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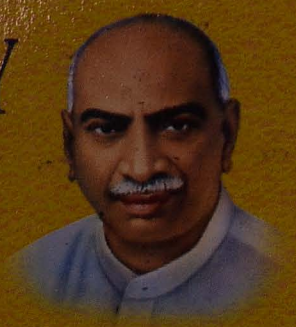


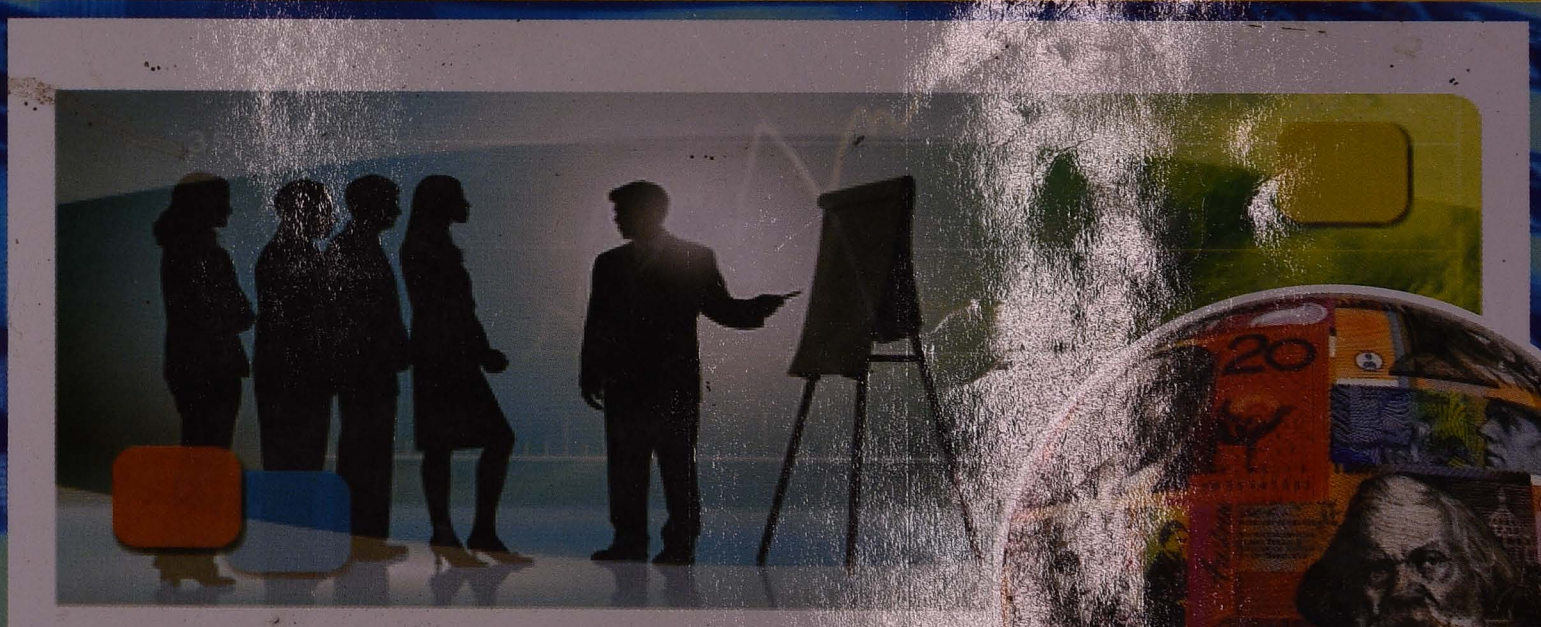
M.B.A.

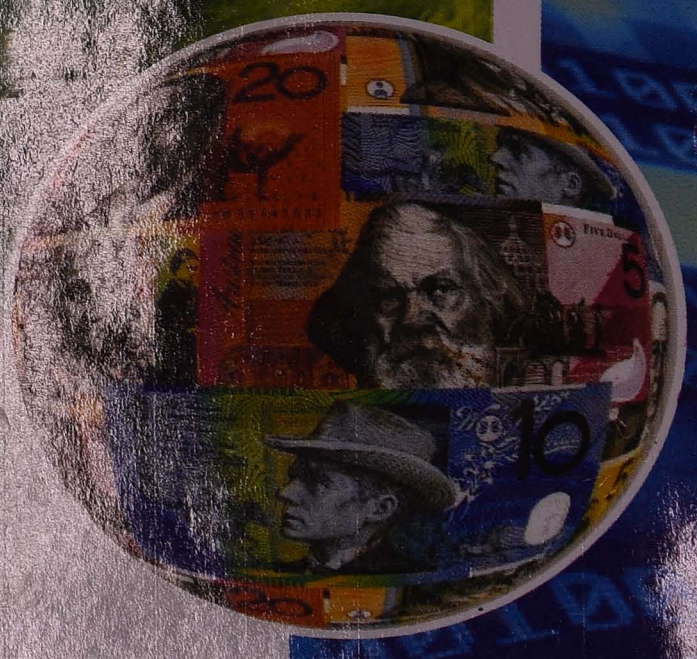
SECOND YEAR

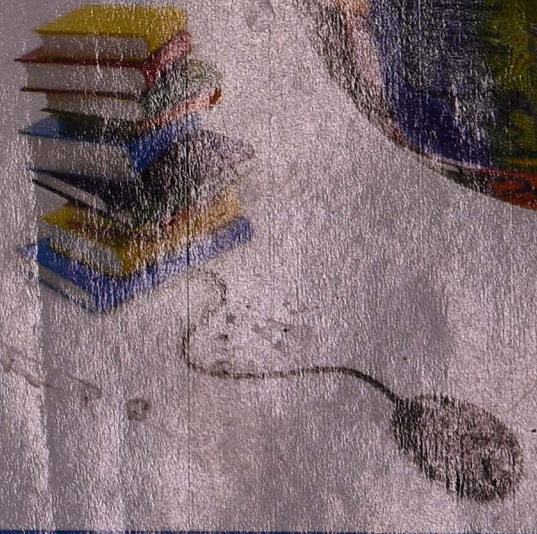
IV Semester

Elective VII – Banking

GLOBAL FINANCIAL MARKETS & INTERNATIONAL BANKING







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SYLLABUS

Unit – 1 : International Business Environment

Framework – International Economic Institutions – WTO – UNCTAD – IMF and World Bank – Regional Economic Cooperation – Growth and development of MNCs – Types and Raionale – Gains for of International Trade.

Unit – 2 : Foreign Exchange Markets :

Fixed and Flexible Exchange Rates – Spot and Forward Markets – Exchange Rate Quotes – LERMS – Factors affecting Exchange Rates – Basic Theories – PPP – Interest Rate Parity – Fisher Effect – Currency derivatives – Futures and Options – Currency Swaps.

Unit 3 : International Finance :

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Unit 4 : Multinational Financial Management :

Complexities – Working Capital Management – Investment and Financing Decisions – Capital Budgeting – Cost of capital of Overseas Investment – Risk Exposure – Types – Measurement and Management of Exposure – International Portfolio Management.

Unit – 5 : International Banking :

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Unit – 6 : Exchange Rates :

Exchange rate systems – Gold Standard – Bretton Woods – Fixed Vs Floating Exchange Rate Systems – Determinants of Exchange Rates – Exchange Controls.

Unit 7 : Foreign Exchange Transactions :

Purchase and Sale transactions – Spot Vs Forward transactions – Forward Margins – Interbank Deals – Cover deals – Trading – Swap deals – Arbitrage Operations – Factors determining Forward margins.

Unit 8 : Ready and Forward Exchange Rates :

Principle types of Ready Merchant rates – Ready Rtes based on cross rates – Forward exchange contracts – Execution of Forward contracts – cancellation and Extensions – Dealing position – Exchange position – Cash position.

Unit – 9 : Currency Derivatives :

Currency Forwards – Currency Futures – Currency Options – Exchange traded transactions – Financial Swaps – Forward Rate agreements – Interest Rate Options.\

Unit – 10: Need for risk management in Banks :

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UNIT I

INTERNATIONAL BUSINESS ENVIRONMENT

UNIT STRUCTURE

1.1 INTRODUCTION

Business is defined as a set of activities relating to industry and commerce. When these activities are performed on an international level, these can be termed as international business. Basic functions, process and techniques of international business are essentially the same as those involved in domestic business. What is different is the environment within which these functions are performed and process are carried out. While doing business within one's own country, one is familiar with most of the environmental factors and is readily able to cope with them, But the task of managing international business is not that easy. Because of operating in environments which are unfamiliar and different from the domestic environment, one needs to be extra careful and vigilant to these environmental differences. These variations may need adoption for business success.

1.2 OBJECTIVES

In this unit, you will learn International Economic Institutions, World Trade Organisation (WTO), UNCTAD, IMF and World Bank, Regional Economic Cooperation, Growth and Development of MNC's, Types and Rationale and Gains for of International Trade

1.3 INTERNATIONAL ECONOMIC INSTITUTIONS

International financial organizations have been established by the Governments. The purpose of these institutions is to maintain orderly international financial conditions and to provide capital and advice for economic development, particularly in those countries that 'lack resources to do it themselves. The majority of these organisations have been established towards the end of the World War 11 as part of an over all spirit of co-operation. The funds for these institutions come from the Contribution of Capital that each Nation makes when it becomes a member and through the Borrowings. The international financial Organisation can be broadly classified in seven categories. They are;

1. The World Bank Group-International Bank for Reconstruction and Development and its three subsidiary organizations
   a, International Development Association (IDA)
   b. International Finance Corporation (IFC)
   c. Multilateral Investment Guarantee Agency (MIGA)
2. The International Monetary Fund (IMF)
3. European Bank for Reconstruction and Development
4. Asian Development Bank (ADB)
5. Inter-American Development Bank
6. African Development Bank
7. Bank for International Settlement (BIS)

1.3.1. The World Bank

The World Bank began in 1946 with 38 members. By June 1998 it has grown to 180members ranging in size from Seychelles (population 67,000) to the People's Republic of China (Population 1 billion). On June 30, 1997 the total subscribed capital of IBRD stood at US$ 182.4 billion or 97 per cent of the authorized capital of US$ 188 billion.

The Bank is comparable to a global co-operative, which is owned by member countries. The size of a country's shareholding is determined by the size of the country's economy relative to the world economy. Together, the largest industrial countries (The Group of Seven or G7) have about 45 per cent of the shares in the World Bank and they generally carry great weight in the International economic affairs. So, it is true that rich countries have a good deal of influence over the Bank's policies and practices. The United Stales has the largest shareholding of 17 per cent-which gives the United States the power to veto any changes in the Bank's capital base and Article of Agreement. However. virtually all other matters including the approval of loans are decided by a majority of the votes cast by all members of the bank. As explained earlier in this unit the World Bank group comprises of International Bank for Reconstruction and Development, and its three subsidiaries, viz., the International Development Association, the International Finance Corporation, and Multilateral Investment Guarantee Agency. Let us know about each of these in some detail:

Check Your Progress

1) Give the expansion for the following abbreviations
i) IDA ii) IFC
iii) MIGA
iv) MNC
v) IMF

1.3.2. International Development Association (IDA)

Richard Gardner uses the appealing phrase "The Banker develops a heart" to describe the shift in the orientation of Bank lending from reconstruction in Europe to aiding the developing countries but perhaps the sentiment should have been reserved for setting up the international development association (DA) in 1962. The distinctions however, between IDA and the rest of the Bank are often misunderstood. They are no1 separate agencies. IDA and IBRD are simply labels that the Bank attached to different sort of financing. By and large the IDA and IBRD follow the same criteria for evaluation of projects in each case and the loans under either heading are supervised by the same managers. Developing countries borrow from the World Bank because they need capital, technical assistance and policy advice. There are two types of Bank lending; the first type is for developing countries that are able to pay near-market interest rates. The money for those loans comes from investors around the World. These investors buy the bonds issued by the World Bank. The second type of loan goes to the poorest countries, which are usually not creditworthy in the international financial markets and are unable to pay near market interest rate on the money they borrow. The World Bank therefore cannot issue bonds to raise money that would finance lending to these countries. Lending to the poorest countries is done by a World Bank affiliate, the International Development Association. More than thirty member countries periodically contribute the money needed to finance "credits" to borrowers. Although all members of the IBRD are eligible to join IDA; only 159 countries have joined by the fiscal year 1997 and action was pending on membership in IDA for Barbados, Ukraine, Venezuela and the Federal Republic of Yugoslavia (Serbia/ Montenegro). During the fiscal year 1997, India was the largest borrower of IDA, credit ($ 903 million) followed by China ($ 325 million) and Bangladesh ($ 321.2 million). The establishment of IDA widened the scope for assistance to LCDs at the lower end of the per capita income scale. First it reduced the problem of repayment for countries where low income made it difficult Lo generate savings or where structural rigidities made it difficult to convert saving into foreign exchange. Secondly, by easing the problem of debt servicing it permitted the Bank to pay more attention to investments where the pay off was more social than economic or where the economic returns would be very long term. For example; investment in education, family planning

and housing. IDA window for lending has had two further aspects (a) it enabled the Bank to make loans to countries, which round not have a formed the harder terms of IBRD loans so extending assistance to many of the poorer nations, (b) without IDA the net transfer of resources from the Bank group to LCDs would he very small.

1.3.3. International Finance Corporation (IFC)

The sectoral distribution of World Bank lending had also been constrained in other ways by its charter. The role of the Bank was intended to be supplementary to private flows of investment. This has inhibited the Bank from direct investment in industrial and agricultural activities, or these were areas where private foreign direct investment might be expected to play a role. Moreover the Bank could not invest without a government guarantee and many governments in developing countries were unwilling to guarantee loans to private firms on grounds of ideology or for fear of accusation of favouritism. This would not have prevented Banks loans to nationalized industries but at least in the last10 years of its life the Bank showed hostility to public enterprise in manufacturing industry. To get round the difficulty implicit in its charter, the Bank adopted strategies to increase its aid to the private sector. One was the creation in 1956 of the International Finance Corporation (IFC), the other was to lend to investment banks and development finance companies in the LDCs for on-lending to private enterprises for industrial and agricultural development. IFC was setup with the objectives of providing capital for private enterprises encouraging the development of local capital markets and promoting foreign private investment in developing countries. IFC does not require a government guarantee. Its functions are like these of any investment bank. It can participate in private ventures, providing up to 25 per Cent of the capital. Originally it was not permitted to make equity investments, but, since 1961 after the amendments of its articles, IFC normally does buy equity shares as well as providing long-term loans. Like any investment bank its criteria I for lending includes the financial soundness of the project but the IFC is also supposed to be concerned with the contribution of the project to the broader, economic development of the nation. In practice the former criterion has been dominant. Normally, IFC's investments fall in the range of $1 million to $ 20 million. The lower limit is to prevent undue concentration. IFC tries to sell off to private enterprises, its share in an enterprise as soon as this is commercially feasible, so that it

can role on its capital frequently and increase its overall impact. 4-l The FC is the largest multinational source of loan and equity financing for private sector project in the developing world. Its share capital is provided by its 172 member countries, which collectively determine the policies and activities. Strong shareholder support and a (substantial paid up capital base have allowed the IFC to raise most of the funds for its lending activities through its "AAA" rated bond issues in the international financial markets. During, the fiscal year 1997 total project financing by the IFC to India on various projects accounted for US$ 212.31 million comprising IFC loan ($148.0 million), IFC equity ($ 21.81 million), quasi-equity ($ 10.0 million), syndications ($ 30.0 million) and others ($2,5 million). The total project cost of these projects worked out to US$ 1,014.9 million. The IFC is setting up an Asian Restructuring Fund that it hopes will amass between $ **750** mio. And $ 1 hio. The fund would be independently managed with $ **50** mio- $100 mio, of equity from the IFC and the rest coming from private investors. The fund would invest in and then restructure distressed Asian companies,

1.3.4. Multilateral Investment Guarantee Agency (MIGA)

MIGA was created in 1988 by 42 World Bank member countries specifically to encourage foreign private investment. MIGA insures investors in developing countries against losses caused by the outbreak of war or civil disturbance (including acts of terrorism) or by acts, of government, such as expropriation or the imposition of the restriction on the transfer of currency or profits.

