current Assets	5,400
Long-term debt	4,800	Fixed Assets	8,600
Equity Capital	6,000		
	14,000		14,000

If a company earns around 2% on its current assets and 12% on its fixed assets, it can currently earn around Rs. 1,140 (2% ₹ 5,400 + 12 % ₹ 8,600) NWC is currently Rs 2,200 (Rs 5,400 - 3,200) Current balance sheet ratio is approximately 38.6% (5,400/1,400) Company invests in current assets. With Rs 600 more in current assets (and therefore Rs 600 less in fixed assets), the ratio of current assets to total assets would be 42.9% (Rs 6,000 14,000). The return on total assets would be Rs.1080. (2% on Rs.6000 and 12% on Rs.8000). Therefore, as the current asset ratio increases from 38.6% to 42.9%, the total profit decreases from Rs.1740 to Rs.1080. The risk measured by the amount of NWC decreases when the NWC increases by Rs.2200. 2,800 to improve liquidity.

Effect of Downsizing

Reducing inventory and balance sheet size leads to increased profitability and risk. The increase in profitability is mainly due to the corresponding increase in fixed assets, which are likely to generate better income. As current assets decrease without a corresponding decrease in current liabilities, the amount of NWC decreases, increasing risk.

To illustrate the result of a decline in working capital, let's say that, in Company A's prior example, fixed asset investment is boosted by Rs. 600 (so that working capital as a whole falls by 34, 3). (Rs. 4,800/Rs. 14,000 = %) 1,200 (12% of Rs. 9,200 / Rs. 4,800).– 3,200 Rupees. That is accurate. It is evident that risk and profitability rise in tandem with a decline in the current asset ratio. The result of changes (increase and decrease) in Company A's current assets is shown below:

Effect of Changes in Current Assets of Company A

Particulars	**Initial value**	**Value after increase (+)**	**Value after decrease (-)**
Ratio of current to total assets	38.6%	34.3%	42.9%
Profits on total assets	₹ 1,140	₹ 1,080	₹ 1, 200
Net working capital	₹ 2, 200	₹ 2,800	₹ 1, 600

19.7.4.2. Effects of a change in current liabilities on profitability -

Exchange of risks as with current assets, the effect of a change in current liabilities can also be shown using the ratio Le of current liabilities. liabilities concerning the balance sheet. The percentage of total assets financed by current obligations is shown by this ratio.

A change in the amount of current liabilities would have the following effects: (i) or a rise in the current liability balance ratio; or

(ii) The previous item ratio falls.

Both an increase and a decrease in the ratio must be taken into account in order to show how changes in the ratio affect risk and profitability.

19.7.4.2.1. Effect of Increasing the Ratio

One effect of increasing the current liabilities to balance sheet ratio would be improved profitability. The reason for the increase in profitability is that current liabilities, which are a short-term source of financing, increase while long-term sources of financing decrease. Since short-term financing sources are cheaper than long-term financing sources, increasing the share in practice means replacing cheaper financing sources with more expensive financing sources. Therefore, costs are reduced and profitability increases accordingly.

An increased ratio also increases risk. An increase in current liabilities, assuming no change in current assets, would adversely affect NWC. A decrease in NWC leads to an increase in risk. Therefore, if the ratio of short-term liabilities to the balance sheet increases, profitability increases, but so does risk.

The effect of an increase in current liabilities on profits and risks can be illustrated by the previous example of Company A based on a hypothetical balance sheet.

Let's say that current debt is about 3%, while the average cost of long-term funds is 8%. The price would be Rs.960. (3% of Rs.3200 + 8% of Rs.10,800). NWC is Rs.2200. The initial ratio of current liabilities to total assets is 22.9% (Rs 3,200 / Rs 14,000)

Also, suppose the company transfers Rs 600 from non-current assets to current liabilities, the former decreasing and the latter increasing. this amount. As a result, the ratio of current liabilities to total assets rises to 27.1% (Rs 3,800 against Rs 14,000). the cost comes down to Rs.930 (3% Rs.3,800 + 8% Rs.10,200) and the NWC is at a lower level of Rs.1,600 (Rs.5,400 - Rs.3,800). These figures show well that an increase in the ratio of current liabilities to balance sheet volume leads to a decrease in costs and thus an increase in profitability, while the risk measured at the NWC level increases as the NWC, or liquidity, decreases.

19.7.4.2.2. Effects of reducing a ratio

The effects of reducing a ratio are exactly the opposite of those of increasing it. This means that it leads to a reduction in profitability and risk. Using long-term funds, which

by definition are more expensive, increases costs; indirectly, profitability also decreases. Correspondingly, the risk is reduced due to the lower level of current liabilities, assuming that current assets remain unchanged.

To prove the above theoretical argument, let us take the case of a hypothetical firm A. Suppose a firm reduces its current liabilities by Rs.600 from the original Rs.3,200. A decrease in current liabilities is naturally associated with an increase in long-term assets by an equivalent amount. The resulting ratio is 18.6%, which is slightly lower than the original ratio of 22.9% (Rs. 2,800 ÷ 14,000). A decrease in the ratio results in an increase in cost, which is now Rs.990 (3% Rs.2600 + 8% Rs.11400); NWC also rises to Rs 2,800 (Rs 5,400-2,600). An increase in expenses logically means a decrease in profitability, while an increase in NWC reflects an improvement in liquidity and a reduction in risk..

The effect of changes in the current liabilities-total assets ratio may be summarized below:

Particulars	**Initial value**	**Value after change - increase in ratio (+)**	**Value after change - decrease in ratio (-)**
Ratio of current liabilities to total assets Cost of financing Net Working Capital	22.9% ₹ 960 ₹ 2, 200	27.1% ₹ 930 ₹ 1,600	18.6% ₹ 990 ₹ 2,800

19.7.4.3. The combined effect of changes in current assets and current liabilities on the trade-off between profitability and risk

The combined effect of changes in current assets and current liabilities can be measured by looking at them simultaneously.

In the previous sections, we showed the effects of a decrease in the ratio of current assets to the total balance and the effects of an increase in the ratio of current liabilities to the total balance. Taken independently, these changes led to increased profitability with a corresponding increase in risk. The combined effect of these changes should logically be an increase in overall profitability and risk while simultaneously reducing NWC. This is shown below:

The combined effect of changes in Company A's current assets and liabilities on profits and NWC.

Particulars	**Change in Profits**	**Change in NWC**

Decrease current liabilities to total asset ratio Increase in ratio to current liability to total asset	+ ₹ 60 + ₹ 30	(-) ₹ 600 (-) ₹ 600
Net effect	+ ₹ 90	(-) ₹ 1,200

So these figures show that the combined net effect of these two changes is that profit increased by R90 and NWC (liquidity) decreased by R1200. The trade-off is clear, the company increased its profit by increasing risk. The company's NWC dropped from the original 2,200 to 1,000. The initial net result of the company, i.e. the difference between the initial profit on the balance sheet and the initial cost of financing, was Ra. 180 (1140 to 960 rubles). After the change of current assets and liabilities, the total balance sheet profit increased to 1,200 rubles, while financial costs decreased to 930 rubles; its net profit therefore increased to Rs 270 (Rs 1,200 to Rs 930).

19.7.5. Determining the mix of financing

The proportion of short-term and long-term sources of financing for current assets depends on several factors, such as flexibility, cost, risk, preferences, demand and supply position, etc. Short-term sources (short-term liabilities) and long-term sources (equity, long-term loans, retained earnings, etc.) are the two primary sources of funding that can be used to finance short-term assets. How much of current liabilities and how much of long-term debt should be used to finance current assets?

Decisions made on these issues determine the mix of finances.
The right financial mix can be found using three primary methods:
(a) The matching method, commonly known as the hedge method;

b) The conservative stance; and

(c) A mutually agreeable compromise
.

These are now explained below:

19.7.5.1. Securing or matching method:

This means that long-term assets must be funded by long-term resources. Fixed assets and crucial or permanent inventories, such as the minimum inventory of raw materials, work-in-progress, and finished commodities, should be financed using all available funding from long-term sources., supplies, etc., that must be maintained for operation. business Short-term funds are used only to finance current assets. Equivalent theory is based on the belief that a used fund should last for the life of the asset for which it was originally intended. However, sometimes this matching theory goes wrong because the estimated realization of the asset can be delayed from time to time.

19.7.5.2. Conservative approach:

In this policy, in addition to financing fixed assets and serious current assets from long-term sources, some variable current assets are also financed from long-term sources. The company is safe by design as it relies more and more on long-term financing.

19.7.5.3. Comparison between chair and conservative approach:

Chair although a conservative method delivers low profit and low risk, an approach is linked to high profit and high danger. It is evident that neither strategy by itself could accomplish the objective of efficient capital management. A decent financial strategy would result from striking a balance between these two extremes. The third strategy, which is a compromise between the strategies, establishes a middle ground and offers a budget that straddles both extremes.

Depending on the decision-makers' risk tolerance, the precise trade-off between risk and benefit varies from situation to situation. The average of the monthly minimum and maximum fund needs for a certain duration might be considered as one potential trade-off. This level of financial needs can be financed from long-term sources, and short-term funds can be used to cover possible additional financial needs.

There is another approach called an aggressive policy. In the case of an aggressive policy, the position changes dramatically and funding is managed according to the following plan:.

Sources	**Uses**
Long term -	(a) Some minor part of fixed assets;
Short term -	(b) Hard core current assets;
Major part of fixed assets.	(c) Fluctuating current assets.

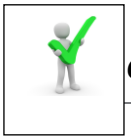
This type of policy is very risky because net current assets are always negative. According to the current guidelines followed by the bank, it is very difficult for a company to avail bank financing in such a situation.

Regions that need to be managed differently for effective capital management are:

1. Inventory: The cost of holding large inventories must be measured based on capital, inventory costs and inventory losses. Stockouts due to reduced inventory make the working capital position much easier.

2. Debtors: Careful monitoring of timely realization of debts and prevention of credit losses helps to improve management of working capital.

3. Creditors: Early payments should be avoided and whenever discounts are available, they can be used. 4. Cash: Unnecessary holding of large amounts of cash should not be encouraged as it can be used for more productive purposes.



Check Your Progress-A

Q1. What is net working capital, and why is it important for businesses?

Q2. List three strategies companies use to manage their accounts receivable.

Q3. Explain the cash conversion cycle and its significance in working capital management.

19.8 PERFORMANCE CRITERIA

The improvement of the business's profitability largely depends on its efficiency when it comes overseeing the working capital. A single criterion would not be sufficient to assess efficiency in a situation like the dynamic area as working capital.

Some of the parameters that evaluate the efficiency of working capital administration are:

a) Whether there is sufficient confidence for creditors about the capacity of the business to fulfill its immediate commitments on time. Therefore, a reliable index is whether a business can pay its bills when they are due. The finance department must plan ahead to keep enough liquid assets on hand to meet obligations.

b) Has the warehouse's maximum possible turnover rate been reached? The harmful effects of inefficient inventory management are not offset by the most effective administration of other working capital components.

c) Whether reasonable credit is given to customers. This powerful sales promotion tool must not be abused. The other side of the same coin is getting a refund. Both depend on the strength of the company as a seller and buyer.

d) Are you getting enough credit from suppliers. It depends on the company's position in relation to suppliers Furthermore, the characteristics of the supply market, i.e. whether it is a single supplier or an oligarchy or a more number of suppliers. By coordinating efforts, buyers can negotiate competitive loan terms even with a single provider and its ability to dominate the market. Sometimes the supplier sets the credit terms as 100% advance, ie. negative business credit.

e) Are there adequate safeguards to assure that over- or under-trading does not occur?

Working capital management effectiveness can be used with the following indices:

19.8.1.Current Ratio (CR)

CR = Current Assets / Current Liabilities

It demonstrates the company's capacity to oversee its ongoing operations. Analyzing the evolution of working capital across time is helpful.

Even though the current ratio 2:1 is thought to be optimal, it might need to be adjusted to fit the unique requirements of a given company or sector. The quality of the current ratio that is, the degree to which assets and liabilities are actually short term matters just as much as its quantity.

19.8.2. Quick Ratio (QR)

QR = Liquid assets/current liabilities

Liquid assets are short-term assets minus those that cannot be realized quickly. Inventories and liabilities are usually treated as fixed assets.

A 1:1 ratio current assets to current liabilities is considered ideal, but like the current ratio, it varies depending on the specific circumstances of a particular industry.

19.8.3.Cash to current assets

If cash is the very important current asset, it can be a reliable gauge of the profitability of the organization, since money doesn't produce profit by itself, the ratio should generally be kept low.

19.8.4.Sales and cash ratio

Sales and cash ratio = sales revenue / average cash balance during the period.

Cash should be recycled as many times as possible to maximize revenue using the least amount of cash.

19.8.5. Average Collection Period

(Debtors/Credit Sales) x 365

This ratio shows how many days of credit a company allows its customers to pay their bills.

19.8.6. Average Payment Period

Average Payment Period = (Creditors/Credit Purchases) x 365

Shows how many days the company has credit from suppliers.

19.8.7. Inventory turnover rate (ITR)

ITR = Sales/Average Inventory

Shows the number of times inventory is turned over to achieve sales. Inventory should be maintained at a level that balances production facilities and sales needs. Working capital for sales Usually expressed as a percentage, it means that working capital is proportionally required for any volume of sales. If you think about sales growth, you must see that the working capital is sufficient. Hence this ratio helps the management to maintain working capital sufficient for the projected sales growth.

19.8.8 Working Capital to Net Worth Ratio Working Capital/Net

This ratio shows working capital and its relationship and the assets owned by the owners. If this ratio is not closely monitored, it can lead to:

a) Overselling when conditions are bullish. Its symptoms are

(i) high quality turnover of inventory

(ii) low current ratio; or

b) the circumstances of the trading market are not good. Its main symptoms are:

i) Low inventory holding

ii) High current ratio

Effective management of capital should therefore avoid both situations of surplus and deficit of working capital.

Influence by management of working capital requires proper management of current assets, because an excess of these assets does not generate income. Cash and marketable securities, being the least productive, must be managed even more carefully.

Cash, which is a term for a company's liquidity, is crucial to expanding and enhancing the profitability of an organization. Therefore, proper estimation and planning of cash needs is necessary to avoid technical or legal insolvency. Effective cash management is therefore essential to ensure adequate liquidity.

19.9 SUMMARY

The process of managing a business's short term assets and liabilities to make sure it has enough cash on hand to pay its debts and run its operations efficiently is known as working capital management. Finding a balance between liquidity and profitability is the aim of working capital management, as having too much or too little working capital can both have detrimental effects on the company.

Working capital is made up of current liabilities like accounts payable and accounts receivable as current assets like inventories, accounts receivable, and cash. To ensure efficient administration of these nine elements, cash flow forecasting and monitoring, inventory optimization, and managing credit and collection practices.

There are several techniques for calculating the amount of working capital required, such as the operating cycle approach, the percentage of sales approach, and the component estimate of the working capital method. Effective management of capital can improve cash flow, improve profitability and reduce financial risk. However, this requires careful planning, analysis and decision-making, as well as effective communication and collaboration between the company's various departments and stakeholders.

19.10 GLOSSARY

Work cycle : The work cycle in a manufacturing company is the time gap between the acquisition of raw materials and the sale of finished products.

Total Current Assets : Total Current Assets means the total amount of all current assets including cash.

Net current assets : Net current assets means the total amount of all current assets (including cash) less current liabilities. It is the same as working capital.

Basic working capital : Basic working capital is an amount that remains more or less permanently invested as the working capital of the company.

Variable working capital : Variable working capital is the amount of working capital that exceeds the fixed minimum amount of working capital. This can vary from period to period depending on a number of factors.

Inventory Turnover : Inventory Turnover means how many times the average inventory was sold during the period. Inventory turnover is obtained by dividing the cost of goods sold during the period by the average inventory for the period.

Current Ratio: Current Ratio is the ratio of current assets to current liabilities.

Quick Ratio: Quick Ratio is the ratio of quick assets to current liabilities. Inventory is not normally considered a current asset, so it is excluded.

Debtors Turnover: Debtors Turnover is the ratio of average debtors (claims) to average turnover.

Average Collection Time: Average collection time is the average time from the credit sale of the goods to the withdrawal of cash.

Average Payment Time: Average payment time is the average time between the purchase of goods on credit and payment to creditors.

Credit Policy: Credit policy applies to standards and guidelines, based on which it is determined whether and to what extent credit can be granted to customers in general and specifically to different customer groups.

Credit Terms: Credit terms are the terms a company extends to its debtors for payment.

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19.13 TERMINAL QUESTIONS

1. Discuss the concept of working capital. Are the terms gross and net of working capital omitted? explain

2. Distinguish between fixed and variable working capital. What is the importance of such allocation in financing the operational needs of the company? 3. Discuss the meaning of working capital?

4. Explain the components of working capital.

5. What are the criteria for the effectiveness of NWC management?

19.14 CASE LETS/CASES

Company Background

ABC Manufacturing is a medium-sized company that manufactures and sells consumer electronics. The company experienced rapid growth that increased sales and expanded into new markets. Despite growth, ABC Manufacturing faced challenges in effectively managing its working capital, which affected the liquidity and overall financial health of the company.

Inventory Management

Problem Statement

ABC Manufacturing struggled with high inventory levels resulting in increased holding costs and obsolescence risks. The company often overestimates demand, resulting in excess inventory that ties up significant capital.

Analysis

Inventory Turnover Ratio : This ratio measures how many times the inventory is sold and traded over a period of time. A low turnover rate indicates excess inventory and inefficiency in inventory management.[\text{Inventory Turnover Rate} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}]

Just in time (JIT)) Inventory: JIT The implementing an inventory system can reduce holding costs by receiving goods only when they are needed for production.

ABC Analysis: This method classifies inventories into three categories (A, B and C) based on their importance and helps prioritize management efforts. .

Solution

ABC Manufacturing decided to implement the following strategies:

Implemented a JIT inventory system to minimize holding costs and reduce excess inventory.

Performed ABC analysis to identify high-priority inventory items and optimize inventory program in real-time inventory. time and forecasted demand more precisely. This delay impacts cash flow and increases the risk of bad debts.

Analysis Accounts Receivable Turnover Ratio: This ratio measures how efficiently a company collects receivables. A lower ratio indicates inefficiencies in collection processes.[\text{Accounts Receivable Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Average Accounts Receivable}}]

Credit Policy: Reviewing the company's credit policy to balance between sales growth and the risk of non-payment.

Aging Schedule: An aging schedule categorizes receivables based on the length of time they have been outstanding to identify overdue accounts.

Solution

ABC Manufacturing took the following actions:

Revised its credit policy to tighten credit terms and conduct thorough credit checks on new customers.

Introduced early payment discounts to incentivize faster payments.

Implemented an automated invoicing and reminders system to streamline the collection process and reduce the average collection period.

Accounts Payable Management

Problem Statement

The company has been taking advantage of early payment discounts from suppliers, leading to a strain on cash flow. While this approach reduces the cost of goods sold, it limits the cash available for other operations.

Analysis

Accounts Payable Turnover Ratio: This ratio indicates how quickly a company pays off its suppliers. A high ratio may suggest aggressive payment practices that strain liquidity.[\text{Accounts Payable Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Accounts Payable}}]

Payment Terms: Negotiating favorable payment terms with suppliers to extend the payment period without incurring penalties.

Cash Conversion Cycle (CCC): The CCC measures the time it takes for a company to convert its investments in inventory and other resources into cash flows from sales.[\text{CCC} = \text{Days Inventory Outstanding} + \text{Days Sales Outstanding} - \text{Days Payable Outstanding}]

Solution

ABC Manufacturing adopted the following strategies:

Negotiated extended payment terms with key suppliers to improve cash flow.

Implemented a payment scheduling system to optimize cash outflows and take advantage of early payment discounts only when surplus cash is available.

Regularly reviewed the CCC to ensure a balanced approach to managing inventory, receivables, and payables.

Results

After implementing the above strategies, ABC Manufacturing saw significant improvements in its working capital management:

Inventory turnover increased, reducing holding costs and minimizing obsolescence.

Accounts receivable turnover improved, leading to faster cash inflows and reduced bad debt risks.

Accounts payable management became more efficient, enhancing cash flow and allowing better financial planning.

Conclusion

Effective working capital management is vital for the financial health and operational efficiency of any company. By focusing on inventory management, accounts receivable, and accounts payable, ABC Manufacturing was able to optimize its working capital, improve liquidity, and support its growth objectives. The strategies used in this case study can serve as a guide for other companies facing similar challenges.

UNIT 20 RISK MANAGEMENT AND FOREIGN CURRENCY HEDGING DECISIONS

20.1 INTRODUCTION

In the previous unit we have learnt about the concept of managing net working capital. There we discussed that in the international market the firms have to manage the net working capital i.e. the difference between the current assets of a firm and the current liabilities of the firm. In this section we will be discussing the concept of risk management and foreign currency hedging decision. In today's business environment the two major activities i.e. borrowing and investments takes place regularly. In order to make correct decisions we have to select the type of investment to be made and the cost involved in it. Once the decision is taken, then we try to analyze the risk and return associates with it.

Now the question which arises is that how to collect the correct hedging strategy. Selection of the correct hedging strategy is a very difficult task due to the complicities involved in measuring the current risk exposure and deciding upon the appropriate degree of risk exposure to be covered. In practical life most of the terms have risk committees to oversee the strategy in managing the exchange rate.

"By currency risk we mean the changes in the domestic currency values of foreign currency denominated assets and liabilities due to unanticipated changes in exchange rate and the interest rate risk arises due to fluctuation in interest rates."

20.2 OBJECTIVES OF THE UNIT

After reading this unit you will be able to;

- Understand the meaning of Risk Management Concept
- India's Risk Assessment Strategies
- Foreign currency hedging decisions.
- The concept of Hedging the currency risk.
- How to manage the interest rate risk.
- The techniques of hedging the risk.
- Portfolio heading strategies.

20.3 MEANING OF RISK MANAGEMENT AND FOREIGN CURRENCY HEDGING

Risk in simple words means that there is uncertainty about the occurrence of an outcome and it might be possible that the result of an outcome may be uncertain. In other words risk may be defined as a condition in which there is a possibility of an unfavorable deviation from the expected outcome. There are three important conditions of risk namely:

a. Risk is calculated by the uncertain variables present in the external environment.
b. Risk is affected by the circumstances or probability of loss which may range from 0 to 1.
c. Risk may or may not be measured in numerical terms but it must exist in practical situation.

The term risk is often confused with the term uncertainty. Uncertainty refers to a state of doubt and it means not sure about the happening or non-happening of an event in future. Uncertainty varies with the perception of the individual.

Risk may be classified into various categories which are shown below:

a. Systematic Risk: It refers to that risk which is present in the economic system and affects the performance of several companies together. For example the failure of a particular bank in an economy.
b. Static Risk: It refers to that risk which will always be present in an economy irrespective to the fact whether there are changes taking place in the economy or not.
c. Dynamic Risk: It refers to that risk which is present in the economy due to the changes taking place in it. These changes may be in price level, consumer taste and preferences, changes in technology etc.
d. Fundamental Risk: It refers to that risk which is present in an economy in groups. Like political risk, social risk, economic risk etc.

e. Particular Risk: It refers to that risk which is present in an economy due to individual factors and is influenced by the behavior of individuals. Like unemployment, floods, war etc.

20.3.1 Risk Management Concept

Management of risk is one of the prime functions of management. Management in general is defined as, "A system of planning, organizing, staffing, controlling, organizing and directing the resources of an organization in an effective manner."

Risk Management is defined as, "The system by which the activities of the management and its functions are organized in such a way which maximizes the returns of the stakeholders and minimizes the risk."

20.3.2 Risk Management Objectives:

The objectives of risk management can be described as follows:

a) Mental peace: Risk management helps to reduce the stress level of the firms and because we make strategies to minimize the risk.

b) Long term survival: If we manage the risk, then the firm grows in a healthy way in the long run.

c) Stable earnings: If we minimize the risk, the earnings of the firm become constant over a long period of time.

d) Sense of social responsibility: When we minimize the risk, the firm gives indirect benefit to the society by not incurring loss of natural resources and by following the policy of sustainable development.

e) Achieving long term goals: When we minimize the risk, then in long run the profits get maximized and the firm achieves its goals of earning a high level of profitability.

20.3.3 Political Risk

Political risk arises in a nation because of differences in regulations and legal structure. Political risk arises when the government regulations changes and it affects the exposure of a person in various investment options. When we try to see it from the angle of multinational corporations, the effect of changes in government policies both nationally and internationally may be positive or negative.

Political risk gives serious threat to multinational corporations and at times creates profitable opportunities for them. In order to calculate the political risk present in an economy, we have to follow certain steps.

a) We try to measure the political risk present in a nation.

b) What polices and strategies should be formulated to cope up with the political risk?

c) What strategies should be developed to maximize the return?

20.3.4 Measurement of Political Risk in a Country:

In order to measure the extent of political risk in a country, the following two methods can be adopted:

a) The country specific route called as macro approach.

b) The firm specific route called as micro approach.

The following is an example of Country Risk Evaluation System Used by Euro money.

Particulars	Weighting %
Economic Indicators	16%
Political Risk	14%
Economic Risk	09%
Debt Service Record	16%
Ease of Rescheduling	06%
Asses to Bond Markets	14%
Sell Down of Short-Term Paper	11%
Access to Forfeiting Market	14%
Total	**100%**

The above indicators include economic factors and evaluation of political risk. It indicate the ability to service debt and are taken from the available data which involve the ratio of external debt to GNP, the ratio between BOP and GNP and the ratio between debt service to exports. Views are then taken from experts economists about the future perception about the political risk present in the country.

The companies try to absorb the effects of political risk into investment decisions as follows:

(a) By reducing the payback period of capital investment .

(b) By raising the discount rate for the investment proposals.

(c) By charging a premium for overseas political risk insurance.

20.3.5 Managing Political Risk:

Risk will always be present in an economic system. Some risks are manageable and are controllable by human actions, like risk of fire. The firms as well as individuals always face the threat of loss and try to minimize it by taking an insurance policy. But some risks are beyond the control of individuals and will affect the long run survival of the individuals and organizations.

A firm first observes the political environment in the country and then decides whether to invest in that country or not. If the decision is to invest then it should focus on minimizing the political risk. The firm can follow different approaches to minimize the risk.

Avoidance: It means the firm decides not to make investment in a politically un-stable country. If the firm takes a decision not to invest, then the risk can be avoided. Avoiding countries which are politically unstable ignores the possibility of higher returns available from investment there.

Insurance: If a firm takes an insurance against the political risk, then it can focus on its core business activities rather than worrying about the political risk. Some developed countries of the world appoint certain government departments to sell political risk insurance to cover the foreign assets of domestic companies.

Negotiating the Environment: Many firms try to reach an agreement with the host country government before making an investment. The agreement. The agreement defines the right and responsibilities of both the parties. It specifies the rules under which the firm can operate in the developed countries.

Structuring the Environment: After taking a decision to invest in a country, a firm may minimize its exposure to political risk by structuring its financial and operating polices in such a way to make it acceptable and to ensure the multinational companies remain in charge of all the events. A strategy can be formulated to keep the foreign companies dependent on group companies for markets can be one of the strategies.

20.3.5.1 India's Risk Assessment Strategies:

In India there are various risk assessment strategies which can be adopted from time to time in order to reduce the risk of the country. Some of them are described as follows:

1. Currency Risk: It arises when the Indian rupee depreciates against the dollar. But in order to reduce it, the RBI comes into the picture and plays its role by formulating an action plan to reduce its effects.
2. Sovereign Risk: It arises when the foreign exchange reserves and foreign direct investments increase in India due to favorable foreign exchange polices and fiscal policies which increases the flow of money to India which is to be deployed in a proper fashion in order to provide a healthy rate of return.
3. Economic Structure Risk: It arises when India takes a large amount of debt both domestically and internationally to overcome its fiscal deficit. This risk can be managed because the prices of essential commodities are low in India which helps to increase the GDP of the country and reduce the risk.
4. Political Risk: It arises when there is political instability in the country as it uses to be in the past. But since the present government has come up with a majority win in the recent past, the political risk scenario has improved and increased the rating of India in the global world.

Analysis of Policy Initiatives

A number of measures are taken by the government of India to improve the infrastructure of the country. The government is also focusing on to improve the external business environment. Some of the measures are digitalization. Improved health care, increasing exports, training the work force, startups, entrepreneurship programmes etc. The recent step in this direction is the implementation of GST which is a unified tax system and transforms India into a single market. The government is also focusing on the fiscal and monetary policy to reduce the risk in the economy.

a. Fiscal Policy: India is expected to spend huge amount of funds on the development of the infrastructure facilities especially the roads, highways, airports, providing financial assistance in rural areas. It is also estimated that the fiscal deficit would be 3.6% from the year 2017-18 to 2021-22. The states are expected to receive greater revenue due to the implementation of GST. But it may also increase the rate of corruption at local level for which strict action is to be taken by the government to avoid this critical risk.
b. Monetary Policy: It is the RBI which is given the responsibility to frame the monetary policy of India. The RBI has to keep the inflation under the specified range of 2% to 6%, for the year 2016-21. In the current year 2017-18, the level of inflation is around 5% and it is said that it is under control because of the economic slowdown in US and China which will impact the global economic growth.

20.3.6 Risk Management Process

Risk Management is a dynamic process and involves various steps which are described as follows:

Identification of Risk: The risk manager develops his own strategies to gathers the data related to the various ways by which risk is generated. The risk can be pure risk, which relates to property risk and legal liability risk which are visible in nature. Example Fire, Natural Disaster, Crime etc. and financial risk which include business cycle risk, stock market risk and inflation risk etc.

Risk Measurement: The risk manager should use certain well defined techniques to measure the risk and evaluate its effects on the business. For Example Probability and Standard Deviation which can be used to measure the risk.

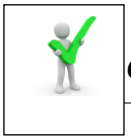
(a) Risk control: There are certain risks that can be controlled like installation of fire safety devices in the building to control the risk of fire. On the other hand financial risk are known non-insurable and can be hedged using derivative instruments like Futures, Options and Swaps.

(b) Risk finance: It means what portion of risk should the company bears and what portion should be transferred to an insurance company by taking and insurance policy.

Example of Risk Management in Forex Settlement

The risk management process in Forex Settlement operations starts with the fixing of Net Debt Cap (NDC) for each of the members. The NDC is arrived at by looking at the short term credit rating of the member which is given by a rating agency and Tier- 1 capital of the member. Tier-1 capital means the core capital of a member consisting of the equity share capital, preference share capital and the retained earnings. After the limits are set then the Clearing Corporation of India Limited (CCIL) decides to take exposure on a member for a settlement date. The exposure limits say in US dollars depends upon the dollar deposited by a member. The trade remains open up to the point when the exposure limits are not crossed. Members have to deposit certain margin money to remain in the trade. Members with a high credit rating will have higher exposure limits.

In order to cover liquidity risk in US dollars, CCIL draws Lines of Credit (LOC) to safe guard its USD obligation to it. Collateral security may also be demanded by CCIL out of the treasury bills purchased by it.



Check Your Progress-A

Q1. Explain the concept of risk management in international finance?

Q2. What do you mean by risk management what are its objectives?

Q3. Explain the various ways of classifying the risk?

Q4. Define risk? State the relationship between risk and uncertainty.

Q5. What are the different types of risk prevalent in India?

20.3.7 Hedging the Currency Risks

A company is packet with three different types of exposures due to the unanticipated change in exchange rate. They are described as follows:-

Transaction Exposure:

By transaction we mean a contract interest between two parties to lead in certain goods or services at a specific price at present or at a future late. In case of a domestic control there is less or no risk of transaction exposure. It arises in foreign exchange transactions

when rate risk in terms of the impact of uncertain exchange rate movements on the firm's future contractually committed cash flows.

20.3.8 Basic Role of Hedging Transaction Exposure:

The firm always face the risk of changes taking place in the movement of exchange rate cause of the open positions in assets and liabilities or both hence the firm has to enter into a hedging transaction to offset the risk associates with a long or short run hedges position in foreign currency at future date.

20.3.9 Interest Rate Risk and Its Measurement:

By interest rate risk we mean to state that there is variation in the rates of interest. It arises in practical life when the assets and liabilities values changes and are sensitive to the movements taking place in the interest rates. This type of risk is classified in two categories:

(a) Basic Risk

(b) Gap Risk

Basic Risk means marketing of interest rate bases for associating it with assets and liabilities. The principle that works here is not the maturity of assets and liabilities.

(a) Gap Risk means the timing of matching the assets with liabilities differ with each other. This risk arises due to firms having funding which is sensitive to interest rate movements.

The firm faces three types of interest rate exposures:

(i) Short term floating rate of borrowing.

(ii) Short term floating rate of Investment or re-investment rate.

(iii) Medium to long term floating rate borrowing.

20.3.10 Managing the Interest Rate Risk

In order to manage the risk, the role of treasury is important because it forecast on the future movements of interest rate and select the right technique by which the interest rate risk can be managed. In order to hedge the interest rate risk, the future movements in interest rates are to be watched. The forecasting of interest rates begins with the markets' own forecasts.

The forward interest rates one also called forward spot rate. These interest rates apply in future. The forward interest rates can be used for contractual hedge obligations of the firm that begin at future date.

Example:

If a firm wastes to invest Rs. 10,00,000/- for six months . He has two options available with him:

(a) Invest the amount for the entire 6 months at 7% p.a. =10,00,000 X 7/100 X 6/12=35,000 Rs.

(b) Invest at 5% P.A. for 6 months and them the whole proceeds for another 6 months at a specific rate of interest in order to earn the same rate of return in future.

(c) [(1+(0.05 X 90/365)] X (1+R 3,6) = [(1+0.07 X (180/365)]

$$(1+R_{3,6}) = \frac{(1+0.07x\left(\frac{180}{365}\right)}{(1+10.0Jx(\frac{90}{365})}$$

$$R_{3,6} = \frac{(1+0.07x\left(\frac{180}{365}\right)}{(1+10.05x(\frac{90}{365})} - 1$$

R 3, 6 =0.0219 i.e. 2.19%.

The investor earns 2.59% return p.a.

20.4 SELECTING APPROPRIATE TECHNIQUE

The following techniques uses for hedging:

Using Mismatched Maturities:

Short term borrowings would provide the funds for long term investment and the repayment of them would be covered by the inflow of cash to the firm in the medium term it is this money that the firm wants to invest at a higher rate.

Using Forex Market Forward-Forward SWAP:

Here two offsetting forward transactions with different maturities are joined to invest the funds for future. For example a firm needs some dollars after 6 months, then the two transactions/options are available:.

(i) Buy $ 10,000, 180 days, forward of Rs. 65/$.

(ii) Sell $ 10,000, 360 days forward at Rs. 66/$.

Forward Rate Agreements:

The FRA is an interbank traded contract to buy or sell contracts for interest rate payment on notional principal basis. These type of contracts are usually settled in cash. The buyer has a right to receive a specified interest rate on a specified amount for a fixed duration of time in the future.

Interest Rate and Currency Swaps:

Swaps are contractual agreements in which one party agrees to swaps its fixed interest rate obligation to floating rate of interest is known by the name of interest rate swap. It is the agreement to swap the assets and liabilities of the firm in future. This is called as currency swap.

Strike price	CALLS			PUTS		
	Jun	Sept	Dec	Jun	Sept	Dec
115.00	1.99	2.25	2.47	0.64	1.32	2.12
116.00	1.39	2.03	2.28	1.00	1.56	-
117.00	0.87	1.55	1.81	1.43	2.22	-
118.00	0.54	1.08	1.30	-	-	-

Source: http://kfknowledgebank.kaplan.co.uk

Interest Rate Caps, Floors and Collars:

Interest rate cap means maximum values on short term interest rate payment. Capping is normally done for one to five years.

Example:

A cap written on the counter is as follows:

(a) Maturity 2 years

(b) Strike rate 6.5%

(c) Reference rate: 6 months LIBOR

(d) Total periods: 4

(e) Premium: 100basis points

(f) Notional principal: $10, 00,000

(g) Fixed borrowing rate is 7%

Seller of the above cap believes that 6 months LIBOR will not go above 6.5% and the borrower believe that there is a possibility of interest rates to go up, therefore the borrower buys the cap at a premium of 1%.

Calculate:

(a) Interest- Payment

(b) Cap-Payment

(c) Amortized premium when LIBOR has actually risen to 6.75

Solution:

(a) Interest Payments

$ 10,00,000 x$\frac{6.75}{100}$ x $\frac{180}{360}$

= $ 33,750

(b) Cap payments

$ 10,00,000 x (6.75% –650%) x $\frac{180}{360}$

= $ 1,250/-

(c) Amortized premium payment

$$= \frac{0.5-1}{\frac{1}{0.035} - \frac{1}{0.035} - (1+0.035)4}$$

$$= \frac{0.5\%}{30.77-27.07} = \frac{0.5\%}{3.7}$$

= 0.135%

= Annualized Premium = 0.27 %

20.5 HEDGING STRATEGIES

Hedging refers to an activity that reduces the risk. It helps in reducing the market risk.

Hedging is just like buying an insurance policy to cover the loss. Risk arises because of:

(a) Buying Prices may rise.

(b) Selling prices may fall.

(c) Depreciation of Indian Rupee.

(d) Decreasing cost of resources.

(i) Strategies used in Hedging:

(a) Short Strategies: It means those strategies which: are having short position in future and when the hedger already owns an asset and expects to sell it at a higher price in future.

(b) Long Hedges: It means having a long position in the future contracts. It takes place when a firm knows that it has to purchase an asset in the future and enters the contract now.

(c) The Hedge Ratio: The hedger tries to know the optimal/most suitable hedge ratio order to maximize his return.

HR = Qs/Qc

Here HR= Hedge Ratio

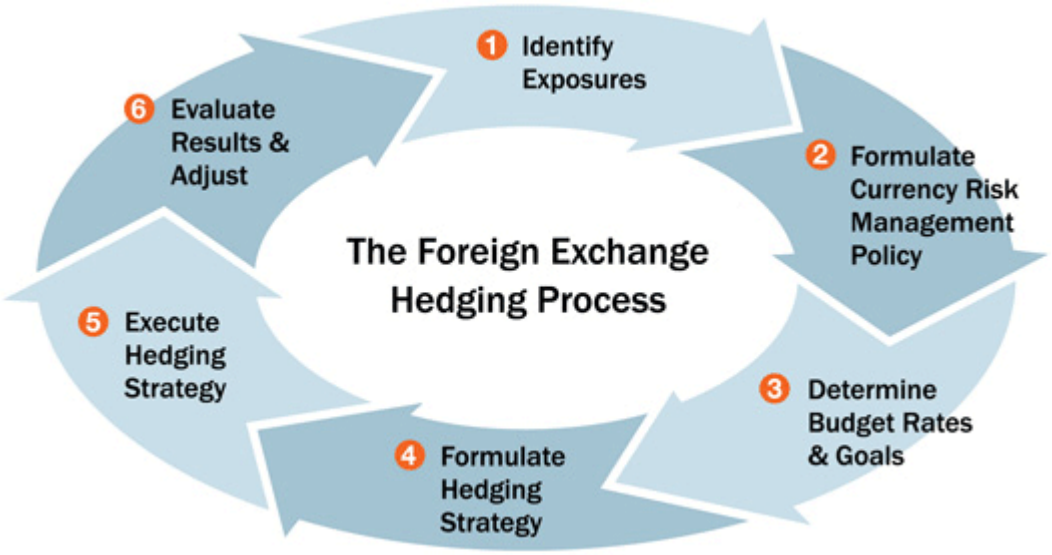
Qs= Quantity of a community represented by future position.

Qc= Quantity of the cash commodity that is being hedged.

For Example: It a trader wants to buy 8,000 bags of tea short futures position is taken to hedge a 10,000 bags of tea cash position.

HR= 8000/10,000 = 0.80

Foreign Exchange Hedging Process



Source: Western Union Business Solutions

Portfolio Hedging Strategies

Portfolio Hedging Strategies in India

The first question which arises in our mind is that why do we need a strategy to hedge against our portfolio. The answer is that markets keep on fluctuating which affects the risk and return of an investor. But sometimes markets experience of extreme volatility and declines, which affects our portfolio returns. Past statistics over the last 100 years show 5% pullbacks happen about three times a year, 10% to 15% corrections every one to two years and 20% bear drops every three to five years.

With large declines we have to protect or hedge – either for peace of mind or for performance of our portfolio. After all, according to Warren Buffett, Rule No. 1 is to never lose money while investing.

A common reaction in portfolio hedging is that it's unnecessary to buy and hold, diversify into passive low-cost index funds with a long time horizon and you don't have to hedge at all. The following points can be seen in this regard:

a. Real people are emotionally driven. It is a well known fact that losing money feels twice as bad as making money feels good.

b. People don't have infinite time horizons. If you are more than 60 years of age then a small 10% correction or 20% bear market greatly affects your returns. See the performance of retirement plans during the several years of the financial crises bear market.

c. Distributing risk and having a solid foundation or be grounded is a good practice to follow. In order to reduce the risk factor you pay for various types of insurance services like fire or catastrophic medical insurance to reduce the risk in an investment.

d. Hedging can be considered as another method of diversification of portfolio. Similar to having a bond or gold investments, having non-equity-correlated or inversely correlated assets can improve returns. Always remember that a 50% decline requires a 100% recovery to break even.