MIGA supplements the types and amounts of cover that national and private insurers offer investor and MIGA's national counterparts increasingly refer customers to MIGA. The eligibility criteria of national insures are, often constrained by their government's policies towards the prospective host countries. Moreover, national schemes serve only national investors. Private insurers in turn, offer only short or medium-term cover and usually do not cover losses due to war and currency inconvertibility. Thus in cases in which other insurers do not offer adequate coverage, MIGA is often the preferred source of long -term insurance, 4 % MIGA membership is divided into category one - category two (developing countries), those currently stand at 19 and 121 respectively. Another 19 countries are in the process of fulfilling membership

requirements. A country wishing to join MIGA must be a member of the World Bank and must subscribe to the allocated portion of the agency capital.

MIGA does not guarantee investment in category-1 member countries. In accordance with its agreement with the Banking authorities of many of its category-I member countries, bank loans covered by MIGA guarantees are often exempt from the usual requirements for developing country risks.

A guarantee from MIGA is particularly attractive for commercial banks in countries such as France or Spain, since these banks will not then need to make special provisions for developing countries, the concept of an agency such as MIGA had been in the air since the 1950s. But it was only after the debt crisis of the 1980 when both donor governments and the international agencies began to emphasise the potential of the private sector, especially foreign private investment, in the economic development of the world's poorer countries, that the necessary support for MIGA could be mustered.

The increase in cross-border economic activity is very much reflected in the increase in the scope of MIGA's operations. The number of contracts issued by the agency increased from US$ 372 million in 1994 to US$ 614 million in 1997. MIGA's portfolio outstanding at the end or" fiscal lQ97 was US$ 2.5 billion. While the majority of foreign investment to developing countries comes from OECD countries, MIGA is making special efforts to promote investment between developing countries.

1.4. INTERNATIONAL MONETARY FUND (IMF)

Both the IMF and the World Bank were designed to be central institutions in a World free of war and destructive economic nationalism. IMF monitors stability and growth charged with policing of the trade and monetary practices of member countries. The International Monetary Fund began life as a central part of the fixed exchange rate regime established at Bretton Woods in 1944, supporting countries with temporary Balance Of Payments (BOP) difficulties to forestall damaging trade restrictions. IMF began financial operations on 1st March 1947. Current (Sept 2000) membership is 182 Countries. Total resources are SDR 212 Billion (About US $ 280 Bn).

The Fund's primary objectives are:

a. To Promote International monetary co-operation.

b. To facilitate expansion and balanced growth of international trade.

c. To provide exchange rate stability and maintain orderly exchange arrangements among members.

d. To assist in establishing multi lateral system of payments for current account transactions and assist eliminating exchange control restrictions that hamper the growth of world trade.

e. To make available to members its resources to correct the temporary BOP problem.

f. Shorten duration and lessen the degree of disequilibrium in BOP.

Difference between world bank and international monetary fund

The World Bank and the **IMF** were conceived as the twin pillars of the postwar economic order at a conference Britain, America and their war- time allies at Bretton Woods, a village in New Hampshire in July 1944.

S.No	World Bank	International Monetary Fund
1.	It is a public financial Institution.	It is a club of Member Countries.
2.	Most of the funds generated is through bond selling on commercial terms.	Mostly though subscription by Member countries.
3.	Formed to promote development.	Formed to maintain order in international monetary system.
4.	Began its life rending primarily to finance post war reconstruction in industrial countries and infrastructure project in developing one.	Begin its life as a central parts of the fixed exchange rate regime supporting countries with temporary balance of payments difficulties to forestall damaging trade restriction.
5.	Lending was long term and structural.	Lending was short term and macro economic.

IMF's Funding Facilities

It has already been mentioned that the member countries borrow from the pool of reserves lying with the IMF. The funding facilities can be grouped as:

1) Permanent facilities for general balance of payments support:

a) Reserve tranche drawings indicate unconditional borrowings of a part of the quota held by that particular member. A few experts do not consider such drawings as using IMF credit as it is the amount deposited by the borrower.

b) The credit tranche is often known as the IMF's basic financing facility. Such credits are made available in tranches-each tranche being equivalent to 25 per cent of the member's quota. The first tranche does not involve major conditionalities. The member country has simply to assure reasonable use of the funds. The subsequent tranches, however, require the performance criteria in terms of budgetary and credit policies. The policies are monitored by the IMF during the period in which the installments of credits are disbursed. The period of credit ranges from three to five years.

2. Permanent facilities for specific purposes:

a) Extended Fund Facility was established in September 1974 for making available long-term resources in larger magnitude than available under credit tranches. It is provided when the balance of payments problem is structural. A member country can use the credit tranche and extended fund facility resources subject to an annual limit of 100 per cent of quota and a cumulative limit of 300 per cent of the quota.

b) The **compensatory financing facility** was established in February 1963. The credit is provided to meet the fluctuation in export earnings due to circumstances beyond the control of the member government. Since 1981, credit under this facility is also provided to cover the fluctuation in cereal import cost. The main gainers are the primary producing countries. The extent of the shortfall in export earnings is determined on the basis of relationship between the latest export preceding the request and the trend value of export earnings calculated as a geometric average.

c) **Compensatory and Contingency Financing Facility**

This facility was substituted by the Compensatory and Contingency Financing Facility in August 1988 by adding a mechanism for contingency financing to support the adjustment process approved by the IMF. Buffer Stock Financing Facility was set up in

Check Your Progress

2) International financial organizations have been established by ----------.

June 1969. It assists mainly the primary producing countries in financing their contribution to international buffer stocks under international commodity agreements.

d) Supplementary reserve facility was created in December 1997 to provide assistance to those members that face exceptional balance of payments problem due to large short-term financing vis-à-vis sudden loss of market confidence.

3. **Special Disbursement Account facility**

a) **Structural Adjustment Facility (SAF)** was set up in March 1986 for providing additional balance of payments support in form of loans on concessional terms to low-income developing countries or to IDA-only countries. A member country can get such loans up to 70 per cent of its quota.

b) In December 1987, IMF set up **Enhanced b) Structural Adjustment Facility (ESAF)** for providing loans in addition to the SAF loans. Resources come from the ESAF Trust set up for this purpose, loans and contributions and the Special Disbursement Account. Such loans can go up to 185 per cent of the quota or even more in special cases. Interest rate on loans is very low (being 0.50 per cent). Maturity extends to 10 years.

Role of the IMF

The role of the IMF has been considered quite controversial during the crisis. To begin with, many commentators in retrospect criticized the IMF for encouraging the developing economies of Asia down the path of "fast track capitalism", meaning liberalisation of the financial sector (i.e. elimination of restrictions on capital flows); maintenance of high domestic interest rates in order to suck in portfolio investment and bank capital; and pegging of the national currency to the dollar to reassure foreign investors against currency risk.

However, the greatest criticism of the IMF's role in the crisis was targeted towards its response. As country after country fell into crisis, many local businesses and governments that had taken loan's in US dollars, which suddenly became much more expensive relative to the local currency, which formed their earned income, found themselves unable to pay their creditors. The dynamics in this scenario were similar to that of the Latin American debt crisis. In response, the IMF offered to step-in in the case

of each nation and offers it a multi-billion dollar "rescue package" to enable these nations to avoid default.

New Tasks and Responsibilities of IMF

The demise of the Bretton Woods System ultimately provided the IMF with new tasks and responsibilities as demands for co-ordinated action - under IMF auspices - mounted. The practical activities of the IMF in all fields - surveillance of exchange rates and monetary policy, balance of payments assistance and redesign of the international monetary system - expanded significantly. In adopting a more flexible set of arrangements the new system did usher in more lasting changes in the management of international finance and the role of the IME Lending Facilities. The IME uses its financial resources to help members redress their balance of payments problems and to help cushion the impact of adjustments.

i. **Regular Facilities**

a. **Credit Tranche:** The IMF is a financial co-operative. On joining, each member country subscribes a sum of money called quota. A member is generally required to pay up to 25 percent of its quota subscription in SDRs or in the currencies of other members specified by the IMF with the concurrence of the issuers, and pays the remainder in its own currency. The Fund's credit may be made available under four tranches each equal to 25 percent of the member's quota. Borrowing under the first tranche has no performance criteria. Borrowings under upper credit tranches are made in installments or phases and are released when performance targets are met. Such drawings are normally associated with stand-by or Extended Arrangements. Performance criteria and periodical reviews are used to assess policy implementation.

b. **Stand by Arrangements:** Stand by arrangements was introduced in 1952 to give members the right to draw up to a specified amount of IMF financing during a prescribed period. Drawings are normally phased on a quarterly basis with their release conditional upon meeting performance criteria and the completion of periodic reviews. Performance criteria generally cover bank credit, government or public sector borrowings, trade and payments restrictions, foreign borrowing and international reserve levels. These arrangements typically cover a 12-18 months period (although they can extend up to 3 year). Repayments are to be made within 3 to 5 years to each drawing.

c. **Extended Fund Facilities (EFF):** The EFF provides assistance for adjustment programme over longer periods and with generally larger amounts to financing than under stand-by arrangements. Extended Arrangements, which normally run for three years, are designed to rectify balance of payments difficulties that stem largely from structural problems and require a longer period of adjustment. Repayment period is 4 years to 10 years of the drawings.

ii. **Special Facilities**

a. **Compensating and Contingency Financing Facility** (CCFF): The export compensatory element of the **CCFF** provides financing to members experiencing a balance of payments need to temporary shortfalls in export earnings. This element of the facility has been used particularly by commodity exporters. The costs cereal elements compensate for the temporary excesses in cereal import costs attributable to factors largely beyond the member's control. The contingency element helps members with IMF arrangements keep their adjustment programmes on track when faced with unforeseen adverse external shocks largely beyond their control.

b. **Buffer Stock Financing Facility:** Under this facility the IMF lends member's contributions to approved international buffer stocks if the member demonstrates a balance of payments need. No drawings have been made under this facility for the past 13 years.

iii. **Concessional Facilities**

a. **Structural Adjustments Facility (SAF):** Structural Adjustment Facility (SAF) was established in 1986 for the purpose of making concessional credit available to low-income countries with protracted balance of payments problems. SAF resources remaining at that time were disbursed as of December 1995 mainly to Sierra Leone and Zambia.

b. **Enhanced Structural Adjustments Facility (ESAF):** Introduced in 1987, extended and enlarged in February 1989, this facility is the principal means by which the IMF provides financial supports in the form of highly concessional loans to low-income member countries facing protracted balance of payments problems. The objective and primary features of the ESAF were similar to those of SAF but ESAF arrangements were expected to be more ambitious with regard to macro-economic policy and structural

reform measures. ESAF resources are intended to support strong medium term structural adjustment programmes. Eligible members seeking ESAF resources must develop with the assistance of the staff of the IMF and World Bank a policy Framework Paper (PFP) for a three-year adjustment programme. PFP, which is updated annually, describes the authorities' economic and structural policies during the three-year period and associated external financing. Adjustment measures under ESAF supported programmes are expected to strengthen substantially a country's balance of payment position and foster growth during the three-year period. ESAF loans are to be repaid in ten equal semi-annual installments, beginning 5 years and ending 10 years after the date of each disbursement. Interest rate is 0.5 percent p.a.

c. **Emergency Assistance:** The greatly enhanced use of its financial resources with the introduction of new financing facilities has transformed the IMF into becoming a major lending institution. After 1977 it began to lend entirely and in vastly enlarged amounts to its developing country members.

The IMF and International Debt Problem

In the wake of the international debt crisis, the IMF came to play a leading and highly visible role in world finance. The international debt problem of the 1980s renewed the IMF's power in managing international finance, placing it at the centre of international financial system, first as a coordinator and then in a larger sense as a source of information, advice and warning on the need to have in place a mutually consistent economic policy. Lending and conditionality by the IMF became more noticeable. The IMF undertook:

- To help members design and implement growth oriented adjustment programmes that would achieve a viable balance of payments position, in the medium term.
- To lend substantial amounts lo members undertaking adjustment programmes (the IMF disbursed SDR 36 billion during 1982-86) on the condition that bank creditors continue some of their lending and
- To help debtor countries and commercial banks mange an unprecedented number of debt restructurings and rescheduling.

The IMF received both praise and criticism for its initiatives to manage the debt crisis. The conditionality of adjustment programme came under attack. Critics protested that the

IMF set unreasonable targets for payment adjustment, causing unduly difficult conditions. This is turn imposed particular hardships on the poorest group in debtor countries and entailed sizeable net flows of funds from developing members to private bankers. This criticism diminished as the debt crisis in the major borrowing countries gradually receded towards the end of the 1980s and led to some recovery from the sharp declines in income that had occurred in some debt countries.

The IMF continues to support commercial bank debt and debt service reduction operations on a case-by-case basis. It evaluates proposed packages in light of the strength of the member's economic policies, the likelihood that the country would regain access to credit markets and attain external viability with growth and the assurance that the package represents an efficient use of scarce resources.

IMF lending to the transition economies has been much more broad-based than financial support of earlier years. The relatively straightforward objectives of the post-viable external payment positions or stable exchange rates-are overshadowed by such medium or longer-term objectives as helping to restructure the economy in a market oriented way, laying the basis for economic growth, while trying to protect the poorest segment of the country and avoid further deterioration of the environment. The IMF's lending objectives have coincided more and more with those of the World Bank and the two institutions have been working together more closely during the 1990s.

1.5 UNCTAD

UNCTAD's ongoing assistance to SIDS is also relevant to continental small States, in particular, to the five among them that are *Least Developed Countries* (Djibouti, Equatorial Guinea, Gambia, Guinea-Bissau, Lesotho). Direct assistance is provided to individual Least Developed small States in their preparation of Round Table meetings under the Integrated Framework resulting from the 1997 High-Level Meeting on Integrated Initiatives for Least Developed Countries Trade Development. Assistance is also provided to small States in the preparation of project submissions to donors, and in the subsequent implementation of such projects (e.g., Forum Secretariat, Seychelles, St. Lucia). Technical cooperation, in this context, mainly involves subjects relating to trade

and investment policies, trade efficiency, and sectoral action relevant to international trade in services.