Approaches for Portfolio Diversification:

a. **Stay in Cash:** The most common strategy is to sell some equities and get cash. Cash does not lose value in the short term and can be easily used later on at the time of need. However this is less a hedge and more nonparticipation concept. Though cash is important in times of crisis, it is generally a poor long-term option since it is difficult to go back in and meanwhile you lose out on other asset returns. You will never be rich by holding excess cash.

b. **Defensive Rotation:** Rotating into defensive sectors or assets such as consumer goods, utilities and bonds is another strategy. This is very similar to the cash option, but this strategy is more a mix between tactical diversification and hedging rather than being a pure hedge. It is perhaps the most practical and comfortable option for many investors since it maintains exposure to assets and net profits from them but tactically shifts the portfolio in favor of low or negative beta assets classification.

c. **Inverse Equity Returns:** One of the hedge strategies is to buy inverse equities, i.e. you gain when the market declines. In a short selling market investors are shorting the market or buying an inverse ETF such as the Pro Shares Short S&P 500 SH, +0.35%. In this case you not only avoid market loss but you gain profit at a 1:1 ratio. Allocating 10% of your portfolio thus neutralizes the decline on 10% of your equity exposure. The disadvantage of this type of strategy is that the protection effect is minimum. Full equity protection requires a 50:50 long/short allocation of funds which makes no sense in practical life.

d. **Option Protective Puts Options:** The simplest option method is buying a protective put which means a bet that the market will decline and getting paid for it later. It is an attractive option since the maximum loss potential is limited to the option amount you spent. The downside protection is unlimited (you get paid all the way to zero), and it is leveraged so a small investment of funds gives a lot of protection against risk. The downside of course is that you may end up paying quite a bit, especially in times of volatility.

For example, right now buying a protective put at 190 strike expiring Nov 21 for the SPDR S&P 500 ETF costs $135. This buys you protection for 100 shares of SPY if it drops below a $190 share price, a market value exposure of almost $20,000, before delta modification – a large insurance benefit for a relatively small outlay.

e. **Option Call Writing:** Another option strategy is writing calls. It is the opposite of the put option with your maximum upside being the value of the option. However, you are also responsible for unlimited losses if the market recovers and shoots in the upward direction. As a hedger, this gives an opportunity to earn more as there is little downside protection. The main purpose of a hedge in the first place is to use this strategy for income-building or for very mild market declines.

There are many more advanced hedging techniques available. Some of them are multiple put/call option packages, bear put spreads and other derivatives such as futures and CFDs are also popular for hedging. These, however are very risky and should only be used only by those who are familiar with them.

For the average investor, the above mentioned five basic strategies can be used to help protect their portfolios from excessive losses. Each strategy carries some advantages and disadvantages in timing of the risk, degree of downside coverage, ease in execution, capital outlay and probability of success in future.

Portfolio Hedging Strategies in MNC's

In a model named as International Asset Pricing Model (IAPM), each investor's optimal portfolio is a combination of the world market portfolio, low risk foreign and domestic currency bonds and a currency-specific hedge portfolio. Generally, investors hold individual stocks in proportion to their market value weights in a globally diversified equity portfolio. The composition of the hedge portfolio depends mainly on the investors' functional currency. According to the interest rate parity theory, an investment in a low risk foreign bond is equivalent to a combination of a riskless domestic bond along with a long forward position in the foreign currency.

In case of India, the period after independence i.e. 1951 have been of liberalization and integration with the rest of the economy. The country followed, for every long time. The policy of import substitution and self-reliance. In the past, there used to be some sort of merit associated with the saying that," Import and Perish". Now there is implied saying "Export and Prosper". Now many countries like India, now have realized the requirement of increasing their share in the international exchange of goods, services, capital and latest technology. Some of the important initiatives taken over in this regard over the last few years are as follows:

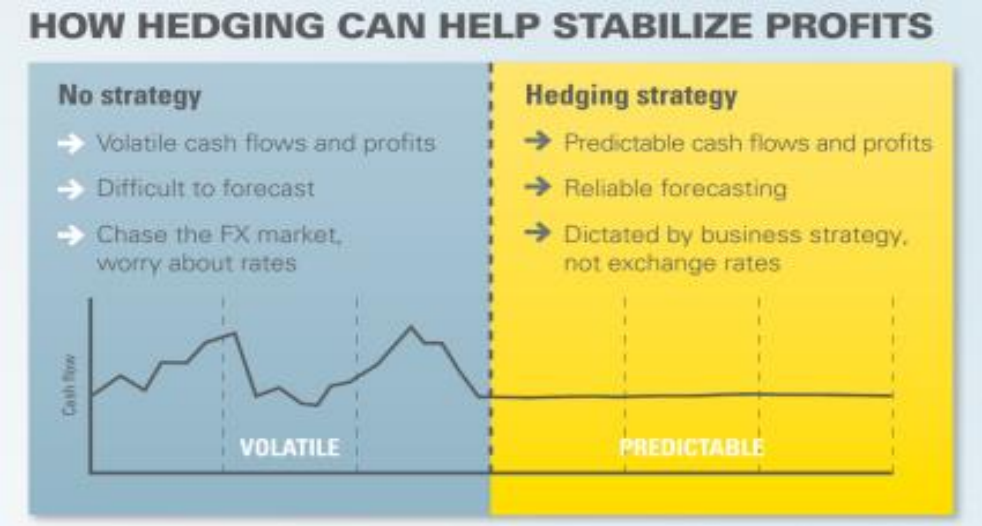
a) Establishment of a single market determined exchange rate system.

b) Introduction of the concept of current account convertibility.

c) Introduction of capital account convertibility in a phased manner, which will lead to full convertibility in the due course of time.

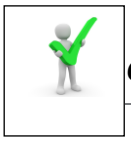
d) Reduction of import duties in the phased manner.

e) Liberalization of the portfolio and allowing foreign direct investments.



Source: Western Union Business Solutions

Over a period of time some large scale business organizations have grown rapidly. Some Multinational Companies (MNC's) have expanded their production, distribution and marketing activities in many parts of the world. On an average more than one thousand multinational companies owns about half of the total assets composition of the world's economic system. The rapid movements of goods, services and investments are possible only when we have a strong support of the financial system. Hence the process of marketing and investments has to go together. A well developed banking system and its products like risk management tools and insurance are important for the rapid growth to take place in future. Some arrangements are required to correct the short term imbalances if they take place in any specific country or in any part of the world.



Check Your Progress-B

Q1. Distinguish between forwards and future contract.

Q2. Under what situations a short hedge and a long hedge appropriate.

Q3. What do you mean by Interest Rate Risk?

Q4. What are the various portfolio hedging strategies with reference to India? ---

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20.6 SUMMARY

Management of risk is one of the main functions of management. Management in general is defined as, "The art of getting work done by the help of others". Political risk arises when the government regulations changes and it affects the exposure of a person in various investment options.

There are two main methods of measuring political risk i.e the country specific route called as macro approach and the firm specific route called as micro approach.

Political risk can be managed by risk avoidance, insurance, negotiating the environment and structuring the outside environment. The simple process of risk management involves Risk Identification, Risk Measurement, Risk Control and Risk Finance. A company tries to hedge the currency risk by taking a Transaction exposure. The interest rate risk arises when the movement is there in the rates of interest. It takes place when the assets and liabilities are very sensitive to the movement in the rates of interest. This type of risk is classified in two categories i.e. The Basic Risk and the Gap Risk. The management of risk can be done by following different techniques for hedging like Using Mismatched Maturities, Using Forex Market Forward-Forward SWAP, Forward Rate Agreements, Interest Rate and Currency Swaps and Interest Rate Caps, Floors and

Collars. Interest .rate cap means maximum values on short term interest rate payment. Capping is normally done for one to five years.

Hedging refers to an activity that reduces the risk. It helps in reducing the market risk. Hedging is just like buying an insurance policy to cover the loss. Risk arises because of Buying Prices may rise, Selling prices may fall, Depreciation of Indian Rupee and Decreasing cost of resources.

With large declines we have to protect or hedge – either for peace of mind or for performance of our portfolio. After all, according to Warren Buffett, Rule No. 1 is to never lose money while investing. The approaches to portfolio diversification includes strategies like stay in cash, diverse rotation, inverse equity returns, option protective put options and option call writing.

In Portfolio Hedging Strategies each investor's optimal portfolio is a combination of the world market portfolio, low risk foreign and domestic currency bonds and a currency-specific hedge portfolio. Generally, investors hold individual stocks in proportion to their market value weights in a globally diversified equity portfolio to maximize their returns and minimize their risk.

20.7 GLOSSARY

Arbitrage: Buying in a market when price is low and then selling in a market when prices are high.

Balance of Payments: A balance sheet which records the nation’s international receipts and payments.

Black Market: An illegal market in foreign exchange.

Basis: It is understood as the difference between the cash and future prices.

Bid Price: A smaller price in a foreign exchange quotation.

Cap: A limit of the upward movement of a coupon or rate of interest.

Capital Structure: A combination of debt and equity sources of finance to maximize the return and minimize the risk.

Collar: A transaction which combines a cap and a floors as to provide cap and floor protection at a lower cost.

Country Risk: A wide risk which include political risk as well as economic risk.

Currency SWAP: Where two counterparties exchange streams of interest payments in different currencies for an agreed period of time and exchange principal amounts in the respective currencies at an agreed exchange rate at the time of maturity.

Eurobank : A bank that that accepts deposits and makes loans in foreign currencies.

Eurodollars: Dollars held in time deposits in banks outside the United States.

Exchange Rate: The price at which the currency of one country is exchanged for another.

Floor: A minimum interest rate.

Foreign Exchange: Bank deposits and currency denominated in foreign monetary units.

Globalization: The act of bringing together financial markets across the world closer together fot technical innovation.

Hedging: Taking a position to reduce future risk.

LIBOR: it refers to London Interbank Offer Rate i.e. the interest rate on interbank deposits among the large London banks.

Managed Float: It refers to a floating exchange rate system in which government intervenes.

Margin: Money deposited with a broker to finance future trading activities.

Options Contracts: It refers to the right to buy or sell a certain amount of currency at a stated or fixed price on or before a future date.

Premium : The forward pricing of a currency at more than the spot price.

Risk Aversion: The degree to which people wish to avoid risk.

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20.9 TERMINAL QUESTIONS

1. What do you mean by Currency Risk? How can we manage or hedge against this risk?
2. How is risk classified in India. What are the strategies followed in India to reduce the risk?
3. What do you mean by Currency SWAP?
4. What do you mean by Forward Cover?
5. What do you mean by Counter Party Risk?
6. What do you mean by Interest Rate Collars?
7. What do you mean by Interest Rate Cap?
8. Explain the process of risk management?

9. How do we measure interest rate risk?
10. Explain the various techniques of hedging?
11. Explain the various approaches for portfolio diversification?
12. Explain the various portfolio hedging strategies in MNC's?

UNIT 21 FOREIGN CURRENCY FUTURES AND OPTIONS

21.1 INTRODUCTION

With the increase in the volume of transactions between the various countries of the globe and with increasing globalization of products and services there also arise a requirement of a ready market for foreign exchange. The very purpose why this forex market is required, suppose in case of international trade two parties importer and exporter are involved, then in such a case for an importer located at India, Indian rupee may be legal tender but for an exporter located somewhere in the European market the legal tender is Euro. Therefore, it becomes obligatory for the importer to convert INR into EURO so that they are acceptable to the exporter and as a result the requirement for an exchange is felt where INR can be converted to EURO at an acceptable market exchange rate.

There are plenty of people of one country serving in other countries so there is requirement of a forex market for them so that he can convert his income into his home currency. In case of medical tourism, that is in case of people of one country going to another country for better medical treatment, they may require an exchange where they can convert their home currency in the currency of the country which they are visiting. Similar requirement is felt in case of other forms of tourisms also that is why there remains a requirement of such exchange where one currency can be converted into other currency. All these requirements of various types led to the formation of market called FOREX market (Foreign Exchange market). Today the forex market is a very network of various financial institutions connected together through a network called SWIFT. These forex markets can thus be called as a very important component of International Financial system.

Thus, if there is an Indian bank operating in FOREX market in the sense that it is purchasing US DOLLARS ($) then it will be getting US $ on making payment in terms of Indian rupees, so we can say it sells Indian rupees, therefore the operation of FOREX market is a subject matter of demand and supply. The currency which is sold its supply increases and the currency which is frequently purchased its demand increases and on these forces of demand and supply the exchange rate of the two currencies are decided. For example, if India as a country for fulfilling its various needs is a regular buyer of US $ then it must be supplying Indian rupees in the FOREX market in exchange as result for every 1$ more units of Indian currency will be required to be paid, or we can say US $ will become costly for India.

21.2 OBJECTIVES OF THE UNIT

Various objectives of this unit on forex market and future and option include:

- To provide detailed information on forex management and forex market.
- To elaborate upon various participants of the forex market.
- To elucidate upon foreign currency derivatives which include forex futures & options.

21.3 INDIAN FOREIGN EXCHANGE MARKET

In India there are various authorized financial institutions (primarily commercial and cooperative banks) who are permitted and authorized by the government to deal in forex market, they are also called as Authorized Dealers. Not all banks are authorized to deal in foreign currencies there are only few who can operate with the help of their branches which are established abroad so that they can easily fulfill and regulate the demand for and supply of foreign currencies. The Reserve Bank of India again keeps a strict control, over these institutions and also does active participation in the form of purchasing and selling currencies. All the Authorized Dealers are required to maintain a daily record of

the transactions done in the foreign exchange market. When the banks purchases of forex is in excess of sales it is technically called as a credit balance and it is said that the long position is overbought. Similarly, when the banks sales of forex are in excess of purchases, it is technically called as a debit balance and it is said that the short position is overbought. Long position is the position to buy and short position is the position to sell. These positions affect the future performance of the banks. The Authorize Dealers operate in the forex market through foreign exchange brokers. These brokers who are spread in various parts of the world and are dealing in various currencies are in touch with the centers in India in order to complete transaction in foreign currencies.

21.4 RESERVE BANK OF INDIA AS CONTROLLER OF FOREX MARKET

One of the important and primary functions of Reserve Bank of India is maintaining the value of Indian rupees viz a viz other currencies of the world therefore indirectly it is also involved in maintenance and control of foreign exchange reserves of the nation. Thus, all transactions which required an inflow and outflow of foreign currencies are monitored by RBI. The regulation of forex market in India is done by RBI with the support of Authorized Dealers, Money Changers and other intermediaries. The transactions which are monitored by RBI include;

1. Foreign travel of Indians which requires convergence of Indian rupees to foreign currencies.
2. Travel of foreign nationals to India which requires convergence of their currencies into Indian rupees.
3. Receipts and payments on account of exports and imports.
4. People of foreign origin who are employed at India.
5. People of Indian origin who are employed outside India.
6. Acquisition and disposal of immovable property in India by foreign nationals and companies of foreign origin.
7. Acquisition and disposal of immovable property outside India by people and companies of Indian origin.

21.5 AUTHORIZED DEALERS (ADS)

These are the scheduled and cooperative commercial banks which are authorized by RBI to deal in foreign currencies in India and in abroad. These Authorized Dealers operate with the help of several financial institutions in the form of money changers and brokers. They are allowed to maintain account of Indians and foreign nationals in foreign currencies. They have the license to directly deal with the public in terms of foreign

currencies. These Authorized Dealers also have an association called Foreign Exchange Dealers' Association (FEDA). These Authorized Dealers under the strict control of RBI are also authorized to fix the exchange rates for foreign currencies on the basis of the benchmark of London.

21.6 MONEY CHANGERS

Money changers are the facilitating organizations for Authorized Dealers. They work under license of RBI and are primarily involved in purchase of foreign currencies rather than selling foreign currencies. In India apart from financial institutions some hotels, firms and other category institutions are also allowed to work as money changers.

21.7 EXCHANGE RATE MANAGEMENT IN INDIA

In India the exchange rate of Indian rupee was highly regulated by government till 1994 and it was regulated it in the interest of the nation and that is why at times Indian rupee was devaluated by the government itself in order to boost exports. However, in the year 1994 the Indian rupees was declared convertible and exchange related laws were also reframed like passing of FEMA to replace FERA.

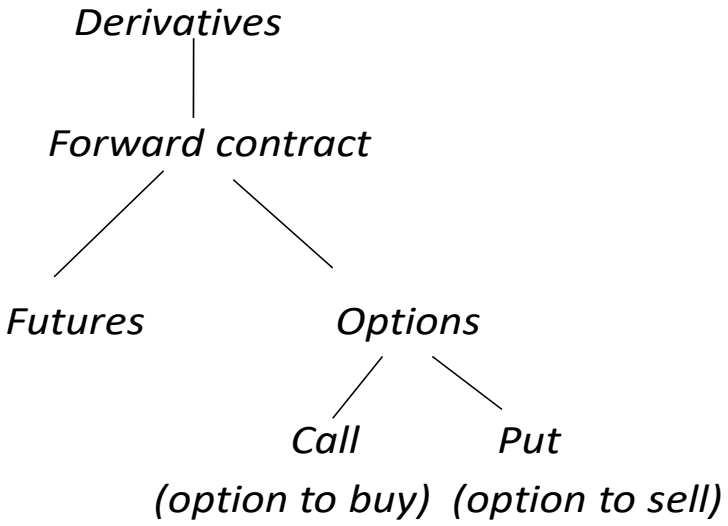
So now, the exchange rate in India is strictly controlled by the pressures of demand and supply or in other words inflows and outflows of foreign currencies. However, still to some extent it is regulated by RBI when there is a sudden decline in Indian rupee in order to provide it stability in terms of foreign currencies.

Now the foreign reserves of India are continuously increasing ever since the turmoil of 1991 when the forex reserve of the nation touched its lowest point. After that the forex reserves of the nation has increased and that has also helped in maintenance of the exchange rate of Indian rupees.

21.8 FOREX DERIVATIVES

Derivatives are the instruments which derive their value on the basis of the underlying assets like in case of forex derivatives (futures and options) the values are derived on the basis of the value of underlying assets i.e exchange rate of currencies. Over a period of time the boundaries are being removed between the nations and business transactions have increased considerably due to rising population, interdependence and better transportation facilities. However, one of the greatest limitations of international trade in exchange rate risk which means if due to a fluctuation in the exchange rates of the countries concerned the import or export becomes costlier or some times more affordable. Whatever may be the outcome but the traders want to hedge such risk in order to be surer about their profits therefore they resort to forex derivatives. A strong derivative market enables secured international trade.

Classification of forex derivatives



On the basis of the diagram above we can conclude that the forex derivatives are basically forward contracts. Forward contract is an agreement between the buyer and seller to purchase a specified currency at a predetermined price on a pre-specified future date. It is done to avoid the risk of exchange rate fluctuation involved in forex trading. It is based on the concept of game theory. If on the specified date the currency is trading at a price higher than the agreed price it is profit of the buyer and loss of the seller and vice-versa.

The forex derivatives are classified into two categories:

1. Futures
2. Options

21.9 FOREX FUTURES

It is a standardized forward contract (i.e unlike forward contract here the quantity of currency involved, future date and delivery conditions are standardized than customized as in case of forward contract). Futures are such forward contracts which are traded in the forex market (forward contracts are not traded). In futures it is not necessary to take delivery i.e it can be settled with the differences (in forward it is compulsory to take delivery on maturity).

Forward contracts are thus generally private deals which is confined or limited between two parties who agree upon the exchange rates and terms and conditions of contract

along with the amount of currencies involved and date of maturity etc however in futures such customize transactions are not available rather the transactions are standardized.

In futures, the risk of default is eliminated and that is why the amount of money that is involved is generally very high. The futures are purely governed by the rules of contract and thus the risk factor is very well managed as compared to forward contract where in case of default there is hardly any second layer of protection available.

The futures are traded in the forex market and are very well regulated with the help of a mediator called the clearing house. The future contracts are traded in the forex market and thus the price is regulated each day, this exercise is called as marking up to the market.

Marking to market: This means that profit and losses arising on the basis of daily valuations of futures are adjusted into futures valuation on daily basis;

We can understand the concept with the help of an example suppose we have taken a future which is going to mature after one month at price of Rs. 60/1 US$. Suppose after three days the price becomes Rs. 65. Now three things would happen. The buyer would receive a cash benefit of Rs. 5 adjusted with margin deposited. The future of Rs. 60 would now stand cancelled. The new value of the future becomes Rs. 65.

21.10 MECHANISM OF TRADING IN FUTURES

Clearing House: The clearing house of the forex exchange interposes itself between the long position and short position

Long Position: it is position which is taken by the purchaser of future i.e the position to buy.

Short Position: it is the position which is taken by the seller of the currency i.e the position to sell**.** The clearing house becomes the seller to the buyer and buyer to the seller. As the clearing house interposes itself between the buyer and seller it is the only party which is going to be hurt in case of a default.

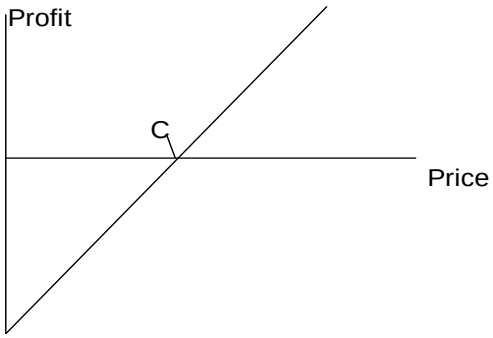
Therefore, in order to protect itself the clearing house imposes the requirements of margin. It also performs the task of marking the futures to the market. Due to intervention of the clearing house the traders can liquidate their positions easily. The buyer or seller can liquidate their positions which is called reversing the position with the help of a broker. **Margins:** When trading in futures the buyer has to provide an initial margin which is generally 10% of the value of the contract.

The margin requirements are fixed by the exchange and thus they can vary. Both the parties' i.e the buyers and sellers are required to maintain margin requirements as both the parties are exposed to risk and the process of marking to market is followed. It means that on daily basis the gains or losses are adjusted with the margins deposited in cash. If

due to marking exercise the margins deposited falls below 5% then a margin call is made requiring further deposits in the form of margins.