Relevant subjects currently dealt with by UNCTAD, and in which cooperation could be envisaged and organized with the Commonwealth Secretariat, the World Bank, and other international organizations, comprise the following:

(i) Advisory services to individual countries in their negotiations with WTO on accession, use of the dispute settlement mechanism, trade agreements, new issues and upcoming negotiations;

(ii) Policy advice, technical assistance and training for institutional strengthening in relation to trade and investment;

(iii) Analysis of the implications of trade liberalization and globalization, and identification of new trading opportunities for small States;

(iv) Sensitization to, and advice and training in commodity trading risk management;

(v) Financial innovations (mobilization of private capital and development of new instruments for mobilizing investment finance);

(vi) Country-specific vulnerability studies in support of the work of the Committee for

Development Policy (CDP) relating to the question of graduation from, or inclusion in the list of Least Developed Countries (see below);

(vii) Research, analysis and support to the development of economic sectors of special interest to small States: tourism, air transport, health services, environmental services, offshore financial services, music industry;

(viii) Assessment of trade efficiency and competitiveness (e.g., St. Lucia, Vanuatu);

(ix) Assistance in trade facilitation: modernization of customs (many small States have

UNCTAD's Automated System for Customs Data/ASYCUDA), maritime transport, trade information (Global Trade Point Network);

(x) Investment policy review (e.g., Mauritius);

(xi) Innovation and technology reviews (e.g., Jamaica);

(xii) Support to debt management (several small States are among recipient countries).

Current examples of small States in which UNCTAD carries out technical cooperation are Djibouti, the Gambia, St. Lucia, Seychelles, and Vanuatu.

1.7 REGIONAL ECONOMIC COOPERATION

One of the most important developments in the world trade system in the 1990s has been the emergence of regional cooperation. The end of the Cold War reduced political tensions between countries in Asia as well as globalizing production processes and increasing vertical integration. Cities like Bangkok, Kuala Lumpur, and Singapore have been lifting their populations out of poverty in part through cooperative arrangements with neighboring countries. Transnational economic zones have utilized the different endowments of the various countries of East Asia, exploiting cooperative trade and development opportunities. Transfer of technology and manufacturing between nations has allowed them to develop sequentially. Information technology has improved linkages between economies and put remote regions in contact with the world. The private sector provides capital for investment; the public sector provides infrastructure, fiscal incentives, and the administrative framework to attract industry. Regional cooperation is now considered the means of enhancing economic development and providing economic security within the regions. Trade among ASEAN members accounted for more than 23% of all trade by member nations in 1994, topping that of any of the group's major trading partners.

Singapore has concentrated on becoming the technology center for Southeast Asia, sending labor-intensive operations to low-cost neighboring countries like Malaysia and Indonesia in special mutual cooperative trade and development arrangements known as growth triangles or growth polygons. The Southern Growth Triangle, also known as SIJORI (Singapore, the Johore state of Malaysia, and Riau Province of Indonesia), was formed in 1989 and covers a population of about 6 million people. It attracted $10 billion in private sector investments during its first five years. Such regional economic cooperation has occurred in other Asian regions as well, spurring economic development.

Growth triangles are expected to be a continued driving force for growth in Asian economies throughout the 1990s. Four growth triangles have been established since 1989, involving parts of 11 countries. There are currently eight growth polygons in East and Southeast Asia, with additional triangles being planned. For example, Cambodia, Laos, Myanmar, Thailand, Vietnam, and China's Yunnan Province have been discussing ways to develop the Mekong area since 1992.

Regional cooperation provides a competitive model to attract investment and technology. According to the secretary general of ASEAN, Ajit Singh, "These growth areas will have to be flexible to change where necessary, innovative, and always attentive to the needs of the investors and the businessmen. They also have to be aware that they are competing with much larger countries such as China and India, whose capacities for attracting investors are much greater than their own" (Kruger 1996, 17). Asian capital markets are now watching the global economy, and large companies recognize their need to be involved in this fastest growing region in the world.

The growth triangles typically group remote regions of the nations involved in an effort to exploit complementary assets within the groupings. For example, the Tumen Delta triangle integrates the capital and technology of Japan and the Republic of Korea with the natural resources of Russia and North Korea (i.e., the People's Democratic Republic of Korea) and the labor and agricultural resources of China. The governments of Brunei, East and West Kalimantan, and North Sulawesi of Indonesia; Sabah, Sarawak, and Labuan in Malaysia; and Mindanao and Palawan in the Philippines have given priority to expanding air and shipping routes within the East ASEAN Growth Area, another polygon. Where all parts of the polygon are at similar levels of development, growth is expected to be slower. Singapore has provided capital and technology for developments in Malaysia to support SIJORI. Thailand is expected to provide capital and experience in developing the Mekong polygon. It will encompass a population of over 400 million people offering low wages, rents, and land costs.

The Southern China Growth Triangle

The Southern China Growth area comprises Hong Kong, Taiwan, and the southern provinces of China (Thant et al. 1994). Because China lags behind Taiwan and Hong Kong considerably in economic development and has a very large population, growth in this triangle has enormous potential. Establishment of this triangle was spurred by market forces and private sector initiatives rather than by policy coordination among the countries. However, government policies have supported the economic links that were instituted. The PRC's economic reforms and open door policy initiated in 1978 laid the foundation for economic success in Guangdong and Fujian provinces. Establishment of China's first Special Economic Zone (SEZ) in 1980 provided for tax concessions, expanded land use rights, and simplified procedures for foreign investment. Policies for land use, finance, and trade were designed to reduce transaction costs and to provide greater access to the domestic as well as the world market. Policies formulated within the SEZs themselves have been even more liberal than those in other parts of the triangle. For China, the triangle has provided exports, foreign exchange, and employment as well as access to the larger global economy.

Rapid economic growth and higher incomes have occurred in Guangdong and Fujian Provinces with materials and components from Taiwan's manufacturing sectors and the support of Hong Kong's advanced services sector. Geographical proximity and common language are the most compelling factors for capital to move across the border from Hong Kong into Guangdong Province, or for investment to flow across the Formosa Strait from Taiwan to Fujian Province. Cantonese is a Chinese dialect spoken in both Hong Kong and Guangdong, while Fujianese is spoken in both Taiwan and Fujian. For Hong Kong and Taipei, the triangle has provided a means of implementing structural changes in manufacturing and export patterns at minimal cost. In spite of recent political posturing on the part of China, economic planners in Hong Kong and Taiwan are optimistic that economic logic will continue to drive regional integration.

Low-Cost Sourcing

As Japanese and U.S firms seek to reduce the cost of their latest innovations, they are outsourcing production to low-cost contract manufacturers. China has a growing

number of low-cost parts and components suppliers. With a minimum of overhead and a large pool of low-cost labor in China, there is a growing list of high-quality vendors in China. The continuing miniaturization of products has lead to joint ventures with companies from Japan, the United States, Taiwan, Hong Kong, and other Asian countries. The success of these firms is dependent upon providing competitive value in a timely manner. Low-cost board assembly operations in China utilize the latest SMT equipment required by new computer and telecommunications products. Capital intensity will increase as IC packaging and SMT assembly operations are installed.

In the 1980s, Korea and Taiwan provided the first step in the cost reduction chain by providing the most advanced process capabilities. Singapore and Malaysia became additional sources for contract manufacturing with the establishment of global vendors like SCI and Solectron. Today, further cost reduction is possible by moving production to lower cost regions like China and the Philippines. Wong's Electronics in Hong Kong provides a three-step process for cost reduction that includes low-cost labor, low-cost sourcing, and low-cost production designs.

Hong Kong, Thailand, Malaysia, and China are considered the home of lowest-cost manufacturing competitors in the electronics industry today. They offer limited component technology or product design skills, but provide many low-cost suppliers of generic, low-technology components. Since low-cost manufacturing countries generally lack the technologies required to become industry leaders, they must follow the technology trends as quickly as possible. OEM competitors from Taiwan and Singapore are being forced to open branch plants in China or other Southeast Asian countries to produce the most labor-intensive, cost-driven products.

1.8 RATIONALE

A design can be documented in many different ways. Design documentation ranges from formal design specifications, often following a rigorous standard imposed by an outside agency, to informal notes contained in the notebooks of the individual designers. One type of documentation that is often only recorded informally, if recorded at all, is

design rationale (DR) - the reasons behind the design decisions and, in some cases, a record of what decisions were *not* made and why.

This information could be valuable for many reasons, both during the design process, and later when the designed artifact requires modification. There have been many systems developed to capture and use rationale and several survey papers comparing them. The surveys resulted in several ways to classify design rationale tools. This paper combines these classifications and describes how they apply to a selection of DR tools. It also suggests some areas for future work.

Definitions of Design Rationale:

"Design rationale expresses elements of the reasoning which has been invested behind the design of an artifact" [Shum & Hammond, 1993].

"Design rationale is the reasoning and argument that leads to the final decision of how the design intent is achieved." "Design intent is the `expected' effect or behavior that the designer intended the design object should achieve to fulfil the required function." [Sim & Duffy, 1994]

"Design rationale means statements of reasoning underlying the design process that explain, derive, and justify design decisions" [Fischer, et. a., 1995]

Design rationale means "information that explains why an artifact is structured the way that it is and has the behavior that it has" [Conklin, Burgess-Yakemovic, 1995].

"Design rationales include not only the reasons behind a design decision but also the justification for it, the other alternatives considered, the tradeoffs evaluated, and the argumentation that led to the decision" [Lee, 1997]. While all these definitions have their merits, Lee's [1997] definition most clearly states the content and purpose of design rationale.

1.8. 1 Types of Rationale

Rationale can be classified into several types. These types are not mutually exclusive and some systems may support multiple types of rationales. The following types of rationale are discussed in this document:

- ***Argumentation based*** - the design rationale is primarily used to represent the arguments that define a design [Garcia, 1993]. These arguments consist of issues raised, alternative responses to these issues, and arguments for and against each alternative.
- ***History-based*** - the rationale consists of the design history – the sequence of events that occurred while performing the design [Garcia, 1993]. This information can be stored in many forms. It could be in the form of entries in a design notebook, an archive of e-mail messages, or other types of documents that capture actions taken over time.
- ***Device-based*** - a model of the device itself is used to both obtain and present rationale [Gruber, 1990]. The explanations of the design would be produced by using the model to simulate the behavior of the device. It would be possible for the user to view the model and ask questions about its design and behavior.
- ***Process-based*** -- the DR capture is integrated into the design process itself which guides the format of the rationale. In Ganeshan, et. al. [1994], the design description is modified only by changes to and refinements of the design objectives, thus capturing the rationale as part of the design process.
- ***Active document-based*** - the DR is pre-generated and stored in the system. In these systems, the designer creates the design and the DR system generates the rationale for it based on the system's stored knowledge. For each decision made, the system compares the decision made by the user with the decision that it would have made based in its knowledge. If the actions of the user conflict with the system recommendations, they are given the option of changing their decision or modifying some of the criteria.

1.8.2 Uses for Rationale

Design rationale consists of a lot of different information including the history of the design process, and the reasons for making each decision. This information can be useful in several aspects of designing. They are

1 ***Design verification*** -- the goal is to use the rationale in order to verify that the design meets the requirements and the designer's intent. This verification can occur at any point in the design process.

1 ***Design evaluation*** -- similar to verification except that the rationale is used to evaluate designs (and partial designs) and design choices relative to one another.

2 ***Design maintenance*** -- the design rationale is used to determine what choices were made when performing the design in order to locate sources of design problems or to indicate where changes need to be made in order to modify the design. By keeping track of alternatives that had been rejected, the designer can avoid making a choice that was rejected earlier.

3 ***Design reuse*** -- the design rationale is used to determine which portions of the design can be reused and in some cases, suggest where and how it should be modified to meet a new set of requirements. It is especially important to let the designer know why the decisions were made. In some cases, what may seem like an inefficient solution may actually be critical to the design as a whole. Without the presence of rationale that indicates this, the design may be changed in a way that could be harmful.

4 ***Design teaching*** -- design rationale can also be helpful in assisting teaching new personnel about the design. Besides providing insight into how it works, the rationale shows why each design choice was made. This conveys more information than a static description. Some design rationale systems allow the user to ask questions about the design; this is often a faster and easier way to learn about the design than wading through large amounts of design documentation. Learning support is especially crucial when the original designers are not available to teach a new designer.

5 ***Design communication*** -- the presence of rationale improves design both after and during the design process. By capturing the design choices and the reasons behind them, this information can be made available to others affected to the design to both give them insight into the design and allow them the opportunity to provide their input into the process [Fischer, et. al., 1995]. It also can provide an efficient way to detect conflicts in the work of multiple designers and shorten the review cycle [Pena-

Mora, et. al, 1995]. By capturing the reasons behind design decisions, design rationale can be used to answer questions from design reviewers who need to know why a particular choice was made or why an expected choice was not made.

6 ***Design assistance*** - design rationale can also provide assistance during the design process. The ability to verify and evaluate design choices allows the designer to view the results of their design decisions. Documenting the argumentation can perform several functions: it clarifies the arguments by encouraging designers to document the information and it can be evaluated to ensure that all issues are resolved and that alternatives are selected that meet the requirements without violating any. Some features that provide immediate benefit are constraint/dependency checking, where rationale is used to verify that the design is correct, simulation, where the system allows the designer to check the impact of design modifications, and conflict mitigation, where the system looks for constraint violations between multiple designers and informs them when there is a problem.

7 ***Design documentation*** - design rationale also assists in documenting the design by offering a picture of the history of the design and reasons for the design choices as well as a view of the final product. If the rationale is stored in a computer-readable form, it can be used as part of a custom documentation generating system by allowing documentation to be generated from different perspectives and, in some systems, allowing the user to ask questions about the design. Some systems use the rationale to generate documentation aimed at different groups of people. A customer, for example, would require a different level of detail than a designer.

1.9 Gains for of International Trade

The discussion of why and how international takes place clearly indicates the gains from trade. International trade is international division of labour. Just as individuals gain by division of labour. similarly countries also gain by international division of labour. International is an extension of division of labour between countries. Some of the important gains are as follows.

i) **Optimum use of Resources**

With division of labour there will be optimum allocation of resources and maximum production within a country and also between countries. Like individuals, when all the countries specialize in those lines of economic activities where they have comparative advantage, then naturally best use of economic resources will be made. And when best use of economic resources is there. production will be maximum. Further, resources relatively speaking, are not abundant; continuous, prolonged and indiscriminate use will exhaust them soon. Besides, the maximum outcome will not be there. Therefore, a proper and careful use will be essential. International Trade makes it possible because of the comparative advantage in costs. A country which can produce a commodity at a lower cost than other countries will make a better use of existing resources. In an isolated country when resources are used to produce most of the required commodities, then naturally the optimum allocation of resources will not be feasible. Thus, we can say that if the countries trade then not only within a country but even at the international level, there will be desirable use of resources.

ii) **Advantage of Large Scale Production**

Division of labour is limited by the size of the market. If a country has limited demand then production will be less. International trade removes this limitation of the market. Now, a country will produce not only for his consumers but for the consumers of different countries. The size of the market has increased. As a result economies of large scale production will be operating. These economics can be listed below:

a) **Economy in Large Scale Buying and Selling**

A country now producing for a bigger market, will purchase inputs in large quanties. It is a common experience that when we make bulk purchases, there is economy in expenses. Similarly, the cost of selling per unit will decrease. Thus, there will be economy in large scale buying and selling.

b) **Gains accruing due to Indivisibility of a Factor of Production**

Every machine has an optimum capacity. If the market is limited then production from that machine will be less and the unit cost will be higher. The cost of commodity can be divided into fixed and variable cost. Total variable cost will increase with an increase in output. Fixed cost per unit will decline till the optimum point is reached. In

view of this as the production will increase, the unit cost will decrease till the optimum point is reached. Thus, we can say that due to trade, production will increase and machines or productive units will be producing to the optimum level and as a result the cost will decrease.

c) Improvement in the Quality

Because of large scale production and competition in the market, the quality of commodities will increase. In fact, consumers will buy goods of better quality with a lower price. Therefore in order to secure the market, entrepreneurs (producers) will like to improve the quality of commodities. Continuous research and development will become a part of the business unit. The cold wind of competition in the international market will force producers to renovate or innovate. There may be limitation of the best technique available in the world. Besides, the competition will force producers not only to improve the quality but related development in the sources of raw material, banking facilities etc., thus, there will be many gains from trade. The gains from trade are not limited to optimum allocation of resources and advantages of large scale production only. Trade directly influences developmental effort of a country. It assumes the role of a leading sector in the process of economic development. It has also been called the engine of economic growth. The fact is that rapid development of an important sector can promote development of all other sectors in the economy.

Factors Determining Gains from International Trade

The extent of gain from trade is determined by many factors. We can discuss them under the following heads:

Relative Differences in Cost Ratio

The extent of gain from trade is determined by the relative differences in cost ratios. If a country has greater differences in cost ratios it will gain more because if the differences are marginal then gains will also be marginal. Thus, gains are directly related to productivity and efficiency conditions prevailing in a country. Higher the productivity and efficiency greater will be the gains from trade.

Reciprocal Demand

Reciprocal demand also determines the extent of gain. If, for example, country A's demand is more and country B is not willing to supply at the existing rate, then rate

will change in favour of B. Or, if country A's demand is less and country B is willing to supply more then the terms of trade will favour country A.

The relative strength and elasticity of demand of both the countries will determine the gains from trade. In other words, the extent of gain from trade is determined by reciprocal demand. Ultimately two factors figure out importantly in determining the gains from trade: Higher the efficiency in production, greater will be gains. Further, income and nature of the commodity, which will influence the demand, will influence the gain. As more than one country is involved in trade, we have to consider the relative capability and demand of both the countries.

Sometimes, size of a country also influences the gains. It can be said that the gains to a small country will be relatively larger, because, a small country faces many obstacles and limitations in large scale production. In this way size of a country also influences the gain. On the other hand, in a very small country, availability of domestic reasons will be limited in size and variety. This may have adverse effects on efficiency. Therefore, we cannot make any generalization and relate the gains to the size of an economy.

Check Your Progress

1) Give the expansion for the following abbreviations

i) IDA ii) IFC

iii) MIGA

iv) MNC

v) IMF

2) International financial organizations have been established by ---- ----------.

1.10 ANSWER CHECK YOUR PROGRESS

1. i) International Development Association

   ii) International Finance Corporation

   iii) Multilateral Investment Guarantee Agency

   iv) Multi-National Corporation

   v) International Monetary Fund

2. International financial organizations have been established by the Governments.

1.11 REVIEW QUESTIONS

1. Briefly explain the role of International Economic Institutions
2. Write short note on the functions of World Bank
3. Describe the role of International Bank for Reconstruction & Development (IBRD)

4. Write a short note on UNCTAD
5 Discuss the various Funding Facilities of IMF
6. Write an essay on Regional Economic Cooperation
7 State the Growth and Development of MNC's
8. List down the various types of Rationale
9. State the various Gains of International Trade

1.12 FURTHER READINGS

1. Adhikary, Manab: Global Business Management, Macmillan, New Delhi.
2. Bhattacharya.B: Going International Response Strategies for Indian Sector, Wheeler Publishing Co, New Delhi.
3. Black and Sundaram: International Business Environment, Prentice Hall of India, New Delhi.
4. Gosh, Biswanath: Economic Environment of Business, South Asia Book, New Delhi.
5. Aswathappa, International Business, Tata Mc Graw Hill publications, New Delhi

UNIT II

FINANCIAL EXCHANGE MARKETS

STRUCTURE

2.1 INTRODUCTION

Exchange rate is determined by the demand for and supply of the two currencies. Because the exchange rate is expressed as the value of one currency in terms of another, when one currency appreciates. the other depreciates. However, when a country has multiple trading partners, exchange rate between two currencies will also be influenced by the changes in the value of other currencies. For example, consider India's major trading partners to be the US, EU, Japan and China.

2.2. OBJECTIVES

This chapter aims to give the knowledge about the Fixed and flexible Exchange Rates, Spot and Forward contracts, different methods of Exchange Rate Quotes, LERMS,

Factors Affecting Exchange Rates, and Basic Theories. This chapter also gives an idea about the PPP, Interest Rate Parity, Fisher Effect Currency Derivatives, Futures and Options and Currency Swaps

2.3 FIXED VS FLEXIBLE EXCHANGE RATES

Exchange rate is the price of one currency in terms of another currency, i.e., number of units of domestic currency that can be exchanged for one unit of foreign currency. For example. Rs.45/$.

The demand for foreign currency arises when a country imports goods and services from another country. For example, when an Indian tourist visits the US, there is a need to exchange Rupees for US$. Similarly, when a domestic firm imports (raw material or machinery) from another country or when investments are made abroad foreign exchange is required.

The supply of foreign currencies takes place when a country exports its goods and services. For example, when a foreign tourist visits India (i.e., export of tourism services) foreign currency is exchanged for domestic currency. Similarly, when a domestic firm exports to a firm in another country. foreign currency flows into the country.

Putting together, a country pays for its imports of goods and services from the foreign exchange earnings of exports. Thus, if the total demands for foreign exchange exceeds the total foreign exchange earnings, the rate at which currencies exchange for one another will change. Thus, the demand for and supply of foreign currencies will determine the *exchange rate*. If the value of one currency (in terms of another) increases. then the currency appreciates. On the other hand, if value of the currency decreases, the currency depreciates. For example, assume the exchange rate between Rs. and $ to be Rs. 40/$. If the exchange rate changes to Rs. 45/$, then rupee is becoming cheaper relative to $, hence rupee is depreciating against $. Similarly, if the exchange rate changes to Rs. 35/$, then rupee is becoming dearer relative to $, hence rupee is appreciating against $.

Exchange rate can be determined either by market forces (i.e., supply of and demand for foreign currency or by the government. Accordingly we have flexible exchange rate or fixed exchange rate.

2.3.1 DETERMINATION OF FLEXIBLE EXCHANGE RATE

The demand and supply schedules of foreign currencies will determine the exchange rate. For simplicity, let us assume that India and US are trade partners and the exchange rate between Rs and $ is to be determined.

Derivation of Demand Schedule for Rupees

As mentioned above, demand for Rupees arises in the US when India exports certain goods and services. In return, there is supply of US $ to India. Thus, in a two-country model, derivation of demand schedule for Rs. is the same as derivation of supply schedule of US $.

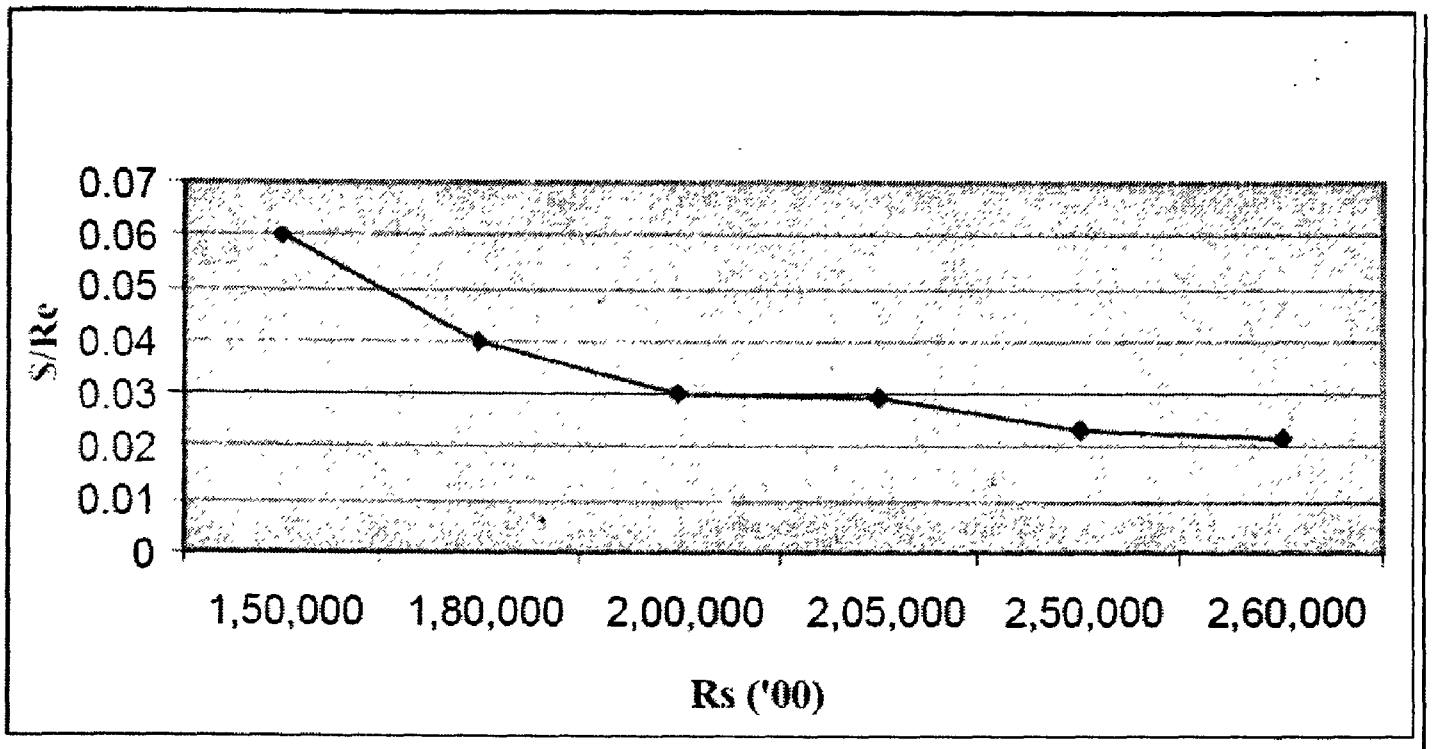
Assume a situation where India is exporting product X to the US, the price of which is Rs. 100. Given an exchange rate of 0.06 ($/Rc), the dollar price of Product X is $6. At this price, assume the demand for product X to be 1500 units in the US. For the transaction to be completed, the demand for Indian Rupees would be Rs.1, 50,000 (=1500 × 100) while supply of foreign currency would be $9000 (=1, 50,000 × 0.06). With a falling exchange rate (or rupee depreciating), the dollar price of the product decreases. Simultaneously the demand for product X (in the US) increases thereby increasing the demand for Indian rupees (or supply of foreign currency).

Table 17.1: Derivation of Demand for Rupees (Supply of $)

Price of Indian Export good in Rs.	Exchange Rate ($/Re)	Price of Indian Export good (X) in $	Qty. of Indian Export (XI)	Demand for Indian Rupees (Rs.)	Supply of Foreign Exchange($)
100	0.06 (17.94)	6.0	1500	1.50.000	9000
100	0.04 (24.47)	4.0	1800	1.80.000	7200
100	0.03 (30.65)	3.0	2000	2,00.000	6000
100	0.029 (33.45)	2.9	2050	2,05,000	5945
100	0.023 (42.07)	2.3	2500	2,50,000	5750
100	0.022 (45.68)	2.2	2600	2,60,000	5720

Note: Figures in parenthesis are (RS/$)

The relationship between exchange rate and the demand for Rupees is highlighted below in Fig. 17.1. Corresponding to the above, the supply of foreign currency can be drawn which will be upward sloping (see Fig. 17.2).



Check your progress

1) What is exchange rate?

From Fig. 17.1, it is evident that the relationship between the exchange rate and the demand for rupee is negative. This implies that as rupee depreciates (or price in $ terms decreases), the demand for rupee currency increases. In terms of foreign currency, i.e., $, the relationship between exchange rate and supply of foreign currency is positive. Thus, *exports* determine the relationship between exchange rate and *the demand for Indian rupees* or *supply of foreign currency.*

Derivation of the Supply Schedule of Rupees

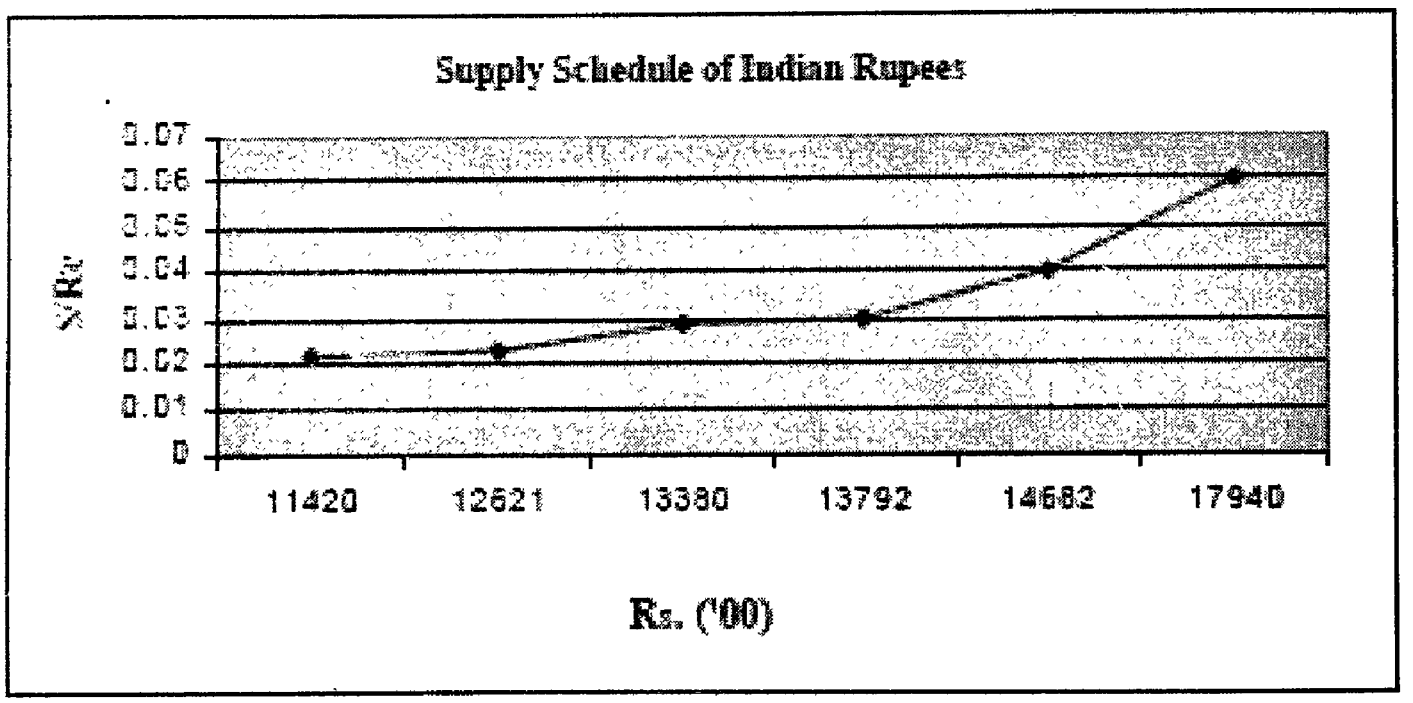
Assume a situation where India is importing Product Y from the US, the price of which is $10. Given an exchange rate of Rs. 17.94/$ (or $ 0.06/Re.), the rupee price of Product Y is Rs. 179.40. At this price, assume that demand for import of Product Y is 100 units. To complete the transaction, the corresponding supply of Indian rupees is Rs. 17,940 and the demand for foreign currency is $ 1000. With a falling exchange rate (or rupee depreciating), imports become more expensive in the domestic market, there by leading to a fall in import demand and hence a fall in supply of rupees. Conversely, if rupee were to appreciate, the rupee price of product Y falls thereby increasing the demand and increasing the supply of rupees.