Payoffs to the Future Buyer and Future seller

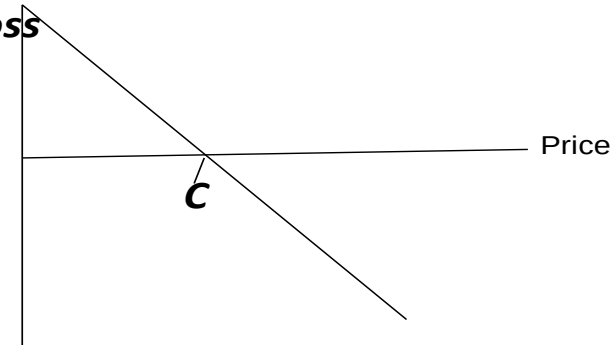
- **Future Buyer**



- Loss

Payoffs to the Future Buyer and Future seller

- **Future Seller**
- **Loss**



- **Profit**

From the diagrams given above it is clear that the payoffs of future buyer and future sellers are dependent upon the concept of game theory i.e the profit of one becomes the loss of other. In the figure above, **C** denotes the exchange rate agreed upon in the future

and as in case of a future buyer as the market exchange rate starts increasing the value of the future contract starts increasing for him in the form of more and more profits.

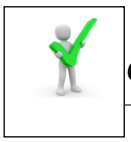
However, in case of a seller of future as the market exchange rate starts falling below the exchange rate agreed upon in the future the value of future starts increasing for the seller in the form of a higher profit potential for the seller.

The profit or loss whatever is encountered by the future buyer and seller is adjusted with the margin deposited by them at the exchange due the exercise called marking up to the market and as such there is no need of taking the delivery of the futures at the time of maturity and profit or loss is adjusted on a daily basis.

21.11 DIFFERENCES BETWEEN FOREX FUTURES AND FORWARD CONTRACTS

There are various differences between currency forward contracts and futures; however some of the notable differences are as follows;

Forward Contracts	**Futures**
Traded between two parties.	Traded between the exchange and all the future buyers and sellers.
They are customized.	They are standardized.
Quantity of currency and exchange rate is decided by the parties to the contract.	Quantity of currency and exchange rate is predefined and is regulated by the market.
Default risk is very high.	Default risk is very less or none.
No requirement of margins to be deposited.	Margins are required.
Conditions to the contract are regulated by the parties to the contract.	Conditions to the contract are regulated by the forex exchange.
It is mandatory to take delivery on the due date.	It is not mandatory to take delivery on the maturity date rather it can be settled by paying the margins required.



Check Your Progress-A

Q1. Who are Authorized Dealers?

Q2 Explain the concept of Long and Short position in future trading.

Q3. What is called as marking up to the market?

Q4. What are currency futures?

Q5. What is an option? How it is different from future?

Q6. Differentiate between a forward contract and future.

Q7. Who are Money Changers?

Q8. What are the various transactions which are continuously monitored by Reserve Bank of India?

Q9. Who in India is regarded as regulator of forex?

Q10. Write a note on exchange rate management in India.

21.12 FOREX OPTIONS

An option is a special contract under which the option owner enjoys the right to buy or sell something without the obligation to do so. The option to buy is called **Call option**. The option to sell is called **Put option**. The agreed price on which the option holder can either buy or sell is called **exercise or strike price**. The date on which option contract expires is called **maturity or expiration date**. **Premium** is the amount paid by the purchaser of the option in order to enter into contract.

Currency futures and forward contracts are a valuable tool to protect the trader from the risk of fluctuation in exchange rates but the biggest limitation of these tools is that in case they become unfavorable they themselves become a cause of loss for the future buyers or sellers and even in case of forward buyer or seller therefore there remains a requirement of having a better hedging tool which offers all the benefits but at the same time free from all the possible chances of loss. Option as a tool of currency derivatives offers this advantage. Like mentioned earlier it is a special kind of a contract which gives the buyer or seller a right without any obligation i.e the buyer or seller can exercise the option if it is beneficial for them or they can simply chose to let it go in case the contract ceases to be beneficial for them.

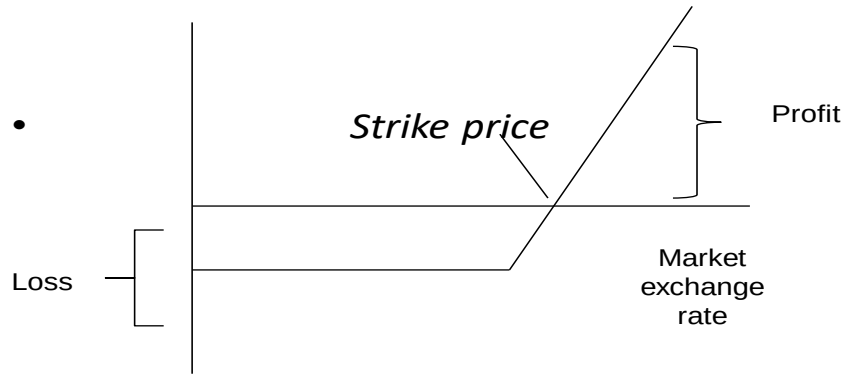
The option as a tool of forex derivatives is classified into two sub-categories; Call option and Put option. Call option is the option to buy foreign currency at a previously agreed price and the Put option is option to sell foreign currency at a previously agreed price however in both the cases there is no obligation on them to exercise contract they may even chose to let the contract go.

The options are further categorized as American type of option and European type of option. The American type of option are those which can be exercised any time upto the

date of maturity whereas European type of option are those which can be exercised on the date of expiration only.

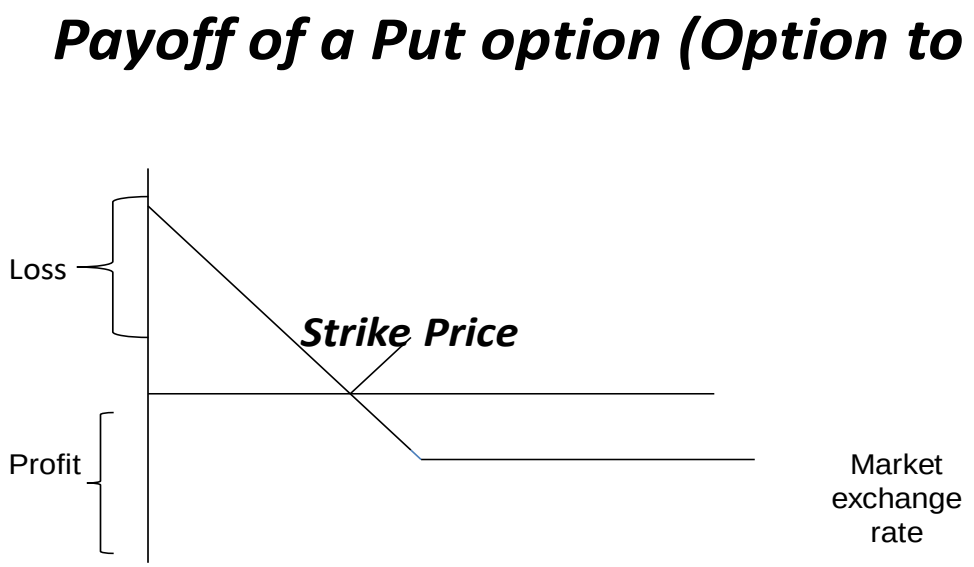
We can better understand the concept of option with the help of an example, suppose an Indian importer has to pay US $ 10,000 to the US exporter three months hence, since he is worried about the currency exchange rate fluctuation he purchase a call option at an exercise price of Rs 40/1 US $. At the expiration of the term if the trader found that the exchange rate in the market is Rs 45/1 US $**,** the option is said to be in the money and if on the date of maturity the exchange rate in the market is Rs 35/1 US $, in such a case it is worthless for the trader to exercise this option and it is called as out of the money. Similarly when the market exchange rate is equal to the exercise price agreed upon it is called as option at the money. This phenomenon can also be expressed in the figure as given below. In the figure we can clearly notice that as the market exchange rate keeps on increasing it results in a higher profit for the call option buyer and when there is a decline in the market exchange rate it results in losses for the call option buyer.

Payoff of a call option (option to buy)



However, in case of Put option the profit is calculated on the basis of decline in the market price. Suppose, in the case above the buyer has the put option at the exercise price of Rs 40/US $, then as in this case exchange rate of the two currencies starts fluctuating in the manner that for every $ less Indian rupees is payable then the profit of the put option buyer starts increasing. Like if the exchange rate declines to Rs 35/US $, then it earns the put option buyer a profit of Rs 5 and the put option is called as in the money, and when the market exchange rate is exactly equal to the exercise price i.e Rs 40/US $, the option is said to be option at the money, likewise if the market exchange rate becomes Rs 45/US $, such situation is called as option out

of the money. This can also be illustrated with the help of a figure. We can clearly see in the figure that as the market exchange rate keeps on declining it results in higher profits for the put option buyer and when the exchange rate starts increasing it results into losses for the put option buyer.



Thus, on the basis of the concepts discussed above we can conclude that in case of call option an increase in the market exchange rate is beneficial for the buyer while in case of a put option buyer a decrease in the market exchange rate is better for the buyer.

21.13 SUMMARY

With the increase in the volume of transactions between the various countries of the globe and with increasing globalization of products and services there also arise a requirement of a ready market for foreign exchange. The very purpose why a forex exchange is required is rising level of International trade between different nations and exchange of goods and services. Since, the exchange rate of the two currencies is continuously fluctuating therefore in order to hedge against the risk of fluctuation there is a market of currency derivatives. Derivatives are the instruments which derive their value on the basis of the underlying assets like in case of forex derivatives (futures and options) the values are derived on the basis of the value of underlying assets i.e exchange rate of currencies. Forex derivatives are basically forward contracts. Forward contract is an agreement between the buyer and seller to purchase a specified currency at a

predetermined price on a pre-specified future date. It is done to avoid the risk of exchange rate fluctuation involved in forex trading. It is based on the concept of game theory. If on the specified date the currency is trading at a price higher than the agreed price it is profit of the buyer and loss of the seller and vice-versa. The derivatives are of two types, Futures and Options.

Future is a standardized forward contract (i.e unlike forward contract here the quantity of currency involved, future date and delivery conditions are standardized than customized as in case of forward contract). Futures are such forward contracts which are traded in the forex market (forward contracts are not traded). In futures it is not necessary to take delivery i.e it can be settled with the differences (in forward it is compulsory to take delivery on maturity).

An option is a special contract under which the option owner enjoys the right to buy or sell something without the obligation to do so. The option to buy is called Call option. The option to sell is called Put option. The agreed price on which the option holder can either buy or sell is called exercise or strike price. The date on which option contract expires is called maturity or expiration date. Premium is the amount paid by the purchaser of the option in order to enter into contract.

21.14 GLOSSARY

Forex Derivatives: Derivatives are the instruments which derive their value on the basis of the underlying assets like in case of forex derivatives (futures and options) the values are derived on the basis of the value of underlying assets i.e exchange rate of currencies.

Forex Futures: It is a standardized forward contract (i.e unlike forward contract here the quantity of currency involved, future date and delivery conditions are standardized than customized as in case of forward contract).

Marking to market: This means that profit and losses arising on the basis of daily valuations of futures are adjusted into futures valuation on daily basis;

Clearing House: The clearing house of the forex exchange interposes itself between the long position and short position

Long Position: It is position which is taken by the purchaser of future i.e the position to buy.

Short Position: It is the position which is taken by the seller of the currency i.e the position to sell. The clearing house becomes the seller to the buyer and buyer to the seller.

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21.17 TERMINAL QUESTIONS

1. Describe in detail foreign currency derivatives along with its various types.
2. Explain in detail foreign currency futures and the mechanism of their trading.
3. Discuss foreign currency options with its types.
4. “Futures are standardize forward contracts.” Comment

5. Elucidate upon the role of RBI as the regulator of forex in India.
6. "Options are special contracts without any obligation." Explain
7. Giving suitable example explain the concept of options in the money, out of the money and at the money.

UNIT 22 INTEREST RATES AND FOREIGN CURRENCY SWAPS

22.1 INTRODUCTION

In the realm of international financial management, interest rates and foreign currency swaps are pivotal instruments used to manage financial risk and optimize capital allocation. Interest rates, which represent the cost of borrowing or the return on investment, play a crucial role in shaping economic activity and financial decisions across borders. They influence everything from corporate financing strategies to investment valuation and currency exchange rates. On the other hand, foreign currency

swaps are sophisticated financial derivatives that facilitate the exchange of cash flows in different currencies, allowing firms to hedge against currency fluctuations and manage international financial exposures. This unit explores the mechanisms, applications, and implications of interest rates and foreign currency swaps for global financial management, delving into these key ideas. Financial managers can more adeptly negotiate the intricacies of foreign markets and strategically match their financial procedures with the dynamics of the world economy by being aware of these tools.

22.2 OBJECTIVES

After reading this unit you will be able to:

- Define the basic concepts and structures of interest rate and foreign currency swaps.
- Explain the functions and benefits of swaptions and exotic swaps.
- Analyze the impact of technological advancements, such as blockchain and smart contracts, on swap transactions.
- Evaluate the regulatory and accounting considerations associated with swaps under various frameworks and standards.

22.3 INTEREST RATES AND FOREIGN CURRENCY SWAPS

Interest Rates:

Interest rates are the cost of borrowing money or the return earned on investments. They are expressed as a percentage of the principal amount and play a critical role in financial markets and economic activity.

Key types of interest rates include:

- Nominal Interest Rates: These are the rates before adjusting for inflation. They represent the stated or face interest rate on loans or investments.
- Real Interest Rates: These adjust nominal rates for inflation, reflecting the true cost of borrowing or the real return on investment.
- Fixed Interest Rates: These rates remain constant throughout the term of the loan or investment, providing predictability in payment amounts.
- Floating (Variable) Interest Rates: These rates fluctuate over time based on market conditions or benchmarks like LIBOR (London Interbank Offered Rate) or SOFR (Secured Overnight Financing Rate).

Foreign Currency Swaps:

Foreign currency swaps are derivative contracts that involve the exchange of cash flows in different currencies. They are used primarily to manage exposure to foreign exchange risk or to obtain more favorable borrowing rates.

Key elements include:

- Principal Exchange: At the beginning of the swap, the parties exchange principal amounts in various currencies. Typically, these sums are based on the agreed-upon notional value.
- Interest Payments: During the course of the swap, the parties exchange interest payments in their own currencies. These payments may be based on fixed or fluctuating rates.
- Re-exchange of Principal: At the completion of the swap, the main amounts are re-exchanged at the initial exchange rate or other agreed-upon rate.

22.4 IMPORTANCE IN INTERNATIONAL FINANCIAL MANAGEMENT

1. Risk Management:

- Interest Rate Risk: Companies and investors use swaps to hedge against fluctuations in interest rates. For instance, a company with a floating-rate debt might enter into a swap to convert it into a fixed-rate obligation, thus stabilizing its interest expenses.
- Currency Risk: Foreign currency swaps help manage exposure to changes in exchange rates. For example, a multinational company that receives revenue in one currency but incurs expenses in another can use currency swaps to align cash flows and reduce exchange rate risk.

2. Cost Efficiency:

- Funding Costs: Swaps can allow firms to exploit comparative advantages in borrowing costs. For instance, if a company in one country can borrow more cheaply in a foreign currency, it might use a swap to benefit from those lower rates while paying in its local currency.

- Arbitrage Opportunities: Swaps can also be used to take advantage of discrepancies in interest rates between different markets, providing opportunities for financial gain through arbitrage.

3. Capital Structure Optimization:

- Debt Management: Swaps allow firms to adjust the mix of fixed and floating-rate debt in their capital structure, optimizing their cost of capital and aligning their debt portfolio with their financial strategy and market conditions.

4. Strategic Financial Planning:

- Forecasting and Budgeting: By using swaps, companies can better forecast their future cash flows and manage their budgets. This predictability helps in strategic decision-making and in maintaining financial stability.
- Global Operations: For multinational corporations, managing exposure to multiple currencies and interest rates is crucial. Swaps facilitate this management, enabling companies to operate more efficiently across different currencies and financial environments.

5. Enhancing Financial Flexibility:

- Tailored Solutions: Swaps can be customized to meet specific needs of firms, providing tailored solutions for unique financial situations and risks.
- Market Access: They also allow firms to access markets they might otherwise find difficult or expensive to enter, providing greater financial flexibility and opportunities.

Understanding and utilizing interest rates and foreign currency swaps are essential for effective international financial management. They provide tools for managing risks, optimizing costs, and enhancing financial strategy in a globalized financial environment.

22.5 DETERMINING INTEREST RATES

Interest rates are influenced by various factors, which can be broadly categorized into market forces and central bank policies.

Market Forces:

- Supply and Demand for Funds: Interest rates are influenced by the supply of and demand for credit. High demand for loans or a lower supply of funds typically leads to higher interest rates.
- Inflation Expectations: Lenders require higher interest rates to compensate for the decreased purchasing power of money due to inflation. Conversely, lower inflation expectations generally lead to lower interest rates.
- Economic Conditions: In strong economic conditions with high demand for capital, interest rates tend to rise. Conversely, during economic downturns, interest rates may fall to stimulate borrowing and investment.

Central Bank Policies:

- Monetary Policy: Central banks, such as the Federal Reserve in the U.S. or the European Central Bank, influence interest rates through monetary policy. They set benchmark rates (e.g., the federal funds rate) and conduct open market operations to adjust the money supply.
- Inflation Targeting: Central banks may adjust interest rates to achieve specific inflation targets. For example, raising rates to combat high inflation or lowering them to encourage economic growth.
- Forward Guidance: Central banks provide guidance on future policy actions, which can affect market expectations and influence interest rates. For instance, signaling future rate hikes can lead to higher current rates.

22.6 INTEREST RATE DIFFERENTIALS AND THEIR EFFECT ON INTERNATIONAL TRADE AND INVESTMENT

The term "interest rate differential" describes the variations in interest rates between two financial markets or nations. The effects of these discrepancies for global investment and trade are substantial.

Effect on Currency Exchange Rates:

- Capital Flows: Higher interest rates in a country can attract foreign investment seeking higher returns, leading to an appreciation of the country's currency. Conversely, lower rates may lead to depreciation.
- Carry Trade: Investors may engage in carry trades by borrowing in a currency with low interest rates and investing in a currency with higher rates, affecting exchange rates and currency stability.

Impact on Trade:

- Competitiveness: A stronger currency due to higher interest rates can make a country's exports more expensive and imports cheaper, potentially reducing export competitiveness and increasing trade deficits.
- Foreign Investment: Interest rate differentials can influence foreign direct investment (FDI). Higher rates may attract foreign investors seeking better returns, while lower rates can discourage investment.

Impact on Capital Flows:

- Portfolio Investment: Investors may shift their portfolios based on interest rate differentials, moving capital to countries with higher rates to achieve better returns. This can impact stock and bond markets globally.
- Economic Stability: Significant interest rate differentials can lead to volatile capital flows and economic instability if investors rapidly shift their capital in response to changing rates.

Hence, understanding interest rates and their determinants is crucial for managing financial decisions and assessing economic conditions. Interest rate differentials have far-reaching effects on currency values, international trade, and global investment strategies, making them essential components of international financial management.

22.7 INTRODUCTION TO SWAPS

Swaps are versatile financial instruments that enable parties to exchange cash flows or financial obligations under agreed terms, often to manage risk or achieve financial efficiency. Originating in the 1980s, swaps have evolved into a fundamental tool in modern finance, encompassing a range of contracts including interest rate swaps, foreign currency swaps, and commodity swaps. By allowing entities to tailor their financial agreements to specific needs, swaps facilitate the management of various types of risk—such as interest rate and currency fluctuations—while potentially enhancing returns and optimizing capital structure. This section introduces the concept of swaps, explores their core mechanisms, and examines their role in financial markets, providing a foundational understanding of how these instruments function and their applications in risk management and financial strategy.

22.8 OVERVIEW OF SWAPS

Swaps are derivative contracts in which two parties agree to exchange cash flows or financial obligations based on specified terms. The cash flows are typically calculated based on underlying financial instruments, such as interest rates, currencies, or commodities. Swaps are used to manage financial risks, achieve more favorable financial terms, or align financial exposures with strategic objectives.

Purpose

- Risk Management: Swaps allow parties to hedge against various types of financial risks, including interest rate risk, currency risk, and commodity price risk. By entering into a swap, entities can stabilize cash flows and protect themselves from adverse market movements.
- Cost Optimization: Through swaps, firms can potentially achieve lower borrowing costs or better investment returns by taking advantage of comparative advantages in different markets.
- Capital Structure Adjustment: Swaps enable entities to modify their capital structures by converting between different types of financial exposures, such as switching from floating to fixed interest rates.
- Arbitrage Opportunities: Swaps can be used to take advantage of differences in the financial markets, giving arbitrage techniques the chance to make profit.

Types of Swaps

- Interest Rate Swaps: A contract in which two parties swap interest payments on a notional principle amount—one paying a fixed rate and the other a floating rate, or vice versa is known as an interest rate swap. These swaps are used to achieve more favorable financing conditions, modify the profile of interest rate exposures, and hedge against interest rate swings. Example: A firm with a floating-rate loan may enter into an interest rate swap to pay a fixed rate and receive a floating rate, thus steadying its interest payments.
- Foreign Currency Swaps: Principal and interest payments are swapped for various currencies in a foreign exchange swap. Together with regular interest payments, the parties agree to exchange a certain quantity of one currency for an identical amount in another currency. These swaps are used to manage exposure to currency fluctuations, facilitate international trade and investment, and obtain favorable financing terms in foreign currencies. Example: A company operating in both the U.S. and Europe might use a foreign currency swap to exchange U.S. dollars for euros, aligning its cash flows with its operational needs and

mitigating currency risk.

Mechanism of Swap Transactions

General Structure:

- Agreement: The swap transaction begins with a formal agreement between the two parties, specifying the terms of the swap, including the notional amount, payment dates, and the formulas for calculating cash flows.
- Cash Flow Exchange: Based on the terms of the agreement, the parties exchange cash flows on scheduled dates. For interest rate swaps, this involves exchanging interest payments. For foreign currency swaps, this includes both principal and interest payments.

Interest Rate Swap Mechanism:

- Initial Exchange: Typically, there is no initial exchange of principal. The parties agree to swap interest payments based on a estimated amount.
- Periodic Payments: The fixed-rate payer makes payments at the agreed-upon fixed rate, whereas the floating-rate payer makes payments using a variable rate, such as SOFR or LIBOR, applied to the estimated amount.
- Settlement: Payments are often netted, which means that just the difference between the two payment streams is traded.

Foreign Currency Swap Mechanism:

- Initial Exchange: At the beginning of the swap, the parties exchange principal amounts in different currencies at a predetermined exchange rate.
- Periodic Payments: The parties pay monthly interest in their respective currencies depending on the estimated amounts exchanged.
- Re-exchange of Principal: The parties re-exchange the main amounts at the original exchange rate or at a different agreed rate at the end of the swap term.

Pricing and valuation:

- Pricing Models: A swap's value is calculated by taking the present value of the predicted future cash flows. For interest rate swaps, this involves discounting the fixed and floating payments. For currency swaps, it includes exchange rates and interest rates for both currencies.

- Market Factors: The pricing of swaps is influenced by market interest rates, currency exchange rates, and credit risk of the counterparties.

Swaps are essential financial instruments used for managing risk, optimizing financial conditions, and achieving strategic financial goals. Understanding their definitions, types, and mechanisms is crucial for effectively utilizing these tools in financial management.

22.9 FOREIGN CURRENCY SWAPS

Foreign currency swaps are intricate financial products that allow for the exchange of cash flows between foreign currencies, making them an important tool for controlling currency risk and optimizing international financial operations. These swaps entail exchanging principal amounts in one currency for equal quantities in another currency at the start of the arrangement, followed by periodic interest payments based on the notional amounts. Foreign currency swaps are invaluable for multinational firms, financial institutions, and investors involved in worldwide activities because they help align cash flows with operational needs and mitigate the impact of currency volatility. This section delves into the core concepts of foreign currency swaps, including their structure and role in international finance, emphasizing their importance in managing foreign exchange risk and increasing financial efficiency across borders.

These are the derivative contracts in which two parties agree to exchange cash flows in different currencies. Typically, these swaps involve an initial exchange of principal amounts in different currencies, followed by periodic exchanges of interest payments based on the notional amounts. They are used to manage currency risk, secure favorable financing terms, and facilitate international transactions.

Purpose

- Hedging Currency Risk: Foreign currency swaps help mitigate exposure to fluctuations in exchange rates, protecting entities from adverse movements that could impact their financial stability or operational costs.
- Securing Favorable Financing: Companies and investors can use swaps to obtain funding in a currency where they have a comparative advantage, while making payments in a currency that aligns with their cash flows.
- Facilitating International Trade: By locking in exchange rates, foreign currency swaps ensure predictable costs and revenues for companies engaged in cross-border trade and investments.

Structure of Foreign Currency Swaps

Exchange of Principal and Interest Payments:

- Initial Exchange of Principal: At the start of the swap, the parties exchange principal amounts in various currencies. The amount exchanged is determined by the notional principal, which is agreed upon in the contract.
- Example: Party A exchanges USD 10 million for EUR 9 million with Party B.
- Periodic Interest Payments: Throughout the duration of the swap, the parties exchange interest payments depending on the nominal amounts in their currencies. These payments may be based on fixed or fluctuating interest rates.
- Example: Party A pays interest on EUR 9 million, while Party B pays interest on USD 10 million, according to the agreed-upon rates.

Timing and Duration:

- Swap Term: The duration of a foreign currency swap is defined in the contract, typically ranging from a few months to several years. The term specifies the dates for principal and interest exchanges.
- Payment Dates: Interest payments are usually made on a periodic basis (e.g., quarterly, semi-annually) throughout the term of the swap. The timing of these payments is detailed in the swap agreement.

Benefits

- Hedging Currency Risk: Foreign currency swaps protect against fluctuations in exchange rates, reducing uncertainty for companies with cross-border operations or investments.
- Managing Cash Flow: By aligning cash flows with the currency of revenue or expense, swaps help manage cash flow and budgeting for multinational businesses.
- Securing Favorable Financing Terms: Firms can take advantage of better borrowing conditions in one currency while making payments in another, potentially lowering overall financing costs.

Risks

- Exchange Rate Risk: Although swaps mitigate some currency risk, they do not eliminate it entirely. Adverse movements in exchange rates could still impact the value of cash flows exchanged.
- Interest Rate Risk: Changes in interest rates can affect the cost of the swap,

particularly if the interest payments are based on floating rates.

- Credit Risk: There is a risk that one party may default on their payment obligations, potentially leading to financial losses for the other party.
- Liquidity Risk: In some cases, foreign currency swaps may be less liquid than other financial instruments, making it challenging to unwind or adjust the swap before its maturity.

Valuation and Pricing of Foreign Currency Swaps

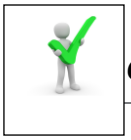
Theoretical Pricing Models:

- Present Value of Cash Flows: A foreign currency swap's value is calculated by taking the present value of predicted future cash flows. Using proper discount rates, future interest payments and principal swaps are discounted to their current value.
- Exchange Rate Considerations: The pricing model also incorporates the current exchange rate and the agreed-upon exchange rate for the principal re-exchange.

Market Pricing Techniques:

- Market Quotes: The value of a foreign currency swap is often derived from market quotes or rates, such as the forward exchange rate and current interest rates in the respective currencies.
- Swap Spreads: The pricing may include swap spreads, which are the differences between the swap rates and benchmark interest rates, reflecting the market's perception of credit risk and liquidity.
- Counterparty Pricing: The terms of the swap, including the rates and spreads, can vary based on the creditworthiness of the counterparties and prevailing market conditions.

In summary, foreign currency swaps are vital financial instruments for managing currency risk and optimizing financial transactions. Understanding their structure, benefits, risks, and valuation techniques is essential for effective use in international finance.



Check Your Progress-A

Q1. What is the primary purpose of using foreign currency swaps in international financial management?

Q2. How do interest rate swaps benefit companies with variable-rate debt?

Q3. MCQs

1. Interest rate swaps are primarily used to:

A) Exchange different currencies

B) Manage cash flow variability due to changes in interest rates

C) Buy and sell foreign exchange for immediate delivery

D) Purchase stocks in different markets

2. A foreign currency swap involves:

A) Exchanging interest payments in the same currency

B) Exchanging principal and interest payments in two different currencies

C) Converting fixed-rate debt into floating-rate debt

D) Exchanging bonds between companies

3. Which of the following is a key benefit of foreign currency swaps?

A) Increasing capital requirements

B) Reducing credit risk between parties

C) Mitigating the impact of currency exchange rate fluctuations

D) Providing direct access to foreign stock markets

Q4. Fill in the Blanks with appropriate word or words.

1. Foreign currency swaps are often used to hedge against _____ risk.
2. Interest rate swaps allow companies to convert fixed-rate debt into _____-rate debt.
3. The primary components of a foreign currency swap include the exchange of _____ and interest payments.
4. One of the key motivations for using interest rate swaps is to achieve more _____ cash flows.
5. Foreign currency swaps are especially useful for companies with significant operations in multiple _____.

22.10 INTEREST RATE SWAPS

Interest rate swaps are critical financial tools used to manage exposure to interest rate changes and accomplish strategic financial goals. These derivative contracts include two parties exchanging interest payments, with one paying a fixed rate and receiving a floating rate, or vice versa, depending on a notional principle amount. By converting between fixed and floating rate obligations, interest rate swaps allow entities to adjust their interest rate exposure, optimize borrowing costs, and stabilize cash flows. This section goes into the fundamentals of interest rate swaps, including their benefits, structure and uses, giving readers a thorough grasp of how these instruments work in financial risk management and capital structure optimization.

It is a financial derivative contract in which two parties come to an agreement to exchange interest payments based on a notional principal amount over a set time period. Typically, one side pays a fixed interest rate and the other pays a variable interest rate, or vice versa. The notional amount is utilized to calculate interest payments but is not transferred between the parties.

Purpose:

- Hedging Interest Rate Risk: Interest rate swaps are used to protect against fluctuating interest rates. For example, a corporation with a variable-rate loan could use a swap to convert it to a fixed-rate obligation, so stabilizing its interest costs.
- Managing Debt Costs: Swaps enable entities to optimize their debt costs by aligning their interest rate exposures with their financial strategy and market conditions. This can lead to reduced overall financing costs.
- Capital Structure Adjustment: Companies can use swaps to adjust the mix of

fixed and floating rate debt in their capital structure, achieving a more favorable balance between interest rate stability and cost efficiency.

Structure of Interest Rate Swaps

Exchange of Fixed vs. Floating Payments:

- Fixed Payments: In the swap one party agrees to pay a fixed interest rate on the notional amount. This rate remains constant for the duration of the swap. Example: A company commits to pay 5% fixed interest on a notional amount of $10 million.
- Floating Payments: The other party commits to pay interest at a floating rate, usually based on a reference rate like LIBOR (London Interbank Offered Rate) or SOFR (Secured Overnight Financing Rate). The floating rate is periodically modified to reflect changes in the reference rate. Example: The counterparty pays interest at LIBOR + 2% on the same hypothetical amount of $10 million.

Duration:

- Swap Term: The duration of an interest rate swap can range from a few months to several years. The term specifies the period over which interest payments are exchanged.
- Payment Dates: Interest payments are exchanged on predetermined dates, such as quarterly or semi-annually. These dates are detailed in the swap agreement and determine when the parties will make and receive payments.

Benefits

- Hedging Interest Rate Risk: Interest rate swaps help mitigate the risk associated with fluctuations in interest rates, providing stability for budgeting and financial planning.
- Managing Debt Costs: By converting floating-rate debt to fixed-rate obligations or vice versa, entities can optimize their cost of borrowing and align with their financial strategy.
- Flexibility: Swaps can be tailored to meet specific needs, allowing for customization based on the terms, notional amounts, and payment schedules.

Risks:

- Interest Rate Risk: Changes in interest rates can affect the value of the swap. For instance, if interest rates rise significantly, the party paying a fixed rate may face

higher costs compared to the prevailing floating rates.

- Credit Risk: There is a risk that one party may default on their payment obligations, potentially resulting in financial loss for the counterparty.
- Market Risk: The value of the swap can fluctuate based on market conditions, including changes in interest rates and economic outlook.
- Liquidity Risk: In some cases, interest rate swaps may be less liquid than other financial instruments, making it challenging to unwind or modify the swap before its maturity.

Valuation and Pricing of Interest Rate Swaps

Theoretical Pricing Models:

- Present Value of Cash Flows: An interest rate swap's value is calculated by taking the present value of predicted future cash flows. The fixed and floating interest payments are discounted to their present value using appropriate discount rates.
- Swap Spread: The theoretical price of the swap can be influenced by the swap spread, which is the difference between the fixed rate and the floating rate, reflecting market conditions and credit risk.

Market Pricing Techniques:

- Market Quotes: The pricing of interest rate swaps is often derived from market quotes for benchmark interest rates and swap rates. These quotes provide the basis for determining the swap rates and valuing the swap.
- Swap Curves: Market pricing techniques use swap curves, which represent the fixed rates for different maturities. These curves help determine the fair value of the swap based on prevailing market rates.
- Counterparty Pricing: The terms of the swap, including the rates and spreads, can vary based on the creditworthiness of the counterparties and current market conditions.

In summary, interest rate swaps are crucial instruments for managing interest rate exposure and optimizing financial conditions. Understanding their structure, benefits, risks, and valuation techniques is essential for effective financial management and strategic decision-making.

22.11 APPLICATIONS IN INTERNATIONAL FINANCIAL MANAGEMENT

Interest rate and foreign currency swaps play a pivotal role in international financial management by providing sophisticated tools for managing financial risks and optimizing capital structures across global markets. These derivatives enable multinational corporations and financial institutions to address the complexities of operating in multiple currencies and interest rate environments. By using interest rate swaps, entities can adjust their exposure to fluctuating interest rates, aligning their debt profiles with strategic financial goals. Foreign currency swaps, on the other hand, help manage currency risk, facilitate international trade, and secure favorable financing terms in different currencies. This section explores how these swaps are applied in international financial management to enhance risk management, improve financial efficiency, and support global business strategies.

Hedging Strategies Using Swaps

- Reducing Exposure to Interest Rate Fluctuations:
- Organizations use interest rate swaps to manage exposure to fluctuating interest rates, especially when they have debt instruments with variable interest rates or when they seek to convert fixed-rate obligations into floating rates.

Mechanism:

- Fixed-to-Floating Swap: A business with a variable-rate loan can enter into a swap agreement in which it pays a fixed rate and receives a floating rate. This technique keeps the company's interest expenses stable by locking in a fixed cost while potentially benefiting from reduced floating rates.
- Floating-to-Fixed Swap: In contrast, a corporation with a fixed-rate loan may enter into a swap to pay a fluctuating rate while obtaining a fixed rate. This can be advantageous if the company believes that interest rates will fall, allowing it to benefit from cheaper borrowing expenses.
- Example: A company with a $50 million variable-rate loan might enter into a swap to pay a fixed rate of 4% and receive a floating rate based on LIBOR. This helps the company manage its interest expenses and align its debt profile with its financial outlook.

Managing Currency Exposure:

Foreign currency swaps are utilized to manage exposure to exchange rate changes, which is critical for multinational corporations that deal in various currencies or perform worldwide operations.

Mechanism:

- Currency Swap for Hedging: An organization trading in the Eurozone with revenues in euros but expenses in US dollars may engage in a foreign currency swap to exchange euros for dollars. This hedges currency risk and aligns cash flows with the company's operating requirements.
- Long-Term Financing: An organization that wants to finance its operations in a foreign country may use a currency swap to get better financing terms in the local currency while making payments in the currency of its home nation. This can help to mitigate the effects of currency changes on finance expenses.
- Example: A U.S.-based company entering the European market might use a currency swap to exchange $100 million for euros at the current exchange rate. The firm will then receive euros to fund its operations in Europe while paying interest in dollars.

22.12 REGULATORY AND ACCOUNTING CONSIDERATIONS

In the complex landscape of financial management, regulatory and accounting considerations play a crucial role in the effective oversight and reporting of swap transactions. Swaps, including interest rate and foreign currency swaps, are subject to stringent accounting standards and regulatory frameworks that aim to enhance transparency, manage risk, and ensure financial stability. Accounting standards such as IAS 39, IFRS 9, and US GAAP provide detailed guidelines on the recognition, measurement, and reporting of swaps, while regulatory frameworks like Basel III and the Dodd-Frank Act impose requirements to mitigate systemic risk and promote market integrity. Understanding these considerations is essential for accurate financial reporting, compliance, and strategic risk management in the dynamic environment of international finance.

Accounting for Swaps

Financial Instruments

IAS 39 (International Accounting Standard 39):

- IAS 39 provided guidance on the recognition, measurement, and derecognition of financial instruments, including derivatives like swaps. It

required entities to recognize swaps at fair value and measure them based on their classification as either held for trading or hedging instruments.

- Hedge Accounting: IAS 39 introduced the concept of hedge accounting, allowing entities to match the gains and losses on hedging instruments with the losses and gains on the hedged items. To qualify for hedge accounting, the hedge must be highly effective and documented according to strict criteria.
- Measurement: Swaps classified as held for trading were measured at fair value, with changes in fair value recognized in profit or loss. Hedging instruments were also measured at fair value, but the treatment of changes in value depended on the type of hedge (fair value hedge, cash flow hedge, or net investment hedge).

IFRS 9 (International Financial Reporting Standard 9):

- IFRS 9, which replaced IAS 39, introduced a new model for financial instruments, including derivatives and swaps. It aims to improve the classification and measurement of financial instruments and the accounting for hedge relationships.
- Classification and Measurement: IFRS 9 classifies financial assets into categories based on their contractual cash flow characteristics and the entity's business model. Derivatives, including swaps, are generally measured at fair value through profit or loss (FVPL), but some can be designated as hedging instruments.
- Hedge Accounting: IFRS 9 provides a more flexible approach to hedge accounting, allowing for a broader range of hedging relationships and simplifying the documentation requirements. It introduces a forward-looking approach to assessing hedge effectiveness and permits the use of risk components as hedging instruments.

US GAAP - Derivatives and Hedging:

Accounting for Derivatives:

- Under US GAAP, derivatives, including swaps, are governed by Accounting Standards Codification (ASC) Topic 815, "Derivatives and Hedging." This standard requires derivatives to be recognized on the balance sheet at fair value.
- Hedge Accounting: ASC 815 allows for hedge accounting if certain criteria are met, including formal documentation of the hedge relationship and assessment of hedge effectiveness. The gains and losses on derivatives

designated as hedging instruments are recognized in either other comprehensive income (for cash flow hedges) or directly in earnings (for fair value hedges).

Regulatory Framework

Basel III and its Impact on Swap Transactions:

- Basel III is a global regulatory framework developed by the Basel Committee on Banking Supervision to enhance the regulation, supervision, and risk management of the banking sector. It builds on the Basel II framework and addresses several deficiencies revealed during the global financial crisis.
- Impact on Swaps:
- Capital Requirements: Basel III introduces stricter capital requirements for banks, including higher common equity tier 1 (CET1) capital ratios. This impacts swap transactions as banks may need to hold more capital against their derivative exposures.
- Leverage Ratio: Basel III introduces a leverage ratio to limit the build-up of leverage in the banking sector, affecting the ability of banks to engage in swap transactions.
- Liquidity Requirements: Basel III mandates improved liquidity standards, including the liquidity coverage ratio (LCR) and net stable funding ratio (NSFR). These requirements can influence the liquidity of swap markets and the availability of counterparties.

Dodd-Frank Act and Swap Regulations:

14.13 The Dodd-Frank Wall Street Reform and Consumer Protection Act, passed in 2010 in response to the financial crisis, established broad controls for derivatives markets, including swaps.

14.14 Key Provisions:

- Central Clearing: The Dodd-Frank Act requires that many swap transactions be cleared through central clearinghouses in order to reduce counterparty risk and increase market transparency.
- Swap Reporting: The Act requires swap transactions to be recorded to trade repositories, which improves derivatives market transparency and accountability.
- Volcker Rule: The Dodd-Frank Act includes the Volcker Rule, which restricts banks from engaging in proprietary trading and limits their investments in hedge funds and private equity funds. This affects banks'

participation in swap markets.

Disclosure and Reporting Requirements

IFRS 7 - Financial Instruments: Disclosures:

- IFRS 7 requires entities to provide disclosures about the significance of financial instruments, including swaps, to their financial position and performance.
- Requirements: Entities must disclose information about the nature and extent of risks arising from financial instruments, including credit risk, liquidity risk, and market risk. For swaps, this includes information on fair values, risk management strategies, and the impact of derivatives on financial statements.

US GAAP Disclosures:

- ASC 815 - Derivatives and Hedging: Under US GAAP, ASC 815 requires entities to disclose the nature and purpose of derivative instruments, including swaps, and their impact on financial statements. This includes fair value measurements, the use of hedge accounting, and the effects of derivatives on earnings and other comprehensive income.

In summary, the accounting and regulatory frameworks for swaps are designed to provide transparency, manage risk, and ensure financial stability. Understanding the requirements of IAS 39 / IFRS 9, US GAAP, Basel III, and the Dodd-Frank Act, along with disclosure and reporting obligations, is essential for effective management and compliance in swap transactions.

22.13 EMERGING TRENDS

As financial markets evolve, advanced topics and emerging trends in swap transactions continue to shape the landscape of international financial management. Innovations in swap structures, the increasing integration of technology, and evolving regulatory requirements are driving significant changes in how swaps are utilized and managed. Advanced topics such as the integration of environmental, social, and governance (ESG) criteria into swap transactions, the rise of digital currencies and blockchain technology, and the impact of macroeconomic shifts on swap markets are becoming increasingly relevant. This section explores these cutting-edge developments and their implications for the future of swap transactions, highlighting the need for financial professionals to stay abreast of new trends and adapt their strategies to navigate the changing financial environment effectively.