Table17.2: Derivation of Supply Schedule of Rupees (India importing from US)

Price of Indian Import good (Y) in $	Exchange Rate (Rs/$)	Price of US Import good (Y) in Rs.	Qty. of Indian Import (Y)	Demand for $	Supply of (Rs.)
10	17.94 (0.06)	179.40	10	1000	17,940
10	24.47 (0.04)	244.70	60	600	14,682
10	30.65 (0.03)	306.50	45	450	13,792
10	33.45 (0.029)	334.50	40	400	13,380
10	42.07 (0.023)	420.70	30	300	12,621
10	45.68 (0.022)	456.80	25	250	11,420
10	37.16 (0.027)	371.60	35	350	13,006

Note: Figures in brackets are ($/Re.)

The relationship between exchange rate and the supply of rupees (and the demand for foreign currency) is highlighted in Fig. 17.3.



From Fig.17.3, it is evident that the relationship between exchange rate and supply of rupees is positive. It implies that as rupee appreciates (depreciates), imports become cheaper (dearer) and the supply of rupees increases (decreases). In terms of the foreign currency, the relationship between exchange rate and demand for foreign currency is negative. Thus, *imports* determine the relationship between exchange rate and the supply of Indian rupees or demand for foreign currency.

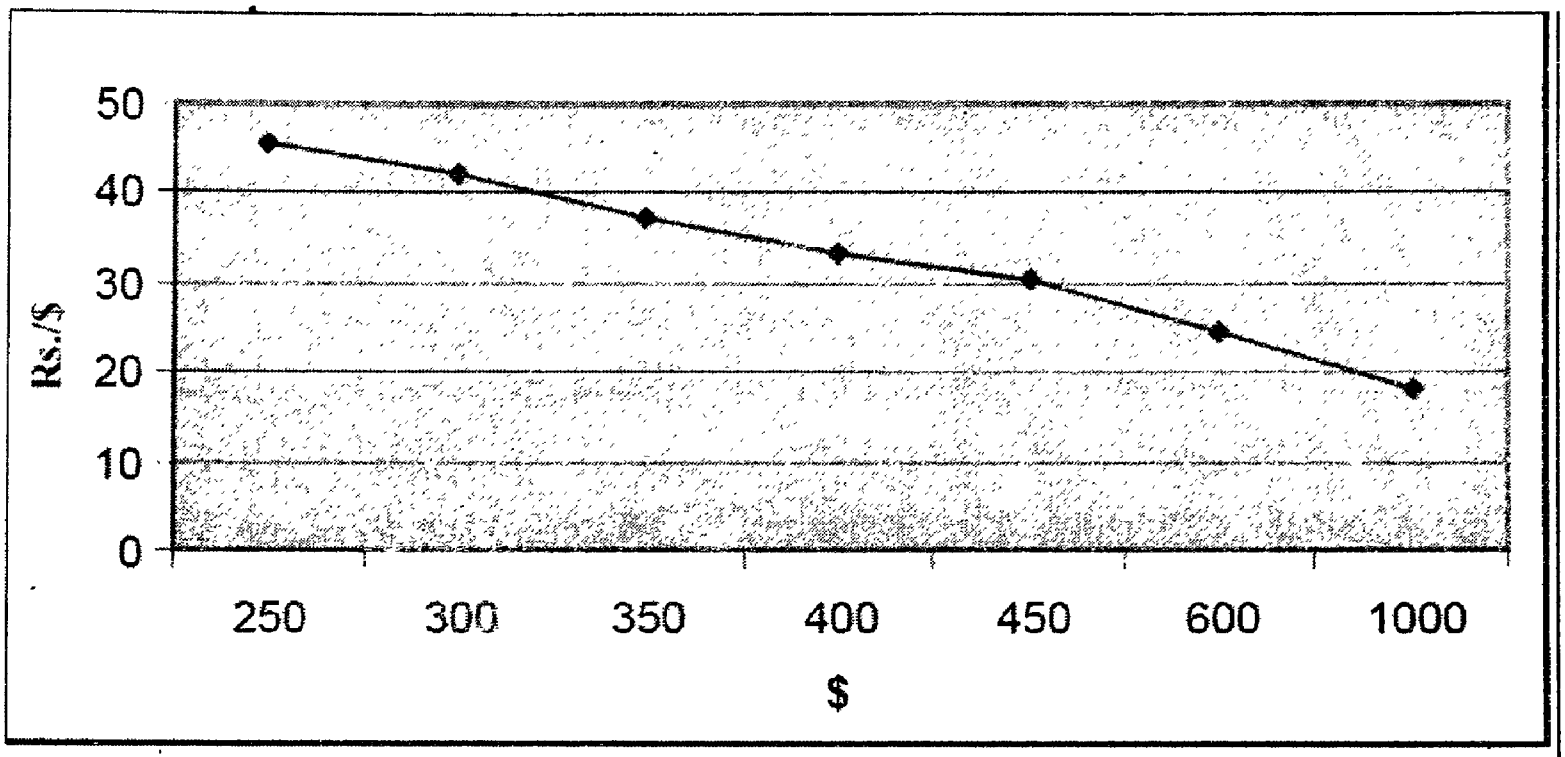


Fig. 17.4: Demand Schedule of Foreign Currencies

Equilibrium Exchange Rate

The theory of exchange rate determination explains how demand and supply of foreign exchange interact and jointly determine the equilibrium exchange rate.

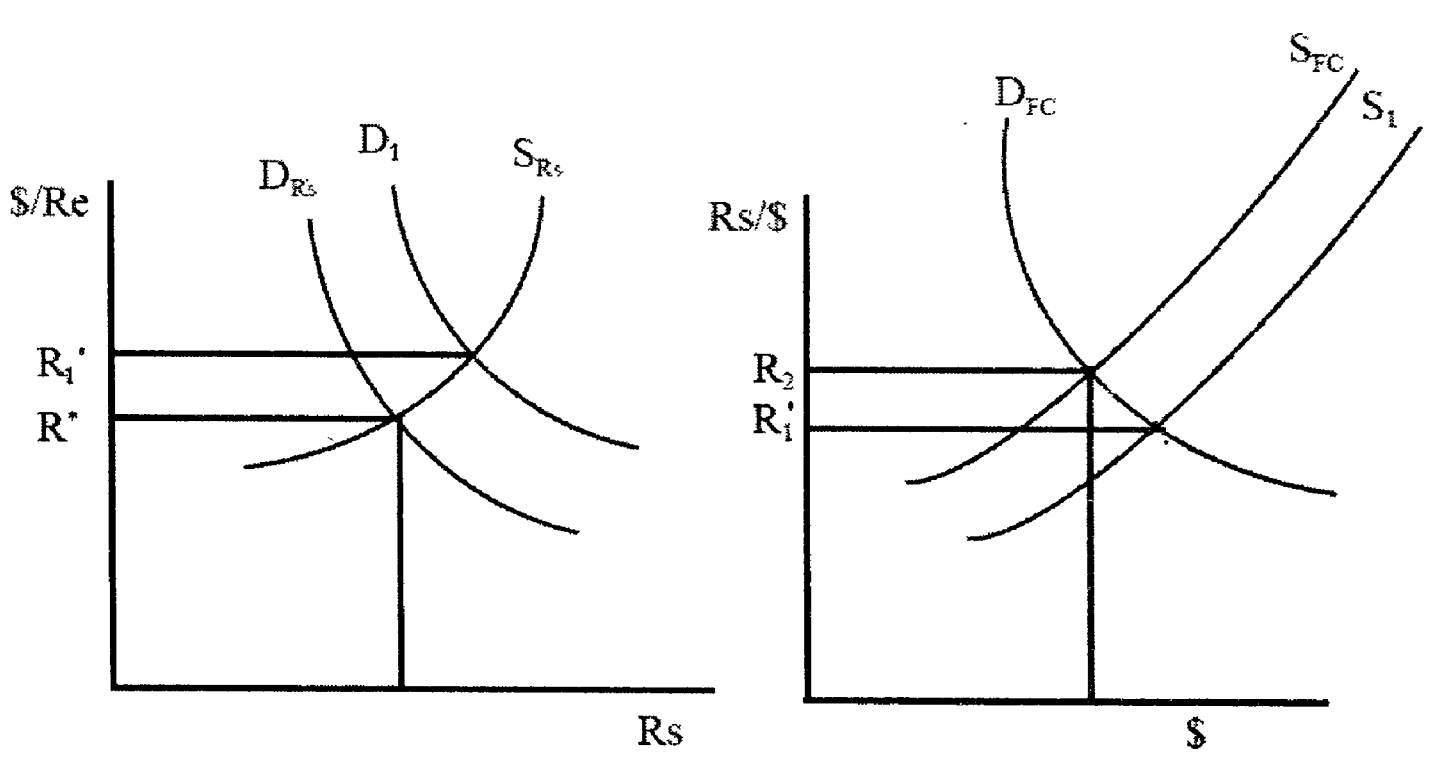


Fig. 17.5: Equilibrium Exchange Rate

As seen earlier, the demand schedule for Indian rupees (or supply schedule of foreign currency) arises from the foreign demand for Indian exports. Similarly, the supply schedule of Indian rupees (or demand schedule for foreign currency) arises from the

Indian demand for foreign goods or imports. Together, they determine the equilibrium exchange rate (R*)

Suppose there is an exogenous increase in income in the US and therefore an increase in demand for Indian goods. Correspondingly, the demand schedule for Indian rupees shifts to D1 (see fig. 17.5 (a)). The resultant equilibrium exchange rate (R* 1) indicates that the Rupee has appreciated against the dollar. Similarly, if Indian imports increase (relative to the exports) then the supply curve (SRs) shifts to the right (see Fig. 17.5(b)) resulting in the depreciation of Indian rupee from R2 to (R*1).

Check your progress

2) Which determines the exchange rate?

Thus, in a *flexible exchange rate* regime, market demand for and supply of a country's currency determine the changes in exchange rate. As the demand and supply schedules for currency are determined by many forces, there would be a tendency for high volatility of exchange rates in this regime. As there would be no intervention by the Central for currency are determined by many forces, there would be a tendency for high volatility Bank in determining the exchange rate, the BoP will always be in equilibrium. It means that the exchange rate adjusts to make the balances in current and capital accounts sum to zero.

2.3.2. FACTORS AFFECTING FLEXIBLE EXCHANGE RATE

Shifts in the demand and supply schedules for foreign currency take place on account of a number of factors. Some of them are enumerated below.

Excess Imports

If the demand increases in India for American products, then the demand for US dollar increases. It shifts the supply schedule of Indian rupees to the right thereby depreciating rupee as against the dollar.

Second, if the **inflation rate** in India rises faster than that in the US, imports become cheaper. It leads to more imports resulting in supply schedule of rupees shifting to the right thereby depreciating the rupee against the dollar.

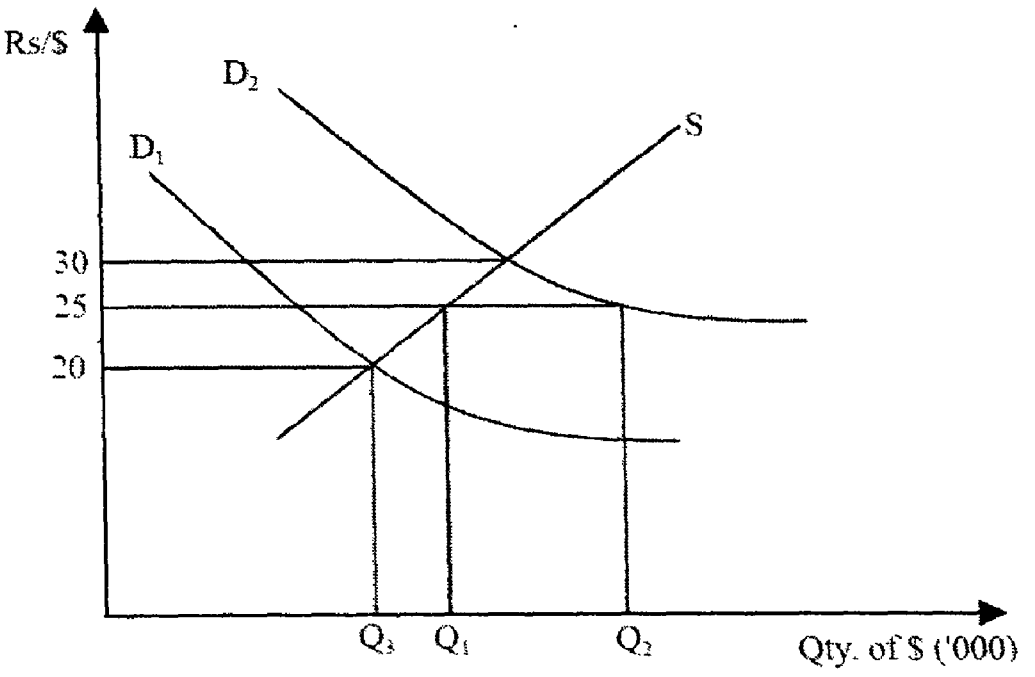
Third, if **interest rate** in India increases relative to that in the US, capital inflows rise. With an increase in demand for investment in demand, the demand schedule (for rupees) shifts to the right resulting in rupee appreciating against the dollar.