Innovations in Swap Markets

Swaptions and Exotic Swaps:

- Swaptions: A swaption is an option to sign an interest rate swap arrangement at a later date. It gives the holder the right, but not the responsibility, to enter into a swap arrangement under specified parameters.
- Types:
  - Payer Swaption: Allows the holder to enter into a swap in which they pay a set rate and receive a floating rate.
  - Receiver Swaption: Allows the holder the right to enter into a swap where they receive a fixed rate and pay a floating rate.
  - Uses: Swaptions are used for hedging interest rate risks, speculative trading, and managing future interest rate exposure. They offer flexibility and the potential for favorable adjustments based on market movements.

Exotic Swaps:

- Exotic swaps are customized swap agreements that include features not found in standard swaps. They often involve complex terms and conditions tailored to specific needs or market views.
- Types:
  - Barrier Swaps: Swaps that include triggers or barriers that can alter the terms of the swap if certain conditions are met.
  - Amortizing Swaps: Swaps where the notional amount decreases over time, typically aligned with amortizing loans or debt.
  - Callable/Puttable Swaps: Swaps with options that allow one party to terminate or extend the swap early, providing additional flexibility.

Impact of Technological Advancements

Blockchain and Smart Contracts in Swaps:

- Blockchain Technology: Blockchain is a decentralized digital ledger that records transactions across a network of computers in a secure and immutable manner.
- Applications in Swaps: Blockchain can enhance transparency and efficiency in swap transactions by providing a secure, real-time record of trades. It reduces counterparty risk by eliminating the need for intermediaries and enables more

accurate and timely settlement of trades.

Smart Contracts: Smart contracts are self-executing contracts with terms directly written into code. They automatically enforce and execute the terms of the agreement when predefined conditions are met.

Applications in Swaps: Smart contracts can automate the execution of swap agreements, including the exchange of payments and settlement. This reduces operational costs, minimizes errors, and enhances the speed of transactions. They can also integrate with blockchain to ensure the integrity and transparency of swap agreements.

Future Trends in Interest Rate and Currency Swaps

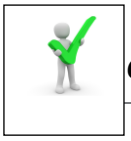
Interest Rate Swaps:

- Shift Towards Risk-Free Rates: There is a growing shift from traditional benchmark rates like LIBOR to risk-free rates (RFRs) such as SOFR (Secured Overnight Financing Rate) and ESTR (Euro Short-Term Rate). This transition is driven by the need for more robust and transparent reference rates.
- Increased Use of Sustainable Finance: The integration of ESG (Environmental, Social, and Governance) criteria into interest rate swaps is gaining traction. Financial institutions and corporations are increasingly incorporating sustainability considerations into their swap transactions and hedging strategies.

Currency Swaps:

- Emergence of Digital Currencies: The rise of digital currencies and central bank digital currencies (CBDCs) could impact currency swap markets by introducing new forms of currency exchange and hedging opportunities. This could alter traditional currency swap dynamics and create new market segments.
- Greater Market Integration: As global markets become more interconnected, currency swaps are likely to play an increasingly important role in managing currency risk and facilitating cross-border transactions. This includes more complex and customized swap arrangements to address the needs of multinational corporations and financial institutions.

In summary, the swap markets are experiencing significant innovations and emerging trends that reflect advances in financial engineering, technology, and global market dynamics. Understanding these developments is crucial for adapting to the evolving landscape and leveraging new opportunities in swap transactions.



Check Your Progress-B

Q1. Describe the role of blockchain technology in enhancing transparency and efficiency in swap transactions?

Q2. What are exotic swaps, and how do they differ from standard swap agreements?

Q3. What is the difference between active and passive investment strategies?

Q4. Multiple Choice Questions

1. **What does a swaption provide to its holder?**

   A) The obligation to enter into a swap agreement

   B) The right to enter into a swap agreement

   C) The right to cancel an existing swap

   D) The obligation to buy or sell a financial instrument

2. **What is the primary benefit of using smart contracts in swap transactions?**

   A) Reducing counterparty risk

   B) Increasing transaction fees

C) Automating execution and reducing operational costs

D) Enhancing market volatility

22.14 GLOSSARY

Swaption: An option that gives the holder the right, but not the obligation, to enter into an interest rate swap agreement at a future date.

Exotic Swaps: Customized swap agreements with features that are not found in standard swap agreements, such as barrier or callable swaps.

Blockchain: A decentralized digital ledger that records transactions across multiple computers in a secure and immutable manner.

Smart Contracts: Self-executing contracts with terms directly written into code that automatically enforce and execute the terms of an agreement when conditions are met.

Interest Rate Swap: A financial derivative in which two parties exchange interest payments based on a hypothetical principal amount, one paying a fixed rate and the other paying a fluctuating rate.

Foreign Currency Swap: A financial contract in which two parties exchange principal and interest payments in different currencies.

LIBOR: It's a benchmark interest rate used worldwide for various financial instruments.

SOFR: It's a risk-free interest rate used as an alternative to LIBOR.

Amortizing Swap: A type of swap where the notional amount decreases over time, often used to match the amortization schedule of loans or debt.

Barrier Swap: A swap with triggers or barriers that can alter the terms of the swap if certain conditions are met.

22.15 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress –A

Answer 3. MCQs

1. B) Manage cash flow variability due to changes in interest rates

2. B) Exchanging principal and interest payments in two different currencies

3. C) Mitigating the impact of currency exchange rate fluctuations

Answer 4. Fill in the Blanks with appropriate word or words.

1. exchange rate
2. floating
3. principal
4. predictable
5. countries

Check Your Progress –B

Answer 4. Multiple Choice Questions

1B) The right to enter into a swap agreement

2C) Automating execution and reducing operational costs

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22.17 SUGGESTED READINGS

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22.18 TERMINAL QUESTIONS

1. Explain the concept of a swaption and its impact on risk management in financial markets.

2. Discuss the role of blockchain technology and smart contracts in revolutionizing swap transactions.

3. Analyze the effects of Basel III and the Dodd-Frank Act on the regulatory environment for swap transactions.

4. Evaluate the advantages and disadvantages of using exotic swaps compared to standard swap agreements.

5. Predict future trends in interest rate and currency swaps, considering technological advancements and market developments.

22.19 CASE LETS/CASES

IBM's Use of Swaps for Hedging Currency Risk

In 2015, IBM, a leading global technology company, faced substantial exposure to currency fluctuations due to its significant international operations. With revenues and expenses spread across multiple currencies, IBM needed an effective strategy to manage its currency risk and stabilize its financial results. To address this, IBM employed a series of foreign currency swaps.

One notable transaction involved IBM entering into a currency swap agreement to exchange U.S. dollars for euros. This swap allowed IBM to lock in exchange rates for a specified future date, providing certainty for its European operations' cash flows. By exchanging U.S. dollars, which were its primary revenue currency, for euros, IBM effectively managed its exposure to fluctuations in the EUR/USD exchange rate.

The swaps not only mitigated the risk of adverse currency movements but also allowed IBM to align its financial outcomes with its business strategy. The

company reported that these swaps contributed to more predictable earnings and helped manage the costs associated with its international operations. IBM's approach demonstrates how multinational corporations can use currency swaps as a strategic tool to stabilize cash flows and protect against currency risk, highlighting the practical benefits of sophisticated financial instruments in global business management.

UNIT 23 INTERNATIONAL FINANCIAL INSTRUMENTS

23.1 INTRODUCTION

Even a brief look at the evolution of the global economy after the 1980s shows revolutionary variation in the world's financial markets. The combination of several factors created huge capital flows across national borders. This changed the structure and functioning of global financial markets. Finance is the lifeblood of any organization. But it is available in limited quantities. Therefore, organizations must explore various modern potential source of funding arranged, including domestic and international platforms. Global financial instruments are the main global financial instruments and platforms. International financial markets serve as a platform for the exchange of financial assets between individuals and countries. It can be seen as a comprehensive framework consisting of rules and institutions that facilitate the trading of assets between surplus and deficit units, and these institutions set regulatory guidelines. When an MNE completes its foreign investment project, it must select a p-specific source or combination of funding sources to finance the investment project. At this point, it can be stated that an international company is on a better footing than a domestic company when it comes to

raising funds. A domestic company usually receives funds from domestic sources. Additionally, you can obtain money from international financial markets; however, it isn't as easy as with an international company. The latter can use the funds of parent business for its foreign investment project. Moreover, it can raise money from the financial markets of the host country, but more importantly, it will seek to collect money from the global financial markets. It chooses a particular source or combination of sources or a particular type or type of fund that suits its business objectives.

23.2 OBJECTIVES

Upon completion of this unit, you ought to be able to:

- Explain the concepts of international financial instruments; describe the types of international financial instruments.
- Distinguish different instruments of international financial markets;
- Describe the different international financial instruments used for financing; and
- Analyze various exchange rate risks.

23.3 SIGNIFICANCE OF INTERNATIONAL FINANCIAL INSTRUMENTS

Money instruments are financial contracts that might be bought, traded, created, changed or paid. In conditions of contracts, parties have a contractual obligation to trade in financial instruments. Financial instrument - words written on the tools.

For instance, if a business were to pay cash for a bond, the other party would have to hand over the financial instrument to complete the transaction. One company has an obligation to issue cash Additionally, the other bond.

Basic examples of financial instruments are checks, bonds, securities.

23.4 CONCEPT OF INTERNATIONAL FINANCIAL INSTRUMENTS

Currency instruments are financial products that are sold on international market place. It is a physical or digital document that serves as a representation of a legally binding agreement with monetary value. Currency contract and derivatives make up the majority of currency instruments. Financial tools are able to generally be classified as:

i) equity-based, which represent the ownership of assets,

ii) debt-based, which represent a loan from an investor to the proprietor of the asset, and

iii) Currency instruments are a unique type of an instrument. . Subcategories exist for every type of instrument.

You might think of financial instruments as easily exchangeable capitals, each with their own structure and set of features. The abundance of financial instruments available on today's market facilitates an effective transfer of capital between investors and the global economy. Each and every financial instrument has three main functions:

i) Financial instruments serve as a method of payment.

ii) Financial instruments act as stores of value. They result in an increase in wealth, which is superior than from holding money and able to be transfer purchasing power into the future.

iii) Financial instruments enable the conveyance of risk. Futures and insurance contracts allow you to transfer risk to someone else. Information about financial instruments is important for users because it provides an understanding of the hazards connected to monetary assets and liabilities, including the danger that they present to the company and their management.

23.5 INTERNATIONAL FINANCIAL INSTRUMENTS

23.5.1. International Bonds

23.5.2. Short Term & Medium-term instruments

23.5.3. Others

23.5.1. International bonds

International Governments, agencies and corporations issue international bonds as debt instruments to borrow money abroad for a predetermined period of time. The issuer makes payment to the creditor interest and repays the principal. There are various kinds of such connections. The procedure for giving support is quite detailed. All of them need explanation here. An international bond is usually a debt obligation issued by an International entity in its own currency. Most foreign bonds are corporate bonds, but some government bonds are investable assets. International bonds offer portfolio diversification but carry currency risk.

Types of international bonds:

23.5.1.1. Foreign bonds and euro loans

Foreign bonds and Euro loans are two categories for international bonds. There are four primary differences between the two.

First, while issuing a foreign bond, the issuer selects a foreign financial market and issues the bonds there using the currency of that nation. If a bond issued by an Indian business in New York is issued in a currency different that the national currency of the issuing nation. An Indian corporate bond denominated in US dollars may be utilized anywhere outside of the US. It’s only then referred to as a Eurobond.

Second, the insurance companies of the nation in which foreign bonds are issued typically guarantee them. . However, Eurobonds are guarantors of several nationalities.

Third, investors in the nation where a foreign bond is issued are taken into consideration when determining the bonds maturity. Conversely, Euro loans are tailored to meet the requirements of global investors. The market for Eurobonds was initially controlled by individuals who typically could pick a shorter maturity. However, institutional investors now control the majority of the market, even though they may not be looking for a Euro Bond maturity to walk their debts. As a result, there are several facets to Eurobond maturity. Eurobond with a maturity of eight to twelve years is referred to as Eurobonds in England.

Fourth, International bonds are generally subject to the regulations of the government of the nation where they are issued. For example, Considering Yankee Bonds, which are bonds issued in the United States, the regulatory focus is on disclosure. In some European countries, the focus is on allocation of resources and money management. Japan issued bonds known as "Samurai bonds" included needed minimum credit score before 1996. However, Eurobonds are not subject to the laws and ordinance of the nation in which they were issued. This is because the nominal currency is not the currency of that country, so it has no direct effect on the payment picture.

Important Points -

Foreign bonds are the insurers of the country in which they are issued.

The deadline is based on the needs of investors in a particular country

Foreign bonds are subject to the regulations of the government of the country in which they are issued. Euro loans are free of rules and regulations.

They are adapted to the needs of international investors.

23.5.1.2 Global bonds

In 1989 and 1990, the World Bank released its first global bonds. Since 1992, companies have also issued such bonds. Currently, such bonds exist in seven currencies, namely the Swedish Krona, the German mark, the Finnish mark, the Japanese yen, the Australian dollar, and the thirteen Canadian dollar and the euro. The distinctive features of global bonds are as follows:

➢They have a high rating.

Important points -

Bonds that can be offered simultaneously in the Euro market and several other markets are called global bonds.

The World Bank released global bonds in 1989.

The currencies of 7 countries and dapa prevailed there.

23.5.1.3. Sraight Bonds

The interest rate is fixed in this instance. We refer to the interest as the coupon rate. It is determined by comparing the interest rates of government bonds that have similar maturities. The borrower's creditworthiness is taken into account while setting the coupon.

There are several types of direct loans.

First, there is the bullet redemption bond, in which the principal is paid back all at once rather than annually in installment at the conclusion of the 20 year maturity period.

Secondly, as time goes on, both the coupon bond and the coupon rate climb. One benefit is that the borrower only has to pay a little amount of interest during the first few years of the loan.

Third are zero coupon bonds. No interest is paid on it. But since interest is not paid, it is given at a discount. This is a discount that compensates creditors for the loss of interest. This type of bond was first issued in 1981.

Fourth, an investor in a bond with currency options may receive payments in a single currency other than the issue currency.

Fifth, two hawks of bull and bear bonds are issued, each pegged to a different benchmark. Bull loans are ones in which the amount redeemed genuinely rises as the loan amount climbs. Bear bonds are ones whose redemption value drops in tandem with a decline in the index. The last option related to debt securities is a call option. Creditors may purchase an additional bond at a certain price.

Important Points -

These are common types of bonds.

They have a fixed interest rate and this rate is called the coupon rate.

This is a traditional connection.

23.5.1.4. Convertible bonds

Additionally convertible bonds are those that can be exchanged for shares, or other securities. Removable option on certain convertible bonds contains ownership rights. In other instances, convertibility into a specific number of shares occurs automatically. Because they have the conversion right, convertible bonds have a comparatively high market value. The resultant value and the null value that would have existed in the absence of the transformation add up to the value. The conversion factor, which is the number of shares for which each bond can be exchanged, is divided by the nominal value of the bond, to determine the share exchange price. If a $1,000 bond may be the exchange rate? is equal to

1,000/15 = $66.66,

so if the stock's current market price is below $60, the bondholders are not eager to convert the bond; into stock . That's because for a $1,000 bond, the debtor gets 15 shares,

or just $900. However, when the stocks market price of the stock is $80, investors convert the bond into stock and sell the stock in the market. So every $1,000 bond gets $1,200. Stated differently, the bonds convertible value is contingent upon the stock price. A detachable option loan allows the warrant to be set free from the loan and allowed to trade on its own. The issuer receives funding from two sources. Even after the warrants are exercised, the bonds are still owed. Because convertible bonds carry a smaller coupon, they are less expensive for borrowers. They also assist in lowering the loan capital upon conversion. Convertible bonds are a superior choice from the investor's perspective because, prior to the exchange, investors receive a fixed income in the form of interest. They take over ownership of the business following the metamorphosis.

Important Points -

Convertible bonds can converts into shares.

The price of the convertible bond depends on the price of the stock.

The market value of these bonds is very high.

23.5.1.5. Cocktail Bonds

Bonds have multiple currency denominations. Cocktail bonds are what these are known as. Cocktail bonds come in two varieties: those denominated in SDR reflect a weighted average of five different currencies, while those denominated in Euros represent a basket of eleven different currencies. The benefit of currency diversity are instantly transferred to investors who purchase drinks. The danger associated with exchange rates when one currency declines is counterbalanced by another currency's rise.

Important points -

Amount of currencies in the mix.

Represents a weighted average of 5 currencies.

Investors are exposed to currency diversification. Depreciation is offset by the value of others.

23.5.1.6 Floating rate bonds

Floating Rates Bonds (FRN) are bonds without a set interest rate. These bonds were first issued in Italy in 1970, and they have since gained popularity. The reference rate, which is usually LIBOR, is expressed as a premium or a discount to the interest rate. Depending on the period the interest rate pertains to, the interest rate is evaluated at regular intervals, such as every three months or every six months.

For instance, the interest rate is adjusted on a monthly basis if it is the one month LIBOR. The principal payment is never reimbursed in eternal FRN. Thus, they resemble stocks. In the middle of the 1980s, they were well liked, but when investors started asking for higher interest rates, many issuers couldn't afford the higher rates. Such covenants fell out of favor.

Second, the minimum and maximum interest rates are specified in minimax FRNs. Investors profit from a minimum interest rate, where as the issuer benefits from a maximum interest rate. Only the maximum interest rate is paid if LIBOR increases above that amount. Likewise, in the event that LIBOR drops below the minimum, the minimum interest also needs to be paid. The investor has the option to convert the FRN into a direct bond in the third form, known as a drip lock FRN. In certain cases, automatic conversion occurs when the reference rate drops below the mentioned lowest rate.

The fourth is the FRN flop. The World bank released it initially. In this instance, the investor can choose to change the FRN into a three-month loan with a fixed three-month return. Again, the bond tax is converted to permanent after the expiry of one month period.

Fifth, FRNs are not compatible. Although the Interest in this instance is fixed at a monthly rate, it is paid every six months. Due to interest rate discrepancies, the investor may resort to arbitrage in such a scenario. These FRNs are furthermore called rolling FRNs.

Sixth, Hybrid bonds with variable rates are one recent invention. In 1990,they were utilized in the German mark market. For a number of years, these instruments had a high fixed interest rate.The difference that investors received between LIBOR and an even higher fixed rate. They benefited from a decrease in LIBOR.

Important facts -

FRNs were first introduced in 1970.

They do not have a fixed interest rate.

Interest is assessed as a premium or discount based on LIBOR (London Interbank Offered Rate).

Interest rates are reviewed regularly every 3 months and 6 months.

23.5.2. Short term & Medium-term instruments

Short-term refers to instruments that are usually repayable within a year. Medium-term financing usually requires repayment of funds within one to five years; while long-term financing is usually anything that is paid back in five or more years.

23.5.2.1 Euro notes

Euro notes are like bonds issued by companies to raise short-term funds. They were born in the early 1980s, when the securitization of the global financial market increased. They are valued in a currency different than the nation's currency in which they were issued. They represent low-cost lines of financing. Documentation options are minimal. They can be easily adapted to the needs of different borrowers. Investors also prefer them because of their short maturity. If the issuer intends to issue euro banknotes, it uses the services of the issuer or the general manager. On the advice of the chief manager, it issues bonds, underwrites them and sells them through investment agents. At the end of

the sales period, the underwriter purchases unsold items. If the issuer intends to issue euro notes, it employs the services of real estate agents or general managers. On the advice of the chief manager, it issues bonds, underwrites them and sells them through investment agents. At the end of the sales period, the underwriter buys unsold items.

The cost of euro banknotes has three main parts:

1, subscription fee;

2, one-time management fee for structuring, pricing and documentation; and

3, margin in the notes themselves. The margin is either higher and lower than LIBOR, or it is included in the loan price itself.

The documentation is standardized. Accompanying documents are usually an underwriting agreement, a paying agent agreement and a notice showing, among other things, the financial condition of the issuer. Payment of bank notes is effected either by physical delivery or settlement. Over time, a number of variants of the system for issuing euro banknotes have developed.

The first is a recurring underwriting agreement with a single investment agent that distributes loans to investors with a uniform predetermined rate of return.

The second is the bidding panel system, where the investor forms a panel of banks to invest in euro notes on behalf of the issuer. The members of the bidding committee present the bids to the investor and indicate the number and price of the desired bonds. In this case, the price is determined by an open bid, so it goes in favor of the issuer. But an employment agency may not have the same commitment as an individual broker.

A third option is a continuous bidding panel, where underwriters form a bidding panel for each bond issue. They buy them if they remain unsold during the sale period. This system leads to competition between insurers.

Euronotes are short-term banknotes guaranteed by a group of commercial banks called FACILITY.

In a currency other than the currency of the country in which they were issued.

Documentation options are minimal.

Represents a low-cost method of financing.

Investors also prefer them because of their short maturity.

23.5.2.2. Medium-term euro-bills

Medium-term euro-bills are just a continuation of short-term euro-bills, as they fill a gap in the maturity structure of international financial market instruments. They are a compromise between short-term Eurobonds and long-term Eurobonds, as they vary in maturity from one year to five to seven years. Short-term euro notes can change several times over five or seven years. Every three to six months, short-term euro banknotes are redeemed and a new one is put into circulation. Alternatively, medium-term euro

banknotes are issued to obtain medium-term euro banknotes to obtain medium-term foreign currency funds without redemption and new issuance. Medium-term euro notes are not guaranteed, but insurance obligations are foreseen.

This ensures that borrowers can get money even if they do not have sufficient credit. They are largely modeled after the US medium-term notes found there since the early 1970s. The interest rate on medium-term euro notes is fixed, although they are also variable.

In recent years, a multi-currency structure has emerged. Issuers are mainly banks, governments and international agencies. Euro banknotes of medium maturity were popular. The balance, which was only US$0.4 billion at the end of 1986, increased to US$9.6 billion by 1990 and to US$347.1 billion by March 1995 (BIS, 1997).

The rapid growth of such things shows the immense popularity of this instrument. Recently, the Euro market invented global medium-term notes. Under this program, subjects of various credit ratings can obtain funds through both private and institutional investors. This is a relatively new program.

The Euro Intermediate Note is a flexible debt instrument traded and issued outside the United States and Canada. These instruments require a fixed payment and are issued directly to the market with a maturity of less than 5 years.

- It includes fixed interest.

23.5.2.3 Euro Commercial Paper

Another attractive form of short-term debt instruments that emerged in the mid-1980s was known as Euro Commercial Paper (ECP).

This is a pagan similar to short-term euro notes, although it differs from euro notes in some respects. It is not guaranteed, while euro banknotes are. This is because ECPs are only issued by highly rated companies. Again, ECP's way of raising money is usually led by investors, while Euronotes are said to target borrowers.

ECP emerged from the domestic business model that began in the United States and then Canada as early as the 1950s.

Most ECPs are valued in US dollars, but they differ from United States commercial paper in that ECPs have a longer maturity, up to one year. Additionally, ECPs are structured on a cost basis, while United States commercial paper collects various fees such as front-end fee and commission separately.

The detailed features of ECP change from one state to another. These include the market-based interest rate LIBOR. The issue is usually arranged through the investor's intermediaries, like in the case of euro banknotes. The amount ranges from $10 million to $1 billion or more. ECPs are issued either at interest or at a reduced price, with the interest rate integrated into the issue price. After the deadline, they are usually settled at clearing houses such as Cedel (Luxembourg) Euro clear (Brussels), First Chicago

(London) or Chases Manhattan (London) to avoid physical delivery. The solution is usually ready in two days. ECP has few documents. In addition, they aren't insured. Consequently, their application has been widespread since their inception. The volume of transactions through the ECP increased from US$13.9 billion in 1986 to US$79.6 billion in 1991. By March 1995, the amount was US$81.3 billion, more than three-quarters of which was in US dollars (BIS, 1997).

Euro commercial paper is a short-term unsecured debt instrument denominated in a currency different from the native currency of the market in which it is issued.

- Short-term debt instrument.
- The company issues corporate Eurobonds to access international money markets for financing.

23.5.3 Others

23.5.3.1. American Depository Receipts (ADR)

Until 1990, companies had to issue separate receipts in the United States (ADR) and Europe (IDR) to access both markets. The weakness was that cross-border trading was not possible because ADRs had to be exchanged, cleared and settled through a US-based depository company (DTC), whereas IDRs could be permitted by Rule 144A and US SEC regulations. Non-US companies raise capital from the US market without having to register securities with the SEC or change their financial statements to conform to US accounting principles. Rule 144A is designed to make it easier for certain investment institutions, called qualified institutional buyers (QIBs), to invest in foreign (non-US) companies without those companies going through the SEC registration process.

The instrument

ADR is a transferable certificate denominated in dollars. represents the publicly traded shares of a non-US company. It was developed in the late 1920s to help Americans invest in foreign securities and to assist non-US companies wishing to trade their shares in the American market. ADR matters are divided into 3 levels based on the subject regulation and privileges of each company.

i. ADR Level I:

This is often the issuer's first step into the US public stock market. The issuer can expand the market for existing shares and thus diversify the investment base. This instrument requires only minimal filing with the SEC and does not require the issuer to comply with US GAAP (Generally Accepted Accounting Principles). These types of instruments are traded in the US OTC market. The issuer may not raise new capital or be listed on any national stock exchange.

ii. ADR Level II:

In this ADR level, the company can further expand the investment base of the existing shares. However, important information must be reported to the SEC. The company has the right to be listed on the American Stock Exchange (AMEX) or the New York Stock Exchange (NYSE), which means that the company must meet the listing requirements of the particular stock exchange.

iii. ADR Level III:

This level of ADR is used to raise new capital through a public offering in the US capital markets. The company must register with the SEC and meet AMEX/NYSE listing requirements while complying with US-GAAP.This may be due to strict disclosure requirements and accounting standards under US GAAP.

American Depository Receipt is a negotiable security that represents the securities of a company traded on the American financial market.

- Represents ownership of shares of a non-US company traded in US financial markets.
- ADRs are priced in US dollars,
- Dividends are paid in US dollars,
- They can be traded like shares in US companies,
- Examples - JP Morgan, Citibank, Deutsch Bank, Bank of New York Mellon.

23.5.3.2 Global Depositary Receipts (GDRandapos; s)

The arrival of GDR certificates in India is mostly because of the balance of payments of around the early nineties. By then time, India's foreign exchange balance wasn't even adequate for two weeks of imports. International institutions have been reluctant to lend because of India's non-investment grade rating. The government (advising the proposals to the World Bank for solving the financial difficulties) has in principle given permission to a strong private company to obtain capital from global capital markets by means of equity or equity instruments. The Exchange Regulation ct (FERA) was amended to facilitate the up to 51% investment of foreign investors in the share capital of companies.

Beyond the threshold, the government also approves investments. Prior to that, businesses had to rely on the Indian government or partially state-run and partially financial organizations for resources of a foreign exchange component of their projects. Government expenditure from the World Bank, the IMF, or other government loans were used to cover the cost of the foreign currency loans that businesses utilized, whether through financial institutions or government organizations. This ultimately resulted in the obligation to carry interest and capital in foreign currency, which has to be covered by export in addition to others subsidies received from the government. However, because of the Persian Gulf War and the subsequent oil crisis and foreign exchange reserve were foreign exchange reserves were quickly depleted, prompting companies to acquire foreign currency, resulting to the appearance of GDRs.

The Instrument

As previously stated, GDRs are primarily financial instruments that represent a specific quantity of underlying shares held by a domestic depository of a corporation. Stated differently, the GDR is a negotiable instrument that symbolizes the portion of the local currency that is quoted publicly. According to the rule, a GDR is any depository receipt or certificate issued foreign investors for the issuance of common shares of foreign currency convertible bonds of the issuer that was generated by an overseas depository bank located outside of India.

A GDR is usually valued in US dollars, although the underlying shares are valued in the local currency of the issuer. At the investor's discretion, GDRs may be converted into shares by selling the underlying shares on the local market through a local custodian bank and canceling the GDRs through a custodian bank. As regular shares of the issuing corporation, GDRs are entitled to dividends and voting rights as of the date of issuance. For all transactions, the company works with the overseas Depository, a single legal entity. As per the arrangement between the issuing firm and the GDR holder, Depoopank exercises the voting rights of the shares.

Global Depositary Receipt or GDR is a bank certificate for shares of a nine foreign firm that has been issued in multiple countries.

- Very similar to American Depositary Receipts.
- Private markets use GDRs to raise capital in USD or EUR.
- When private markets try to get Euros instead of US dollars, we call them GDRs.

23.6 DIFFERENTIATE AMERICAN DEPOSITORY RECEIPTS (ADRS) & GLOBAL DEPOSITORY RECEIPTS (GDR)

ADR stands for American Depository Receipts. It is a type of negotiable certificate that authorizes US investors. This certification gave US investors the right to invest in companies designated as non-US companies.

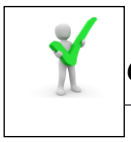
GDR stands for Global Depositary Receipt. It is a certificate of deposit issued by a foreign bank that shows the shares of any foreign company listed on a non-US exchange.

The US stock exchange is where foreign companies can trade with multiple bank branches using ADRs.

On the other hand, GDR allows foreign companies to trade on all non-US stock markets.

S. N.	BASIS	ADR's	GDR's
1.	Issued in	ADRs are issued in the United States.	GDRs are issued in European countries.
2.	Purpose	The purpose of ADR	The purpose of GDRs is to help

		proceedings is to help obtain remedies in the United States.	sources from various countries Purpose.
3.	Objectives	The purpose of ADRs is to make investments in various countries.	The objectives of GDRs is to invest abroad.
4.	Limitations	ADR notices are used only in the United States.	GDRs are used in other countries.Sharelist ADR entries are for the US market only
5.	Listing of stocks	ADRs only list in US market.	List of GDR on the markets of other countries.
6.	Liquidity	For ADR contracts, the market is more liquid.	For GDR contracts, the market is not as liquid as ADR contracts.
7.	Investor participation	Investor participation in ADR contracts is high.	GDRs have a low share of investors.
8.	Market Type	The ADR market is designed for retail investors and market makers	The GDR market is for institutional marketers.
9.	Management	ADR contracts are more difficult and therefore not easy to manage.	GDR contracts are not as cumbersome as ADR contracts, making them easy to administer.



Check Your Progress-A

Q1. What do you understand by American Depository Receipts (ADR)?

Q2. What is the difference between ADRs and GDRs?

Q3. Which banks guarantee euro banknotes and what are they called?

Q4. Which bond is denominated in different currencies?

Q5. Which bond's interest rate is always fixed?

23.7 VARIOUS INTERNATIONAL FINANCIAL INSTRUMENTS USED TO RAISE FUNDS

These are international financial instruments used mainly to collect funds -

A.) Global Depositary Receipts (GDR):

These are receipts issued by depository banks against a joint stock company . - e.g. shares issued by an Indian company abroad to obtain foreign currency. Global depositary receipts are usually denominated in US dollars and can easily be converted into shares at any time. They can be listed and traded on any stock exchange in any country except the United States.

B.) American Depository Receipts (ADRs):

These are receipts from companies located in the United States. Generally they are traded like any other securities in the market. However, such trading is limited to the US stock market only. Additionally, ADRs are sold only to US citizens.

C.) Foreign Currency Convertible Bonds (FCCBs):

These bonds are bonds that can be converted into stocks or certificates of deposit after a certain period of time. The terms and prices of such conversions are usually determined in advance. The return on such securities is predetermined and lowers than the return on non-exchangeable securities.

23.8 SUMMARY

A collection of connections for the production and utilization of capital required for international businesses and nations overseas economic endeavors is known as international finance. International finance arises because the existence of nations influences the economic activity of businesses, governments, and organizations, much like it does with trade and commerce. It is common knowledge that nations frequently lend money to one another. Numerous nations employ their own currencies in these kinds of transactions. We therefore need to comprehend how different currencies compare. Furthermore, we ought to comprehend fully how these things are paid for and the factors that influence currency exchange rates. The most crucial component of internationalization ids free trade, which allows for unrestricted, flows of capital, labor, and technology between countries. Boundaries because it pushes nations to import lesser goods and specialize in their strongest industries, free trade is always advantageous.

23.9 GLOSSARY

Debt instruments :A debt instrument is a financial contract that represents borrowed funds, where the borrower promises to repay the principal with interest. It usually includes repayments and interest.

Insurer : An insurer is a person or institution that evaluates and assumes the risk of another party in mortgages, insurances, loans or investments for a fee, usually in the form of a commission, fee, margin or interest.

Multinational companies :A multinational company (MNC) is a company that operates in at least one country other than its home country and that generates income outside its home country.

The World Bank : The World Bank is an international organization owned by 187 countries. Its mission is to reduce poverty by lending money to the governments of its poorest member states to improve their economies and improve people's living standards.

Coupon rate : The coupon rate is the interest paid by bond issuers on the face value of bonds. This is the standard interest rate that bondholders pay their buyers. The coupon rate is calculated from the face value (or face value) of the bonds, not the issue price or market value.

Government bonds : Government bonds are debt instruments issued by the government. Basically, youandapos lend money to the government by buying a bond with a predetermined interest rate. The government, on the other hand, pays you a fixed interest rate over a period of time.

Zero-coupon bonds : Zero-coupon bonds are bonds that pay no interest during the life of the bond. Instead, investors buy zero-coupon bonds at a deep discount to their face value, which is the amount the investor will receive when the bond "mature" and quot; or a deadline arrives.

SDR :A Sales Development Representative (SDR) is a sales representative responsible for outreach, research and qualified leads. A sales representative typically interacts with prospects early in their buying journey.

LIBOR : The full form of LIBOR London Interbank Offer Rate. It is the reference interest rate for unsecured short-term loans in the interbank market. It is also a benchmark for short-term interest rates. It is used to price interest rate swaps, currency swaps and mortgages.

PROMISSORY NOTE: A promissory note is a documented promise to repay borrowed money. Promissory notes are legal documents that protect both the lender and the borrower. A promissory note is paper evidence of the borrower's debt.

FACILITY (Commercial Bank): A group of commercial banks called FACILITY.

Money market instruments: Money market instruments like certificates of deposit, government bonds etc. are highly liquid short-term assets. These financial instruments are traded for less than a year. On the other hand, capital market instruments such as bonds and stocks are traded on a long-term basis (1 year or more).

DTC (Depository Trust Company) : Founded in 1973, the Depository Trust Company (DTC) was established to reduce costs and ensure clearing and liquidity efficiency by freezing securities and converting funds-to-book and book-to-book transactions; changes in the ownership of securities.

SEC : The Securities and Exchange Commission (SEC) supervises securities exchanges, securities and dealers, investment advisers and investment funds to promote fair dealing, disclosure of important market information and anti-fraud.

US-GAAP : Generally Accepted Accounting Principles (GAAP or US GAAP) is a set of generally followed accounting rules and standards for financial reporting.

US OTC market : Over-the-counter securities are traded through a network of brokers rather than on a centralized exchange such as the New York Stock Exchange. OTC trading can include stocks, bonds and derivatives, which are financial contracts whose value is derived from an underlying asset such as a commodity.

AMEX : American Express Company (Amex) is an American bank holding company and an international financial services company specializing in payment cards.

NYSE:The New York Stock Exchange (NYSE, nicknamed "The Big Board")[4] is an American stock exchange in the financial district of Lower Manhattan, New York. It is the largest stock exchange in the world by market value.

FERA : Foreign Exchange Regulation Act, 1973

Negotiable Certificate : A Negotiable Certificate (or CD) is a money market instrument evidencing a premium interest paying bank deposit that is negotiable.

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23.12 TERMINAL QUESTIONS

1. Differentiate American Depository Receipts (ADRs) & Global Depository Receipts (GDRs).
2. Discuss the Significance of International Financial Instruments. 1.) What are international financial markets?
3. Explain the concept of international financial instruments.
4. What are the various types of instruments in the international financial market?
5. What do you understand about the Euro currency market?
6. What is a Global Depositary Receipt (GDR)?

23.13 CASE LETS/CASES

One of the most notable international financial instrument case studies is the collapse of a long-term capital management (LTCM) hedge fund (1998) that used complex financial instruments such as derivatives to manage risk and leverage.

Background

LTCM was founded in 1994 by former Salomon Brothers bond trader John Meriwether and several partners, including Nobel laureates Robert Merton and Myron Scholes. The fund sought to exploit price inefficiencies in bonds and other securities using sophisticated mathematical models.

Strategy

LTCM used strategies that included:

Arbitrage: Profiting from small price differences in similar securities.

Leverage: Borrowing on a large scale to increase returns.

Use of derivatives: Use of instruments. such as interest rate swaps, options and futures, which hedge and speculate on various financial markets.

Crisis

By 1998, LTCM had established a significant position in several markets. However, several unexpected events, including the Asian financial crisis in 1997 and the Russian debt default in 1998, caused extreme market volatility. LTCM's highly leveraged positions began to erode as liquidity dried up and counterparties demanded more collateral.

Fallout

The potential collapse of LTCM posed a serious threat to the global financial system due to its extensive links to major financial institutions. The Federal Reserve organized a $3.6 billion bailout of a consortium of banks to stabilize markets and prevent contagion.

Lessons learned

Risk management: The importance of sound risk management practices and understanding the limitations of financial models.

Leverage: The dangers of excessive leverage and the possibility of systemic risk.

Transparency: The need to increase the transparency of the use of complex financial instruments and their potential impact on the wider financial system.

This case study illustrates the profound impact of international financial instruments on the global economy and highlights the importance of prudent and informed financial practices.

UNIT 24 CONTEMPORARY ISSUES IN INTERNATIONAL FINANCE

24.1 INTRODUCTION

In the previous unit of International Financial Instruments we have learnt about the various financial instruments which are available to the companies to raise finance like Bonds, Corporate deposits, ADR's and GDR's etc. In this unit we will be learning about the contemporary issues which in lime light these days all over the world.

We know that international business activity has been in existence for more than hundreds of years. More than two hundred years back. Adam Smith a famous economist wrote in his book, that if a foreign country can supply us with a commodity cheaper then we ourselves can produce it, it will be better if we buy it of them with some part of the produce of our own in which we have some comparative advantage. The period after the World War II has seen a phenomenal growth in exchange of goods between nations. During the time frame mentioned above, there has been great efforts made help in the free flow of commodities and services among the different nations. With the growth

momentum taking place in the western world like North and South America and other West European countries of the world had contributed to a great extent for the growth of the international trade and services. Rapid economic growth in the western countries contributed to the relatively free flow of goods and services. Now, other countries have joined in this process and the growth of international trade continues. On such issues even disputes arise between nations. To resolve disputes and make further progress on free flow, the bodies like World Trade Organization (WTO) have come into existence. Despite the difficulties, hindrances and road blocks, integration of the world economy is moving forward. Speedy means of communication have made the world like a small village. No single nation can remain isolated today, without having to transact with other countries. Exchange of goods, services, financial resources always takes place among the nations.

Modern technology with manpower is the reality of today's economic system. The world trade has grown at a pace much faster than the world output. For several countries, the growth has been described as export oriented growth since the share of exports in their GDP is significantly high. at most of the time and is an important parameter to measure the success of a nation.

International Finance is one of the growing areas of finance. These days the market is really global. You cannot understand the current developments taking place in an economy without the knowledge of International Finance. These days' students are also making their career goals in international finance.

24.1.1 What is a Multinational Firm

A multinational firm is a firm with operations that are extended beyond its domestic national borders. Such firms deals in international business and earn a specified or targeted rate of return by taking some amount of risk. A U.S. multinational firm may have bills payable and receivable which are denominated in U.S. dollars, British pounds, Japanese Yen etc. When the value of a dollar changes, then the Yen dominated control value also changes.

24.2 OBJECTIVES OF STUDY:

(a) Understand the meaning of multinational firms.

(b) Understand multinational financial system.

(c) Black Markets and Parallel Markets.

(d) Steps to be followed in industrialization.

(e) Global trends in FDI.

(f) International Diversification.

(g) Working Capital Management in National and International companies.

(h) Transfer pricing.

(i) Multinational cash management.

(j) Managing in the Global Economy

24.3 MULTINATIONAL FINANCIAL SYSTEM

Financial transactions with the MNC's result from the exchange of commodities and intangibles and helps in the overall growth of the economy. These product ranges from intermediate to finished goods and to less tangible items such as management skills, trademarks and patents. Such types of transactions are not liquid and give rise to some type of financial claim like royalties etc.

The MNC has considerable freedom in selecting the financial channels through which funds and allocated profits are taken into consideration. For example the patents and trademarks can be sold or transferred in return for a contracted system of payment in the shape of royalty. In the same way MNC's can transfer profits and cash from one unit or department to another by adjusting transfer prices on the disposal of tangibles and intangibles (i.e goods and services) inter departmentally. Each and every nation follows its national laws with regard to the relations between foreign partners and the government of its own country which gives them several advantages.

24.3.1 Designing a Global Remittance Policy

The global remittance policy includes the following points:

(a) How much money to remit?

(b) When to do so?

(c) Where to transmit these funds?

(d) Which transfer methods to use?

The firm must see the available remittance options with their cost and benefits. For example, if a country has to decide whether to keep its earnings in Germany or to remit it to us, it must see the possibility and desirability of moving those funds to say Italy or France through leading and logging or transfer price adjustments. Hence, most of the companies keep just enough cash on hand to meet their fund requirements and required them to send the balance at home. The MNC should always try to search for relatively high-yield uses of its internal financial system. A number of factors strongly impact on an MNC's ability to benefit from its internal financial transfer system. These include:

(a) Number of financial links

(b) Volume of inter affiliate ownership pattern

(c) Degree of product and service standardization

(d) Government regulations

24.4 BLACK MARKETS AND PARALLEL MARKETS

Foreign exchange of currency markets refers to that market where currencies are purchased and sold by different parties like individuals, firms and corporate. These days the developing countries of the world generally do not permit free markets in foreign in foreign exchange and impose many restrictions/limits on foreign currency transactions. These limits can be in many forms like licensing requirements, setting limits for foreign currency transactions etc. The consequences of these restrictions give rise to, illegal markets in foreign exchange develop to satisfy the demand of the corporate and individuals. Such types of markets are known as black markets. In some countries such type of markets parallely exists with very little government interventions. The price to be referred for the currency to be exchanged is normally fixed by RBI on the day to day basis as per the demand and supply of the foreign currency in the international market. So, we can say that it is the legal restrictions of the government on buying foreign exchange which give rise to block markets.