Fourth, **expectations** also affect the exchange rate. Speculations about interest rates, growth rates, etc. influence the supply and demand forces, which in turn, influence the exchange rate.

2.3.3 DETERMINATION OF FIXED EXCHANGE RATE

In the flexible exchange rate regime, exchange rates are highly volatile which leads to uncertainties in the international payments/transactions. For most developing countries, such uncertainties are unacceptable especially considering their development agenda. Therefore, stability in exchange rate is maintained through government intervention.

Let us consider a simplified analysis of how a fixed exchange rate system operates. As given in Fig. 18.1, S is the supply curve and D1 and D2 are the demand curves for foreign exchange (say, dollar). The equilibrium exchange rate with respect to S and D2 is Rs.30/$. Assume that the government intervenes to ensure that the exchange rate is maintained at Rs. 25/$. When exchange rate is Rs.25/$ demand for dollar is higher than supply of dollar. In order to ensure that the exchange rate does not rise to Rs. 30 per dollar (which is required by supply-demand equilibrium), the government needs to sell Q1Q2 dollars. On the other hand, suppose prevailing demand conditions are depicted by the demand curve D1, where equilibrium exchange rate dictated by supply-demand condition is Rs.20/$. In this case, the government needs to buy Q1Q3 dollars from the foreign exchange market to ensure that the exchange rate is maintained at Rs. 25/$.



The buying/selling of the foreign exchange to maintain a given exchange rate implies that the government maintains foreign exchange reserves. (By definition, foreign exchange reserves include foreign currencies, gold reserves and SDRs). For example, BoP deficit (i.e., the demand for foreign currency (imports) is higher than the supply of foreign currency (exports)), is adjusted against the foreign exchange reserves maintained by the country. As such, the monetary authorities will suffer a loss of reserves. Similarly, a BoP surplus implies that there is a rise in the country's foreign exchange reserves. Recall from previous unit that in a flexible exchange rate regime, BoP surplus/deficit results in exchange rate appreciation/depreciation.

At any given point in time the foreign exchange reserves of a country are limited. Therefore, continuous disequilibrium between demand for and supply of foreign exchange cannot be sustained. In such situations, currency is *devalued* (in the case of deficit) and *revalued* (in the case of surplus). When devaluation takes place, exports become cheaper (i.e., rise in supply of foreign currency) and imports become expensive there by initiating a balance between demand and supply forces.

2.4 PURCHASING POWER PARITY (ppp)

Purchasing Power Parity was first started in a rigorous manner by Swedish Economist Gustar Cassel in 1918. It was suggested by him that this could be used for new set of official exchange rates at the end of World War I that would allow the resumption of normal trade relations. Since then this has been widely used by central banks as a means to establish new par values for their currencies when they find the older rates were' in disequilibrium.

The exchange rate is determined by the relative purchasing power of currency within each country. For example, if a product X costs Rs. 100 in India and costs $2 in USA, then the rupee – dollar exchange rate is Rs. 50 per $. This illustrates the theory of Purchasing Power Parity (PPP) wherein two currencies are at purchasing power parity when a unit of domestic currency can buy the same basket of goods at home or abroad.

There are two versions of PPP, the *Absolute PPP* and the *Relative PPP*. The Absolute PPP postulates that the equilibrium exchange rate between two currencies is equal to the ratio of price levels in the two countries. Specifically,

$$R = \frac{P_1}{P_2}$$

Where P1 is the price level in the home country and P2 is the price level in the foreign country. The Relative PPP postulates that the change in exchange rate is equal to the difference in changes in the price levels in the two countries. Specifically,

$$R' = P_1' - P_2'$$

Thus, the percentage change in exchange rate (R′) will be equal to the percentage change in domestic prices (P′1) minus the percentage change in foreign prices (P′2). This would be true as long as there are no changes in transportation costs, obstruction to trade (tariff and non-tariff barriers) and the ratio of traded to non-traded goods. Since trade and commodity arbitrage respond sluggishly (due to the above factors), relative PPP can be approximated in the long run. Thus, in the long run, the real exchange rate will return to its average level. In other words, if real exchange rate is above long run average level, PPP implies that the exchange rate will fall.

Purchasing power parity bears an important message. Just as the price of goods in one year cannot be meaningfully compared to the price of goods in another year without adjusting to interim inflation, so, exchange rate change may indicate nothing more than the reality that countries have different inflation rates. In fact, according to purchasing power parity, exchange rate movements should cancel out changes in foreign price level relative to the domestic price level. The offsetting movements should have no effects on the relative competitive positions of domestic film and foreign competitors. Thus changes in the nominal exchange rate may be of little significance in determining the true effects of currency changes on a firm and nation. In terms of currency changes affecting relative competitiveness, therefore the focus must be not on nominal exchange rate changes but instead on changes in real purchasing power of one currency related to another. That is the exchange rate change during a period should equal the inflation differential for the same time period. In one word, purchasing power parity says that currencies with high rates of inflation should devalue relating to currencies with lower rates of inflation.

2.5 INTEREST RATE PARITY

Besides purchasing power parity theory, another theory which is quite popular is the, interest rate parity theory. According to interest rate parity theory, the currency of one country with an her interest rate should be at forward premium in terms of the currency of a country with a higher rate. More specifically in an efficient market with no transaction costs, the interest differential should be equal to the forward differential. When this condition is met, the forward rate is said to be at interest parity and equilibrium prevails in the money market. This theory is based on interest rate behaviour, commonly known as Fisher Effect and International Fisher Effect. Lets us discuss these in the following.

2.6 THE FISHER EFFECT

The financial news papers generally give interest rates for currencies which are mostly nominal. That is, they are expressed as the rate of exchange between current and future rupees. For example, a nominal interest rate of 8% p.a. on one year loan means that Rs.1.08 must be repaid in one year for Rs.1.00 loaned today. But what really matters to both parties to a loan agreement is the real interest rate, the rate at which current goods are being converted into future goods. In a sense, the real rate of interest is the net increase in wealth that people expect to achieve when they save and invest current income. Alternatively, it can be viewed as the added future consumption promised by a corporate borrower to a lender in return for the latter's deferring current consumption. From the company's standpoint, this exchange is worth while as long as it can find suitably productive investments. However, because virtually all financial rates are stated in nominal terms, the nominal interest rate must be adjusted to reflect expected inflation. The Fisher Effect states that the nominal interest rate is made of two components (1) a real required rate of return. a, and (2) an inflation premium equal to the expected amount of inflation, i. Formally the Fisher Effect is :

1+ nominal rate = (1+ real rate) (1+expected inflation rate)

1+r = (1 + a) (1 + i) or r = a + i + ai

The Fisher equation says that if the required real return is 4% and expected inflation is 10%, then the nominal interest rate will be 14.4% = 1 + r = (1+ .04) (1+ .10).

2. 6. 1 The International Fisher Effect

The key to understanding the impact of relative changes in nominal interest rates among countries on the foreign exchange value of a nation's currency is to recall the implications of purchasing power parity (PPP) and the generalised Fisher effect. Purchasing power parity implies that exchange rates will move to offset changes in inflation rate differentials. Thus a rise in Indian inflation rates relative to those of other countries will be associated with a fall in the rupees' value. It will also be associated with a rise in Indian interest rate relative to foreign interest rates. Combine these two conditions and the result is the International Fisher Effect,

$$\frac{(1 + r_h)^t}{(1 + r_f)^t} = \frac{e_t}{e_0} \qquad 1.1$$

Where e^t is the expected exchange rate in period t. The single period analogue to equation 1 .1 is

$$\frac{1 + r_h}{1 + r_f} = \frac{e_1}{e_0} \qquad 1.2$$

Note the relation here to interest rate parity. If the forward rate is an unbiased predictor of the future Spot rate -that is f, = e, then equation 1.2 becomes interest parity condition

$$\frac{1 + r_h}{1 + r_f} = \frac{f_1}{e_0} \qquad 1.3$$

According, to both equations 1.2 and 1.3 the expected' return from investing at home, f + r,, should equal the expected return in home currency from investing abroad, (I+ r^f) e,/eo or (I + r^f) f,/e, . However despite the intuitive appeal of equal expected return, domestic and foreign expected returns might not equilibrate if the element of currency risk restrained the process of international arbitrage.

Using the International Fisher Effect as discussed above, let us forecast US dollar and Swiss Franc rates. In January, the one year interest rate is 4% on Swiss francs and 7 % on US dollars.

Check your progress

3) Where the PPP was first started?

a) If the current exchange rate is SF1 = $ 63, what is the expected future exchange rate in one year?

According to International Fisher Effect, the spot exchange rate expected in one year equals 0.63 x 1.07/1.04 = $0.6482.

In this case, international arbitrage works to keep exchange rates in line with interest differentials. Suppose, for a moment, that one year forward rate equals $ 0. 65 instead of $ 0.6482. Does this offer an arbitrage opportunity the answer is yes Do you see how? In this situation, an Arnerican resident has two options. He can either invest his 1 dollar for one year at the rate of 7% per annum and obtain 1.07 dollar at the end of one year. Or, alternatively he may convert 1 dollar into SF at the spot rate of $0.63, invest that money in the Swiss market at the rate of 4% per annum and simultaneously execute a forward contract to convert SF back into dollar at the end of one year. The necessary steps will be as follows:

1) Convert 1 dollar into 1.5873 SF at the spot rate of 1SF = $0.63
2) Invest 1.5873 SF at 4% to obtain SF i.6508 = SF 1.5873 x I+ .04
3) Convert SF 1.6508 into dollar ISF = $0.65, as per forward contract executed, to get $ 1.0730

Do you notice, under the second alternative, the US resident will get $ 1.0730 instead of $ 1.07 under the first option clearly; it is an opportunity to make neat profit of .003%. This opportunity will move market forces to convert US $ into SF and make neat profit which will soon get corrected as we had seen under the case of international arbitrage under absolute PPP above. Only difference is that instead of Indian pizzas, now more dollars will like to flow to Swiss, increasing demand for dollars and thereby strengthening dollar; with exchange rate moving from 1SF = $0.65 towards $0. 6482.

b) If a change in expectations regarding future inflation rate causes the expected future spot rate rise to $0.68 what would happen to U.S. Interest rate?

If r US is the unknown US interest rate and Swiss interest rate stayed at 4% then according to the International Fisher Effect

0. 68/0.63 = (1 + r US) / 1.04 = {(0.68 / 0.63) (1.04)) - 1 = r US

= 12.25%.

The International Fisher Effect is also known as Interest parity as foreign exchange rates tend to adjust for interest differential between two countries. You must have noticed the role of inflation both under purchasing power parity and interest parity theories.

2.7 DERIVATIVE INSTRUMENTS

Forward Contracts and Forward Rate Agreements

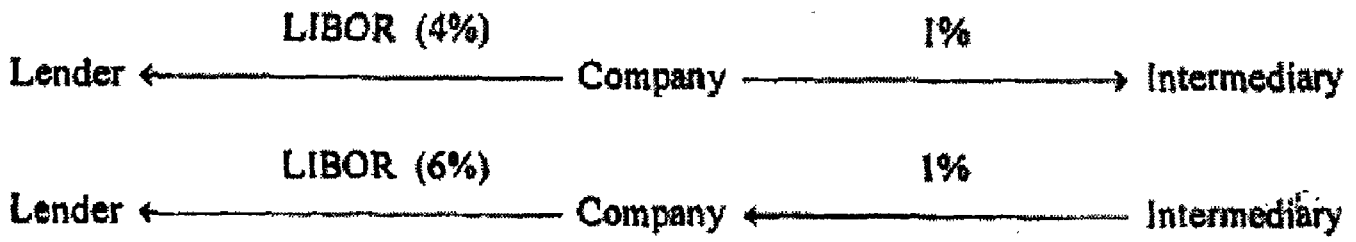
The forward contract is an instrument wherein the price of the forward currency is the future spot rate for that maturity as expected by the market. Forward contract may be an outright contract. An outright forward contract is an agreement to exchange currencies at a future date at an agreed price.

The forward exchange market is an unregulated market and contract specifications largely depend on convention and may be changed by mutual consent of the parties to the contract. Although theoretically it is possible to enter into a forward contract for any maturity of 3 days and beyond, in practice it is difficult for maturities of over one year. In India it is difficult to obtain it for maturities beyond 6 months although the market is now developing for longer maturities.

A Forward Rate Agreement (FRA) is a contract in which an amount of currency is borrowed notionally at a certain fixed rate of interest as against a floating rate of interest or vice versa over a specific, single period of time. It is an over-the counter transaction in which financial institutions, such as banks act as intermediaries. So whereas a forward contract is a hedge against exchange rate fluctuations, the FRA is a hedge against interest rate fluctuations.

The underlying transaction for a FRA would be an investment or debt involving receipt or payment of interest. However, in the FRA, which is a separate transaction, there is no exchange of any principal amount. The rate of interest considered is generally the LIBOR (London Inter bank offered Rate). There is no payment of fee, other than transaction costs. The payer of the fixed rate is the buyer of the hedge. The receiver of the fixed rate is the seller of the hedge and the bank or financial institution that arranges the transaction is the intermediary.

To take an example, assume that the buyer of the hedge, a company, has decided on day **'A'** to borrow a certain sum **'X'** at LIBOR for a one-month period beginning from future date 'B'. The one-month LIBOR on day 'B' is an unknown quantity today i.e. 'A'; giving rise to buy an FRA at a fixed rate for settlement on day 'B". As per the mechanics of a FRA, on day 'B" the company has to notionally pay the fixed rate of interest on sum 'X' for one-month to the intermediary. So also the intermediary has to pay the company one-month LIBOR on the same sum 'X' on day 'B' when the one-month LIBOR becomes known. In effect, neither the sum 'X' exchanges hands nor the interest amount due on the sum; but the net of the two interest amounts is payable by the party, which has to pay the higher of the two interest rates, to the party which has to pay the lower of the two interest rates ,e.g. if the fixed rate is 5% and the one-month LIBOR on day '8' is **4%'** the company will pay 1% to the intermediary. On the other hand if the fixed rate is agreed as 6% the intermediary will pay 1% to the company. The transactions can be represented as below:



The cash flows will be such that on Day 'B' the company receives LIBOR and pays it to lender on Day C i.e. the date of maturity. Thus the company in effect has paid the net fixed rate of interest on the sum 'X', In this manner it converts its floating interest rate exposure to a fixed rate. The intermediary on the other hand converts its LIBOR exposure on Day **'B'** to a fixed rate one by selling an FRA to another company, which wishes to buy an FRA to hedge against its own fixed rate exposure. Such a company will pay, on Day 'B', the applicable LIBOR to the intermediary and receive a fixed rate interest.

2.7.1 MANAGING CURRENCY RISK WITH DERIVATIVES

Currency risk is managed by the use of financial derivatives. Derivative is a general term and is nothing but the derivation of one variable from another. The term originates from mathematics. Derivatives are used to manage systemic or market risk.

Financial derivatives are financial instruments whose prices are derived from the prices of other financial instruments. They are traded in almost any market where trading takes place. Derivative trading is linked to the underlying cash or spot market. In this unit we shall confine ourselves to the currency markets. The action of managing risk is called hedging. Hedging is the technique by which an exposure to risk is covered or dealt with in a manner so as to remove and reduce uncertainties or even to look upon the uncertainty as an opportunity for gain as opposed to the occurrence of a possible loss.