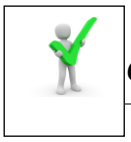
Those countries which are facing economic crisis have allowed normal economic activities to continue through a constant supply of the foreign exchange. There are some countries which have unofficially allowed the black markets of foreign currency to operate. Examples In Latin America, the post office is a place for black market currency trading, since people living in U.S. and money in terms of dollars to their home. In a country like Guatemala the government allows such activity openly and offering people to have dollars. This sort of government-role rated option of the foreign exchange market is known as parallel market. Examples: Mexico.

Private currency trades between individuals were legal, hence trading use to take place freely at the Mexico City airport and other public places where exchange of money to take place.

24.5 MULTINATION CORPORATION (MNC)

An MNC is a company engaged in making and selling its products and services in more than one country. It operates in other countries through subsidiary companies or branches. In earlier days, the factors of production (capital, raw material, technology and labour) tend to move from one place to another within a country as also from county to

country in search of higher returns and profits. Natural resources have their own value but even more important are new technologies that give rise to genetic engineering and miniaturization of firms. These days capital as the main source of finance for the companies is true to a certain extent only. Companies raise money from different sources of finance available within and outside the national boundaries of a nation. A typical MNC raises capital in several countries simultaneously or sequentially. Technologies may be developed in one country but used in different countries of the world. Labor also, despite many restrictions, is becoming increasingly global and keeps on searching for options from one nation to another. People move easily from one country to another to acquire new skills and knowledge to use them in a third country. The ability of MNCs to effectively use these globally available factors of production makes them competitive rather than the resource endowments of the parent country. The existence of an MNC is based on the international mobility of actors of production. An Indian parent company may raise finances in the US capital market to use it to acquire a company in Singapore and sell the products of this acquired company in Newyork and other American countries. A few workers working in Singapore subsidiary may come from other South East Asian countries such as Indonesia, Philippines and Thailand etc. In today's context, development of design and other software can be done in far –off location and used in the other corners of the world as these travel with the speed of light on various information networks available. Value addition in products and goods takes place at different locations in different countries before they are finally consumed.



Check Your Progress-A

Q1. Explain the meaning of a multinational firm.

Q2. What are the main points of differences between black market and parallel markets?

Q3. Are MNCs likely to provide a reasonable substitute for international portfolio investment?

24.6 STEPS IN INTERNATIONALIZATION PROCESS

It has been seen that firms become multinationals through a gradual process which takes place at its own pace. A firm tries to exploit factor advantages internationally and attempt to reduce the competitive threats by imposed by others. Companies gradually increase their commitment to international business. The series takes place in a sequence which normally give rise to exports, establishing a department which sees international operations, then setting up a marketing subsidiary, channels of distribution and signing up of licensing contracts and agreements and creating platform for manufacturing aboard. It is not necessary that all companies follow this process. This process represents a sequence of moving from a relatively low-risk, low-return, export-based strategy to a higher-risk, higher-return, production-based strategy in the long run.

Starting the internationalization process from exports has certain advantages. Capital needed is low, risk is low and profits are immediate to the producers. This phase gradually provides an opportunity to the exporting firm to learn about demand conditions, competitors, financial system aboard and payment and hedging techniques etc. In future companies expand their marketing strategies and start dealing with foreign distributors leading to setting up of new service facilities and warehouses across the world. The advantage of creating manufacturing base abroad is the MNC will be able to realize full sales potential of its product and goods and services. This enables the firm to keep itself ahead with newer developments in the market demand, to meet the ever changing customer needs, to provide better after-sales service and to keep track of the competition which can be delt with innovation and R&D efforts taking place. Most firms selling in foreign markets eventually start manufacturing abroad. Foreign production may cover a wide variety of activities such as packaging, finishing, polishing, assembling or full manufacture of the goods.

International finance manager has to analyze and balance international risks and returns advantages. Some of the key challenges he must be prepared to face are listed below: (i) To understand the interrelationship between environmental changes and corporate response. For example, how will the credit conditions be impacted by stock market crash? How will defaults by some debtor countries affect the funding ability in the international capital markets?

(ii) To understand the development and use of new instruments such as options, forwards futures and swaps which are all derivatives instruments for effective management.

(iii) To develop ways to minimize risks through internal and external techniques. Decisions such as taking loan in one currency that has started appreciating fast, taking a fixed rate of interest option financing when interest rates have started going down will have an adverse impact and will force the finance manager to absorb the damage to the maximum extent possible.

In recent years, we have seen that there have constant efforts to help in the free flow of goods and services among the nations. Rapid economic growth in the Western countries contributed too much to this process. Now this process is getting more generalized across the world. As problems restrict the In spite of some difficulties, unity and integration in the economic environment is still moving ahead. In case of India, the period after 1991 i.e. after the process of LPG gained momentum, has been' one of liberalization and integration with the world economy. Some of the steps that have been taken over a period of last 16 years are as under:

(i) Establishment of a unified market-determined exchange rate system.

(ii) Introduction of current account convertibility.

(iii) Phased introduction of capital account convertibility.

(iv) Reduction in import duties.

(v) Liberalization in investments.

As the advanced countries of the world unite to trade with each other, it has resulted in the growth of business opportunities. In order to expand the business and take advantage of the market opportunities, the firms require fund to finance it. There are various sources of finance available in the national and international markets. The finance manager has to select the best possible option by studying the market conditions of risk and return.

As far as national companies are concerned, they raise finance from the domestic markets, but in case of multinational firms, the money is raised from different sources of finance available in the international markets.

The MNC's also consider many other factors like the availability of resources in alternative investment options i.e. the opportunity cost. In earlier days MNC's were mainly based in America, but later on with the expansion of trade the business expanded to other advanced countries of the world like Europe and Russia.

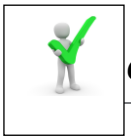
In order to develop trade relations, efforts should be made for export tie-up, establishing marketing subsidiary firms, signing of the agreements for licensing, patents and trademarks to earn a rate of return as per the capital invested in the business.

This sequence of operations represents a sequence of moving from a relatively low-risk low-return, export –oriented strategy to a higher-risk, higher return production based strategy for the corporate.

24.7 GLOBAL TRENDS IN FDI

There has been phenomenal growth in FDI in the world following the pursuance of the policy of liberalization, globalization and privatization (LPG) across different countries. FDI by MNCs has now come to be recognized as a powerful means of linking national economies and defining the character of the emerging global economy. Many MNCs like Sony, Toyota, Royal Dutch Shell, IBM, GM, Coca-Cola, McDonald's and Nestle have established their presence worldwide through FDI route. These MNCs have invested their resources both tangible and intangible across the globe in order to take maximum mileage of their competitive superiority in reference to other nations.

The Global Foreign Direct Investment (FDI) which came as an inflow came down by 16% in 2017 i.e to $1.52 trillion according to UNCTAD's Investment Trends Monitor.



Check Your Progress-B

Q1. What are the various steps in internationalization?

Q2. List out four Indian Companies having setup their manufacturing units recently in China.

(i) ---

(ii) ---

(iii) ---

24.8 BENEFITS OF INTERNATIONAL INVESTING

Investors, both individual as well as institutional, are eager to invest more in foreign securities because the international investment options offers a higher return and opportunities in comparison to domestic investment enabling the investors to make relatively higher returns.

Another attraction towards foreign investments is the potential for lowering portfolio risk. National economics do not move in harmony, security prices in different countries do not move uniformly and stock and bond returns on securities differ widely across national markets the world over. As a result, investors may be able to achieve higher returns with reduced risk by diversifying their investible resources in the international markets.

24.8.1 INTERNATIONAL DIVERSIFICATION OF INVESTMENTS

A rational investor usually follows the principle of diversification to ensure a reasonable and steady return along with safety of funds and benefits of capital appreciation in his investment decisions. Diversification is not just a defensive policy to protect against the financial risk represented by the investment portfolio but is also a means of increasing average retune from investments that might, otherwise, for the sake of safety be confined to low-yielding securities. Diversification, thus, attempts to combine high return with low risk by distributing investible funds over variable and fixed income bearing securities of a number of corporate firms belonging to different industrial groups located across different regions and countries at large. The more diversified a portfolio is the more will be the safety and stability in returns and the lesser will be the risk involved. Diversification of surplus or investible resources and building of investment portfolio comprising securities of different companies across national markets gives the opportunity of targeting a better risk and return combination rather than investing in the security of a single domestic company. It means that if you invest in large number of securities in a diversified manner, it will give a decent rate of return at low level of risk in international portfolio investments.

24.8.2 BARRIERS TO INTERNATIONAL DIVERSIFICATION

Although international investment diversification enables investors to avail benefits of higher returns with reduced risks, there are number of hurdles that come in the way of overseas investment and affect cross-border capital flows. These hurdles in terms of market frictions, unequal access to market prices, lack of updated information available to investor irrationality and unequal access to information comes out of financial market imperfections. These barriers will now be discussed in the following paragraphs.

Market Frictions: Governments of different countries across the world intervene to impose price controls with a view to achieve their fiscal and monetary policy objectives. They very often, try to stabilize to cross-border financial flows through foreign exchange controls including prohibiting the conversion of their domestic currencies into foreign currencies, and or making it compulsory for the conversion of currencies at an official rate fixed by the government. Such type of restrictions can have significant impact on foreign trade, economic well being and wealth within the country.

Lack of Access to Information: Another obstacle that hinders investment in foreign securities is the absence of a common platform that provides the desired information about potential customers, supplies or partners from foreign countries. Further, adequate

and comparable information on securities is not readily available to all resulting in significant increase in the riskiness of foreign securities, giving investors an added reason to invest funds in the domestic market. It is quite possible that some investors are not even aware of the possible gains that may arise to them from investing in international markets.

Irrationality Behavior of Investors: Another obstacle to foreign investment is that all investors are not always rational and anticipate higher returns with a low level of risk. Rational investors focus is always on maximization of earnings with minimum risk on their investments and they select securities in their own way. Unlike rational investors, irrational investors are influenced more by psychological factors, such as fear of the unknown events and political uncertainty.

Other Barriers: Besides the above, investment in domestic companies portfolio holdings acts as the biggest hurdle in overseas investments. Several reasons, such as the existence of political and currency risks and the natural tendency to invest in the familiar securities and avoid the unknown ones, have been put forward for the domestic investments. In addition, to it it is a known fact that domestic investments provide certain benefits to the investors like estimation of political risk present in home country, probable changes taking place in government policies which are not known in case of foreign securities.

24.9 WORKING CAPITAL MANAGEMENT IN NATIONAL AND MULTINATIONAL ENTERPRISES

By working capital we mean to state the amount required to finance day to day business activities. In other words it means the difference between the current assets and current liabilities of a business firm. The issue of managing working capital both domestically and internationally has gained prominence these days. Although the fundamental principles governing the managing of working capital such as optimization and suitability are almost the same in both domestic and multinational enterprise, still the two differ in respect of the following:

MNCs, in managing their working capital, face a number of risks pertaining to funding and investing of funds, for example risk in exchange of currency, risk in interest rate fluctuations and the level of political risk present in the nation.

Unlike domestic firms MNCs have wider options of raising funds for satisfying their requirements or the requirements of their subsidiary companies such as financing of subsidiaries by the parent company, borrowings from local sources including banks and funds to be raised from Eurocurrency markets, etc.

MNCs enjoy greater advantages than the domestic firms in regard to their capability to move their funds across different subsidiaries, leadings to optimum utilization of the resources.

MNCs face a number of problems in managing the working capital needs of their subsidiaries because they are widely scattered geographically and the management is not very well acquainted with the actual financial position of the firms associated with them and the financial position and structure of the national markets. As such, the task of decision to be taken in the case of MNCs' subsidiaries becomes very complex.

Finance managers of MNCs face problems in taking financing decision because of different taxation systems, political differences, exchange rate fluctuations and inflation etc.

24.10 TRANSFER PRICING POLICY

By transfer pricing we mean to the price at which goods of one country are transferred to another country. Transfer prices are the prices set by a company for the transfer/exchange of certain goods and services for generating sales and for increasing the revenues. The price fixation of certain goods and services which are traded in house is an important issue and assumes still greater importance in respect of intra corporate transfer/exchange of goods and services as among themselves and the parent firm because it provides an effective weapon in the hands of an MNC to maximize the value of shareholders wealth.

The most important uses of transfer pricing are:

(i) To minimize the total tax liability of the firm.

(ii) To reduce tariffs or rates and avoid quantitative and administrative restrictions on imports.

(iii) To position funds in such places that will satisfy the requirement of working capital polices objectives.

(iv) To avoid exchange control restrictions.

(v) To maximize transfer of funds from affiliates to the firm.

(vi) To follow the policy of window-dressing so as to improve financial health of an affiliate and establish its high credibility in the financial markets.

24.11 MULTINATIONAL CASH MANAGEMENT

The basic principle to guide the management of cash balance holdings in case of international working capital management is, very similar to the one which is applicable to domestic situation. That is, after carefully covering all the contingencies and uncertainties under study, the ideal cash balance holding should be zero. However, such an ideal situation rarely exists in real life even in case of domestic enterprise, in spite of massive use of computers and operations research techniques for finding out the optimum solution. This is as a result of problems that human beings have already inherited which continues to affect the decision-making skills of modern managers in

performing their role as financial planners. That is, even the most perfect system of planning has some defects and we cannot say with certainty that our cash management system is perfect.

The international cash management activity can take two forms:

a. Cash Polling: It means combining of the cash resources of different countries under a common account so that every country can use the amount of funds which is pooled in it..In this system a master account is to be opened in addition to the affiliate accounts of different countries.
b. Cash Concentration: It is a special account opened like a bank in which member countries are allowed to accept the funds and payment of funds in a variety of currencies.

24.11.1 Managing cash in MNC's a problem

Management of cash in an MNC is a big challenge and requires a great amount of knowledge in order to minimize the overall cash requirement of a firm in such a way that the overall cash requirement is not affected and the business firm also runs efficiently. In an MNC the cash requirement should be done in such a way that the currency risk exposure, interest risk exposure, political risk exposure, minimizing the transaction cost of investing the funds and also taking full benefits of the large scale production and economies of scale in order to maximize the rate of return..In practical scenario sometimes these objectives are in conflict with each other which poses great difficulty in managing the cash flow position of MNC's.

Besides the above reason, there are some other subsidiary problems that arise in international cash management with respect to banks. Some of them are:

a. Differences in the bank rules and policies of banks located in different parts of the world.
b. Lack of full proof and safe banking conditions in different countries.
c. Differences in traditions and customs in different countries of the world with respect of banking practices.
d. Lack of information and delay of information with respect to banking practices.

24.11.2 Managing in the Global Economy

Today's business world is very complex in nature, the multinational business firm's faces a lot of challenges and constrains in doing the business. The challenges are there due to different national laws, trade policies, business regulations, labor polices etc.

In the recent years international trade has increased many fold and some countries have benefited more than others. The major contributories in international trade are Japan, Canada, Germany, France, Italy, U.K, and U.S. These countries contribute directly in the national economic development and prosperity of the whole world.

In order to boost up the exports and reduce the imports, World Trade Organization (WTO) was established in order to reduce tariff barriers and to boost up the exports all over the world.

24.11.2 (a) Traits of a Global Manager

There are various traits or characteristics which a global manager must possess in managing international business. Some of the major traits are described as follows:

a. Leadership: In order to be a successful manager, the global manager should be a good visionary leader.
b. Interpersonal Relationship: A global manager should have very good interpersonal relationship skills in order to communicate effectively with the outside parties.
c. Negotiation Skills: A global leader should possess the negotiation skills in order to negotiate the terms and conditions in the terms of contract.
d. Monitoring: A global leader should monitor the information flow which he is receiving from around the globe.
e. Disseminator: A global leader should spread the important information to the parties interested in a timely and effective manner.
f. Allocation of Resources: A global leader should allocate the scares resources in such a manner so that its effective utilization takes place in order to earn revenue.

24.11.2 (b) Challenges Faced by a Global Manager

Those days are gone when India was considered as an underdeveloped economy. Today many multination firms like Microsoft, Citigroup, Unilever, Procter & Gamble, Toyota etc. outsource to India for production. Besides India Russia is also moving ahead and is fighting corruption in its business sector to build its companies more competitive. Japan is a leader in facing all global challenges and is setting an example for other advanced countries of the world to follow it. Hence global companies achieve economies of scale by identifying and manufacturing the global products that meet the requirement of the local customers which suits their taste and culture.

24.12 SUMMARY

Modern technology with manpower is the reality of today's economic system. The world trade has grown at a pace much faster than the world output. For several countries, the growth has been described as export oriented growth since the share of exports in their GDP is significantly high. at most of the time and is an important parameter to measure the success of a nation. A multinational firm is a firm with operations that are extended

beyond its domestic national borders. Such firms deals in international business and earn a normal rate of return by assuming some amount of risk. The firm must see the available remittance options with their cost and benefits

Restrictions of various kinds gives rise to illegal markets in foreign exchange develop to satisfy the demand of the corporate and individuals. Such types of markets are known as black markets. An MNC is a company engaged in making and selling its products and services in more than one country. A firm tries to exploit factor advantages internationally and attempt to reduce the competitive threats by imposed by others. Companies gradually increase their commitment to international business. In the recent past there has been a constant flow of certain goods and services among the different nations of the world. Rapid economic growth in the Western countries contributed too much to this process.

Investors, both individual as well as institutional, are eager to invest more in foreign securities than in domestic securities the reason being that international investment opportunities provide a great range of returns and opportunities in comparison to domestic investment enabling the investors to make relatively higher returns.

Diversification is not just a defensive policy to protect against the financial risk represented by the investment portfolio but is also a means of increasing average retune from investments that might, otherwise, for the sake of safety be confined to low-yielding securities.

Although international investment diversification enables investors to avail benefits of higher returns with reduced risks, there are number of hurdles that come in the way of overseas investment and affect cross-border capital flows like market frictions, lack of information and irrational behavior of investors etc.

Basic rules the govern the management of working capital are the same in the national and international companies. In spite of that the MNC's have to see some of the variables like the risk in exchange of currency, the political risk, tax systems and transfer pricing. MNCs, in managing their working capital, face a number of risks pertaining to funding and investing of funds, like the risk in converting currency, the risk in interest rate risk and the political risk.

Transfer prices are the prices set by a company for the transfer/exchange of goods and services for effecting sales.

The management of cash in a multinational company aims at solving the cash management problems by minimizing the overall cash margin needs of the firm without affecting the effective functioning of a firm.

The multinational business firm's faces a lot of challenges and constrains in doing the business. The challenges are there due to different national laws, trade policies, business regulations, labor polices etc. A global manager should possess certain traits or characteristics in order to manage multinational firms. Some of them are Leadership

Skills, Disseminator of Information, A good Negotiator, Good Interpersonal Skills and should have the art of allocating of the scarce resources. The global manager also faces a number of challenges in order to stay in the highly competitive world.

24.13 GLOSSARY

Arbitrage: It is a process of buying when the prices are lower and selling when prices are higher.

Black Market: An illegal market that often arises when price controls leads to shortage of goods, services or assets.

Business Cycle: The business cycle is the movement in economic activity over a period of time.

Currency Exposure: Currencies are constantly exposed to fluctuations in exchange rates on the international foreign exchange market making them liable to volatility.

Diversification: By diversification we mean a technique that reduces the risk by allocating investments among different financial instruments in order to reduce the risk.

Domestic Inflation: Inflation is defined as a sustained increase in the general level of prices of various goods and services in a county.

Euro Currency: It refers to the time deposit in a bank located outside the country from which the currency is issued.

Forward Position: A forward contract is a customer oriented contract between the two parties to buy and sell an asset at a specified price at a future date.

International Asset Pricing Model The standard CAPM pricing model is used to help determine the return investors need for a specific level of risk.

Multinational Enterprises: A company with headquarters in one country and operating in several other countries.

Optimal Portfolio: A portfolio that maximizes an investor's preferences with respect to return and risk.

Rational Investor: An investor who invest wisely in the financial market to maximize the returns

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24.15 TERMINAL QUESTIONS

Q1 . What implications does this fact have for international investing?

Q2. What are the challenges which are faced by a global manager?

Q3. What are the various steps followed in internationalization.

Q4. Explain the global trends in FDI?

Q5. What do you mean by international diversification?

Q6. What goal should a finance manager pursue and why?

Q7. What respects does domestic working capital management differ from multinational working capital management?

Q8. What are the specific considerations that an MNC must consider while formulating its working capital management policy?

Q9. Discuss recent trend in FDI in the globe.

Q10. What are the different forms of international cash management?

Q11. Discuss the Problem of Managing Cash in MNCs.

Q12. How do multinational firms manage the business in global economy? What are the important traits which he should have in order to make the global business a success?

Q13. What are the benefits of international investing?

Q14. Explain the barriers to international diversification?

Q15. Explain the important traits of a global manager in managing multinational firms?

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