It is like being in the state of defence preparedness in the event of an enemy attack or an insurance against future loss or limiting future loss. Here it is important to observe the distinction between hedging and speculation. The average person looks upon speculation as a distasteful activity. Yet without speculators there can only be limited scope for hedging and hedgers. Some persons and companies are in the business of taking risks and making money, for which they use their own capital or those of their clients., Speculation involves the acceptance of certain risks in order to receive high returns·and does not involve the existence of an underlying transaction. Whereas in hedging there is an underlying transaction with a certain risk attached which is being covered through hedging. Major instruments of currency risk management are forward contracts and forward rate agreements, currency futures, currency options and currency swaps and interest rate swaps.

Check your progress

4) What is SWAP?

2.8 FUTURES AND OPTIONS

Future Contracts

Most derivatives are futures or options, Some have both features.

Futures are contracts conveying

a) an agreement, b) to buy or sell, c) a specific amount, d) of a financial instrument, e) at a particular price, *0* on a stipulated future date.

Although futures are similar to forward contracts they differ in respect of the following:

S. No	Future contract	Forward contract
1	It is standardises the quantity of the Underlying asset to be delivered per contract.	It has a designated quantity of the underlying asset to be delivered per contract

2	It has an underlying financial instrument or index	It has an underlying financial exposure
3	It is regulated by exchange concerned	It is self regulating
4	It has the minimum price movement for the contract	It has a mutually agreed upon price for the contract.
5	It has the period of the contract	It has a designed future date for delivery
6	It is an exchange traded instrument	It is not an exchange traded instrument
7	It is transaction is not directly between counter parties but through the intermediation of the exchange	It is a transaction directly between counter parties
8	It does not consider creditworthiness of the opposite party very relevant	It must consider creditworthiness of the counter party

From the above it is clear that a currency future is a contract that trades in a futures exchange where long positions (orders to buy) are matched with short positions (orders to sell) by brokers and members. The exchange guarantees both sides of the contract, Currency futures were first traded in 1972 in the International Money Market of the Chicago Mercantile Exchange. One of the biggest futures exchanges is the London International Financial Futures Exchange (LIFFE).

Futures prices are generally quoted in USD equivalents of one unit of another currency; however in the case of Japanese Yen (JPY) the price are quoted as USD equivalent of JPY100. Contract sizes for some currencies are JPY 12.5 million, GBP 62,500; SFr

125,000; Members are required to maintain **a** margin with the exchange. The margin requirement would generally be directly proportionate to the volatility of the market. When margin requirement is low, cost of capital required for trading is reduced. But low margins increase default risk of the exchange-clearing house. Exchanges generally permit trading over an eight-hour period. Although this is a restrictive practice,

exchanges enter into mutual offset agreements which permit opening of positions on one exchange and closing on the other. They may also permit expanded trading hours.

2.9 CURRENCY OPTIONS

Options are different from forwards and futures contracts which gives one the option to deliver or not, on the designated date. In the forward contract both parties are obliged to deliver the designated currencies regardless of the actual exchange rate on the date of delivery. In the options contract one may compare the actual exchange rate on the designated date with the contracted rate and opt to deliver or otherwise the designated currency. As the seller of the option , also called a writer of the option such as a bank, is exposed to the unlimited risk of non-delivery, the seller is entitled to receive compensation at the time of the sale or contract upfront. This compensation is called the premium.

Depending on whether the option buyer has contracted to buy the asset or sell it, the option is called 'call' or 'put' respectively. A currency option is the right to exchange two currencies, which means it is a simultaneous right to buy and sell a certain currency. The price at which it is agreed to purchase or sell the asset is, called the strike price. In a European option, the option can be exercised only on the date of expiry whereas Management in an American option it can be exercised any day prior to or on the date of expiry. Options are traded at the exchange as also over-the-counter.

A 3-month USD 1 million call/MR put European option contract having a strike price 44.25 and premium 2.5% will be executed by the payment of 2.5% by the option, purchaser to the seller on the date of the contract. At the end of the *3*- month period the buyer will see the spot rate on that day and decide whether to utilise the option or not. If the spot rate is higher than INR 44.25 the option buyer will exercise the option and take delivery of the option contract at INR 44.25 two days after the expiry date. In this situation, the option is said to be in the money. If the spot rate on the date of expiry is lower than the strike price the option is said to be out-of-the money and the buyer will not utilise the contract, as it would be cheaper for the buyer to buy spot in the market. The buyer of any currency is considered to have assumed a long position in that currency and the seller to assume a short position.

The simple call or put option as described above is referred to as plain vanilla or standard derivative. The non- standard option is said to be 'exotic'. Actually it would be a mix of options with other contracts, for example with swaps, called swaption.

2.10 CURRENCY SWAPS

A swap is an agreement to buy and sell a currency at agreed rates of exchange and where the buy and sell transactions are at different times. A swap is therefore really a combination of the outright contracts, one of which is a spot transaction and the other an opposite and forward transaction. However, both legs of the swap can be forward in which case it is known as a forward-forward swap. When both legs of the swap are separated by one day, it is known as a rollover swap.

A swap-in INR is a spot purchase of INR against another currency with a forward sale of INR against the same currency. On the other hand, a swap-out TNR is a spot sale of INR against a certain currency with a forward purchase of INR against the same

Currency a currency swap is undertaken when a party has a liability into another currency, in order to take advantage of favorable interest rate or interest rate movement, whereas a counter party has a liability in the latter currency, which it wishes to convert into liability in the former currency. The party and counter party can be in two different countries and need not know each other. A bank or financial institution can act as intermediary.

Thus it involves exchanging principal and fixed rate interest payments on a loan in one currency for a principal and fixed rate interest payment on an equivalent loan in another currency. For example, assume company 'A' may have to pay USD at 5 % whereas Company 'B' may be in a position to borrow GBP at 8.0%. Similarly, Company 'A' may be in a position to borrow GBP at 9 % whereas Company B may be able to do so in USD at 6 %. To make a swap, at the beginning the principal amounts are exchanged notionally in the original currencies. Thereafter each year the two companies pay interest on the currencies received by them to the intermediary and the intermediary in turn pays them interest on their original currencies, In the process all there entities gain. Let us take an example:

Company 'A' can borrow USD at 5 %

Company B, can borrow GBP at 8 %

Intermediary receives '5.5 % from 3, and pays 5 % to A in USD and gains .5 %; also it receives 8.5% from A and pays 8 % to B in GBP and gains .5 %, making a net gain of 1 %.

Thus, Company 'A' has a net gain of 0.5% [9 % - 8.5%], Company B has a gain of 0.5% [15% - 5.5%] and the intermediary makes a gain of 1%.

At the end of the swap the two companies would notionally return the currency received at the beginning of the swap and notionally receive their original principal amounts.

Swaps are nothing but an exchange of two payment streams. Swaps can be arranged either directly between two parties or through a third party like a bank or a financial institution. Swap market has been developing at a fast pace in the last two decades, A currency swap enables the substitution of one debt denominated in one currency at a fixed or floating rate to a debt denominated in another currency at a fixed or floating rate. It enables both parties to draw benefit from the differences of interest rates existing on segmented markets. Thus, currency swaps can be fixed-to-fixed type as well as fixed-to-floating type.

Financial institutions play very important role in swap deals. Through swaps, they enable their customers who are generally enterprises to get loans and make deposits in the currency of their (i.e. customers') choice. A financial institution (FI) may act as a broker or a counterparty or an intermediary. Figures 7.6, 7.7 and 7.8 respectively depict the three roles of an FI.

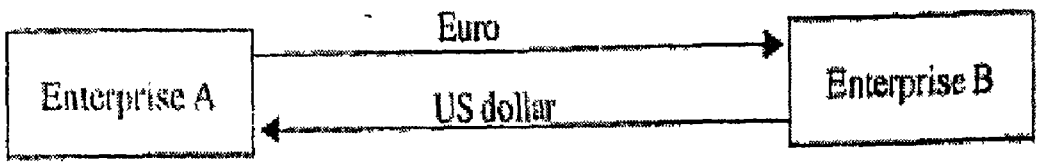


Figure 7.6: FI as a Broker

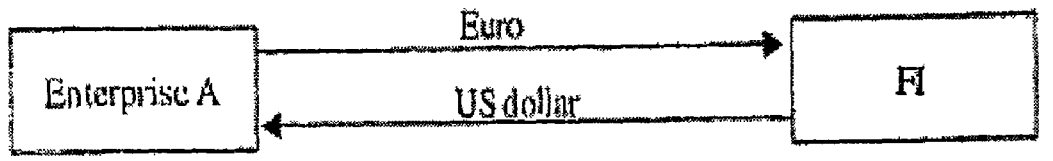


Figure 7.7: FI as a Counterparty

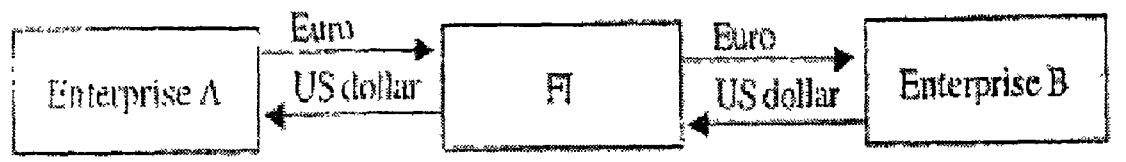


Figure 7.8: FI as an Intermediary

When an FI acts as a broker only, it is not counterparty in the deal. It searches for counterparties and facilitates negotiations while preserving the anonymity of counterparties.

On the other hand, when an FI acts as counterparty, it incurs various risks such as credit risk, market risk and default risk. In its role as a counterparty, Fl tries to arrange another swap having symmetrical features against another client so as to balance and reduce its own risk. For example, an FI having entered into euro US dollar fixed-to-fixed swap with company A will try to find another company B that would like to enter into US dollar-euro fixed-to-fixed swap, involving the same amount and for the same duration. While acting as an intermediary, the FI plays the role of counterparty as well as a broker at the same time. In a swap deal, an FI may gain about 0.05 to 0.15 per cent or 5 to 15 basis points.

Two enterprises having requirements of capital in two different currencies can enter into a swap deal. We, try to understand the process of swap deals through two examples, one fixed-to-fixed and the other fixed-to-floating type swap respectively.

(A) Fixed-to-fixed rate Currency Swaps:

In a fixed-to-fixed swap, the two parties want to borrow at a fixed rate of interest. The swap deal enables them to get the desired currency at a favourable rate.

Example A European company, EEE, needs US dollar loan but it is not rated very favourably on dollar loan market. Likewise another company, AAA, needs euro loan while it does not have good rating on euro loan market. The market rates available for the two companies are as follows:

	EEE	**AAA**	**Difference**
Dollar rate	7 per cent	6 per cent	1 per cent
Euro rate	8.5 per cent	9 per cent	(0.5) per cent
			Net difference: 1.5 per cent

From the rates as listed above, it is clear that the company EEE has relative advantage of 0.5 per cent on euro market whereas company AAA has relative advantage of 1 per cent on dollar market. The net difference is 1.5 (= 1 - (-0.5)) per cent. The two companies can borrow in the currencies of their respective advantages and share the difference of 1.5 per cent between them through a swap deal. How is it done?

Company EEE, which actually needs dollar financing borrows in euro market at 8.5 per cent. Company AAA, which actually needs euro loan borrows in dollar market at 6 per cent. After borrowing, they exchange their principals. What it means is that company EEE gives to the company AAA the sum borrowed in euros while AAA gives to EEE the equivalent dollars. In order to affect this swap, an exchange rate is defined. The rate can be the average of buying and selling rates or some other realistic rate around this average.

The two companies also negotiate and decide the interest that each will pay to the other. Let us say it is decided that EEE will pay 6.25 per cent on dollar amount to AAA and will receive 8.5 per cent from AAA on euro amount as shown in Figure 7.9.

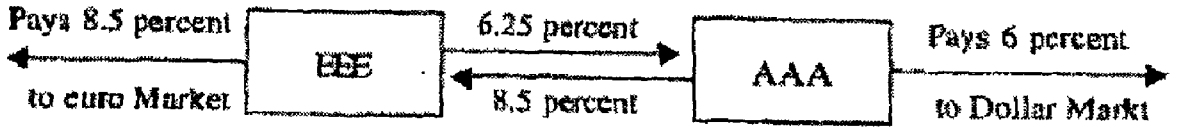


Figure 7.9: Fixed-to-Fixed Swap between Companies EEE and AAA

Thus, the respective rates of the two companies will work out as follows:

Net rate to be paid by EEE = 8.5 per cent paid to the market + 6.25 per cent paid to AAA - 8.5 per cent received from AAA.

= 6.25 per cent

Net rate to be paid by AAA = 6 per cent paid to the market + 8.5 per cent paid to EEE - 6.25 per cent received from EEE

= 8.25 per cent.

This swap deal has ensured two things (i) both companies have got the loans in their desired currencies and (ii) both companies are paying lower interest rates than they would have paid on borrowing directly from the market in the desired currency. EEE is paying a net interest of 6.25 per cent instead of 7 per cent, thus saving ¾ per cent Likewise, AAA is paying a net rate of 8.25 per cent instead of 9 per cent, while saving $^{3}/_{4}$ per cent. The two companies have shared equally the net difference of 1.5 per cent between themselves. It is not always necessary that the savings be shared in equal proportion. For example, if the net interest were 6.50 per cent for EEE and 8 per cent for AAA, then the savings would be shared in a ratio of 1:2. There can be any other ratio as well, depending on how the two companies negotiate the deal.

It is to be noted here that this swap deal did not have any intermediary. In case there had been an intermediary, the gains made in terms of interest rate reduction would have been less for each party simply because a small part of the gains would be shared by the intermediary also. In the end, the principals between the two companies are re-exchanged who, in turn, pay back to the market.

This example illustrates that a swap deal has enabled one company to exchange a debt denominated in euros at a fixed rate into another debt, denominated in dollars, at a fixed rate and the reverse operation for the other company. It may be noted that a swap deal offers a good deal of flexibility in terms of interest rate and maturity date etc.

(B) Fixed-to-floating currency swap

The steps to be followed in the fixed-to-floating rate swap are the same as in fixed to-fixed swap. Here the only difference is that one currency has fixed rate while the other has floating rate. In the case of fixed-to-fixed swap discussed above, we did not bring in any intermediary. It was possible for the two companies to go through an intermediary to make the deal. Now, in the case of fixed-to-floating swap, let us assume that the deal is

done through an intermediary financial institution. The problem with the swap deal done directly between two enterprises as illustrated above is that it is very time-consuming and expensive to establish. Both parties have to spend time in searching for a counterparty which needs financial resources exactly matched by the needs of the other. The search may be fruitless in the end. So the deal can be done quickly through an intermediary financial institution.

Example

The European company, EEE, can raise loan at fixed rate in European market but prefers to obtain dollar funding at floating rate. It can do so by entering into a swap deal with another company, AAA, which is better placed on floating rate market but prefers a fixed rate euro loan. The rates available to the two companies are:

	Company EEE	**Company AAA**	**Difference**
Floating rate on dollar	Libor + 0.8 per cent	Libor + 0.1 per cent	0.7 per cent
Fixed rate on euros	8.5 per cent	9 per cent	(0.5) per cent
		Net difference :	1.2 per cent

From the rates, it is obvious that company EEE has relative advantage of 0.5 per cent on fixed rate market whereas company AAA has a relative advantage of 0.7 per cent on floating rate market. The net difference of 1.2 (0.7 - (-0.5)) per cent is available to be shared between the two companies and intermediary bank.

Company EEE which actually needs floating dollar rate financing, borrows euros at a fixed rate of 8.5 per cent. Company AAA which actually needs fixed rate euro financing borrows dollars at LIBOR + 0.1 per cent. Then, the two companies enter into swap deal with an intermediary bank. The swap contracts stipulate that company EEE will pay floating rate of LIBOR + 0.1 to the bank and receive from it 8.3 per cent fixed rate whereas company AAA will pay a fixed ate of 8.4 per cent to the bank and receive LIBOR from it. The net rate paid by each company and profit received by the bank can be, worked out as given below. The swap deal is depicted by Figure 7.10.

Net rate to be paid by EEE = 8.5 per cent paid to market - 8.3 received from intermediary bank + (LIBOR + 0.1) per cent paid to intermediary bank

= (LIBOR + 0.3)

Net rate to be paid by AAA = (LIBOR + 0.1) per cent paid to market - LIBOR per cent received from intermediary bank + 8.4 per cent paid to intermediary bank

= 8.5 per cent

Net gain of the bank = 8.4 per cent received from AAA - 8.3 per cent paid to EEE + (LIBOR + 0.1) per cent received from EEE - LIBOR per cent paid to AAA

= 0.2 per cent

We see the savings of 1,2 per cent have been shared by the three entities: 0.5 per cent each by company EEE and company AAA respectively, and 0.2 per cent by the intermediary. EEE is paying floating rate of LIBOR + 0.3 instead of LIBOR + 0.8 which it would have had to pay without swap deal. Likewise, AAA is paying a fixed rate of 8.5 per cent rather than 9 per cent that it would have been required to pay if it were to borrow euros at fixed rate on its own. The bank has earned 0.2 per cent for its services in the deal.

2.11 INTEREST RATE SWAPS

An interest rate swap on the other hand is useful to parties, which have interest liabilities. Consider for example a situation in which Company 'A' has a fixed rate liability e.g. a three-year bond issue at 8% p.a., which it wants to convert into a floating rate liability, based on LIBOR, which it expects will go down in the near future. Assume, this company is able to borrow at LIBOR+0.5%. On the other hand Company 'B' may have borrowed the same amount of currency as the bond issue size of Company 'A' and for the same period at a floating interest rate of LIBOR +1% payable every six months. Company 'B' may wish to lock into a fixed interest rate of say 9% p.a, as its treasurer finds it is a nightmare managing the net of interest cash flows of the Company.

Thus, Companies 'A' and 'B' can enter into an interest rate swap through the intermediation of a financial institution in the following manner.

Company 'A' is required to pay LIBOR + 0.570 to company B at the end of six month. LIBOR prevailing at the beginning of the (-month period in question is taken into account. Company 'B' will pay 9% to Company 'A' at the end of the same 6-month period. Company 'A' then pays 8% to its bondholders and Company 'B' pays LIBOR +1 % to its lenders. Company 'A' at the end of 6 months thus receives 9% and pays (8% +

LIBOR +0.5%) i.e. it has a net position (9% - 8% - LIBOR - 0.5%) = LIBOR - +05%. Company 'B' at the end of 6 months receives LIBOR + 0.5% and pays (LIBOR +1 %) + 9% i.e. has a net position (LIBOR +0.5%) - (9% - (LIBOR +1 %)) = 9.5%. Here again neither the principal amount nor the interest are exchanged but the net amount of the interest is exchanged through the intermediary, which e h s a profit by adding its margin to the interest rates payable by both companies. The intermediary enters into separate contracts with both companies who may not know each other.

2.13 ANSWERS FOR CHECK YOUR PROGRESS

1) Exchange rate is the price of one currency in terms of another currency

2) Exchange rate is determined by the demand for and supply of the two currencies.

3) Purchasing Power Parity was first started in a rigorous manner by Swedish Economist Gustar Cassel in 1918.

4) A swap is an agreement to buy and sell a currency at agreed rates of exchange and where the buy and sell transactions are at different times.

2.14 EXERCISES AND QUESTIONS

1. Briefly explain the determinations of Fixed and flexible Exchange Rates
2. Discuss the role of IMF in exchange rates
3. Write a short note on

1. Purchasing Power Parity (PPP) 2. Interest Rate Parity 3. Fisher Effect

4. Describe the various conditions regarding the Currency Derivatives
5. What do you understand about the Futures and Options
6. Write a short note on Currency Swaps

2.15 FURTHER READINGS

1. Hodgetts : International Management. Tata McGraw Hill, New Delhi.

2. Koonts and Whelrich : Management: The Global Perspective , Tata McGraw Hill, New Delhi.

3. Nagandhi, Anant.R: International Management ,Prentice Hall of India Ltd., New Delhi.

4. Thakur, Manab,Gene E. Burton, and B.N. Srivastava: International Management: Concepts and Cases, Tata McGraw Hill, New Delhi.

5. Christoppher Bartlett and Sumantra Ghoshal, Transnational Management: Text and Cases, Tata Mc Graw Hill, New Delhi

UNIT III
INTERNATIONAL FINANCE

NOTES

STRUCTURE

3.1. INTRODUCTION

International financing patterns has come to be observed that debt ratio norms (debt/total assets) differ significantly among countries. While these hover around 50% for all manufacturing industries in the United States, it is about 75% in Japan, and in the range of 65 to 70% in Germany, France and Scandinavian countries. The substantially higher debt ratio in Japan, for example, is a reflection of the close association between the

government and the business sector. The government-owned Bank of Japan guarantees debt provided by commercial banks to major industrial firms, particularly those producing primarily for export. Further companies in different countries have different financial appetites.

3.2 OBJECTIVES

In this chapter you can get the ideas about international finance system, European Monetary system and the International Financial Markets. This chapter also discussed the Creation of EURO and the Emergency of Euro Currency Markets. The various International Money Markets Instruments, GDR's, ADR's, Euro Bonds, REPO's , CP's, Loan Syndicates and Euro Deposits

3.3 INTERNATIONAL FINANCE SYSTEM

Companies in Great Britain get an average of 60% to 70% of their funds from internal sources. German companies get about 40% to 50% of their funds from external suppliers. In Japan, when their profitability has been low, companies have relied heavily on external finance. Till about 1975, Japanese companies got almost 70% of their money from outside sources. The shortfall of funds reflected the Japanese strategy of making huge industrial investments and pursuing market .share at the expense of profit margins. In 1985, by contrast, almost 70% of Japanese corporate funds came from internal sources. The switch from external to internal financing since 1975 was one demonstration of the maturity of Japanese industry.

In Europe and the United States, there has been no comparable transformation. Internal finance has consistently supplied the lion's share of financial requirements. The percentage of external finance fluctuates more or less in line with the business cycle; when profits are high, firms are even less reliant on external finance. Moreover, the predominance of internal financing is not accidental. After all companies could pay out internal cash flow as dividends, but then they had to issue additional securities to cover their investment needs.

Another empirical observation about financing behaviour relates to the composition of external finance. Regardless of the country studies, debt accounts for the

overwhelming share of external funds, By contrast, neb stock issues play a relatively small and declining role in financing investment.

The significant differences in debt ratio norms and financial appetites among different countries, as noted above, have important implications for designing global capital structure by MNCs. Should a MNC pattern capital structure of its affiliate(s) in line with the host country pattern or parent country? We shall examine this question a little later. Let's look at another important environmental consideration that would influences design of global capital structure by MNCs.

3.4 BRETTON WOOD CONFERENCES AFTERWARDS

In 1944 at the Bretton Woods Conference a compromise solution was adopted between two approaches to the determination of voting power, one which would relate it solely to members contributions or quotas and another based solely on the legal principle of the equality of states. The compromise based voting rights on a combination of the two: it gave each member country 250 basic votes plus one vote for every $100,000 of quota (later for every SDR100,000). Basic votes, and the voice in decision making they gave smaller countries were considered to be necessary in view of the regulatory functions of the Fund in certain areas.

Similarly, Article V section 3(a) of the Bank's Articles of Agreement provides that "each member shall have 250 votes plus one additional vote for each share of stock held". All shares of the Bank's capital are valued at US$ 120,635 per share. Note that in 1979 all members of the Bank were offered to subscribe 250 "membership" shares to avoid dilution of the voting power of the smaller members as a result of the 1979 capital increase. New members are also authorized to subscribe 250 shares. Because the number of basic votes has not been changed with successive quota increases, the participation of basic votes in total votes has declined from 11.3 percent of the voting power to 2.1 per cent today, despite the entry of 135 new member countries. In fact, as a proportion of the total, the basic votes of the original members declined to one half of one percent, as a result of a 37 fold increase in total quotas. 3 This has substantially shifted the balance of power in favor of large quota countries, and away from the compromise agreement contained in the Articles in order to protect the participation of small countries in

decision-making. The large differences between the conversion of measurements of GDP measured at market exchange rates and in terms of purchasing power parity are shown in the table. Table1above. The table shows that when properly measured, the output of the developing countries in 2003 approached that of the G7 countries, and the sum of the output of developing countries and economies in transition approached that of all industrial countries. Since the developing countries are growing at a considerably higher rate than industrial countries, the WEO projections indicate that in 2005, developing country output is equal to that of the G7.The share of global GDP accounted for by developing and transition economies will match that of all industrial countries by 2006.

At the time of the Bretton Woods Conference, quotas were assigned several important roles, i.e. the determination of countries contributions to the Fund, that of access to Fund resources and their relative voting power. The logic of having only one formula for determining these different roles has often been questioned. As suggested by R. Mikesell (1994) and in keeping with the well known postulate of Prof. Tinbergen (1952), of having one policy instrument for each policy objective, it would make considerable sense to separate the three functions performed by quotas: determination of voting power, determination of contributions to the Fund and access to Fund resources.

However, since at Bretton Woods the membership felt there was merit in having contributions and access to resources based on the same formula, such a far reaching departure from the traditional role of quotas might make an agreement in the discussion of changes in quota formulas considerably more difficult to reach. The formula developed by R. Mikesell in 1943 had the political objective of attaining the relative quota shares that the US President and Secretary of State had agreed to give the "big four" wartime allies, with a ranking which they had decided: the US was to have the largest quota, approximately $2.9 billion, the UK including colonies an amount about half the US quota, the Soviet Union a quota just under that of the UK; and China somewhat less. To achieve this result the formula produced by Mikesell4, after many iterations, was based on: 2% of National Income, 5% of gold and dollar holdings, 10% of average imports, 10% of maximum variation in exports, and these last three percentages to be increased by the ratio of average exports/National Income.

It is worth noting that with variations in the weight given to these variables and some changes in their definition (i.e. GDP for N.I.), the IMF continues to use the original formula; this is combined with four other formulae which include the same variables but with different weights. A considerable element of discretion is used in selecting the formula to be applied, and in adjusting the results in estimating member's quotas. Consequently, the determination of quotas lacks transparency.

3.5 EUROPEAN MONETARY SYSTEM

In March 1979, the European Economic Community launched a bold experiment in monetary cooperation aimed at creating a "zone of monetary stability" among its member states. Two major economic issues drove this project. The first was increasing concern over exchange rate instability among EEC currencies that had developed with the collapse of Bretton Woods, oil shocks, and other developments of the 1970s. The second was a perceived opportunity, to use exchange rate stability as a mechanism for driving forward convergence of economic policies and trends among member states. The central (but by no means only) objective of that convergence would be price stability: to narrow and to lower the range of inflation rates in community economies. In the minds of some European leaders, the European Monetary System (EMS) was aimed also at promoting longer range goals of monetary union and perhaps political union as well.

Fifteen years later, the EMS seemed in disarray. A series of crises (or perhaps one long crisis) rocked the system from the summer of 1992 through the autumn of 1993. The pound and the lira left the exchange rate mechanism (ERM). Many remaining currencies devalued against the German mark. In the summer of 1993, the EC decided to widen the bands within which currencies fluctuate from 2.25% to 15%. To many observers this signaled the effective demise of the system, papered over by a thin veneer of constraints more cosmetic than real. When the EMS "collapsed", economists argued that this outcome was ultimately pre-ordained given the logic of money and markets arrayed against the system. It is a basic axiom of international economics that states cannot sustain at once capital mobility, fixed exchange rates, and autonomous monetary policies.

The standard story was that EMS had evolved into a system quite close to that triad and something had to give. What gave out, according to most observers, was the system itself. The question became, what would come next? Mainstream prescriptions from the

economics community and from many political scientists as well were to replace what they saw as an inherently unstable EMS, either with monetary union (abolishing autonomous policies) or a de facto float (abolishing fixed exchange rates). What does it really mean for an institution to fall apart? The answer depends substantially on what we think the institution is or ought to be. I argue in this chapter that the EMS can be understood as something like a voluntary organization for the management of a common property resource. The CPR is credible exchange rate stability and the economic "goods" that come along with it. Seen in this light, the EMS did not fall apart during the crises of 1992-3. Rather, the system was sustained in its essentials according to two basic criteria. The first is that adaptations made to accommodate the impact of exogenous shocks and endogenous developments which together may destabilize the day to day workings of an institution, are carried out in accord with the nested system's higher order collective choice rules.

3.6 INTERNATIONAL FINANCIAL MARKETS

If we take a look at the development of financial markets in various countries, we may notice significant differences. For instance, if we look at Gulf countries like United Arab Emirates and others, the financial markets are still not so well developed. Banks and financial institutions or say financial intermediaries are the main source of corporate borrowing. As against this, US financial markets are for more developed. Bond markets there are as. if not more, important source of corporate borrowing as bank loans. This has important implications for designing global capital structure by MNCs as these two sources of funds differ in terms of costs particularly agency costs. Agency costs essentially mean costs incurred by the principal to elicit desired behaviour from the agent. Within the financial management framework, agency relationships exist (I) between the shareholders and the managers, and (2) between creditors and shareholders. The former is known as "equity agency" and the, latter is called "debt agency". As you can imagine, the debt agency relationship and related agency costs between the individual bondholders and shareholders, and institutional lenders like banks and shareholders would significantly differ, Thus, different degrees of development of financial markets in different: countries have important implications for designing capital structure by multinational firms, These banks often (a) hold major equity positions in their debtor corporations, (b) vote on shares held in trust, and (c) have bank officers sit on the board of directors of these companies.

Given these close relationships, German and Japanese banks tend to be more accommodating in the situation of financial distress than individual bond holders of US companies. Implications of these country differences for capital structure decision by MNCs are pretty clear. German and Japanese companies would like to use more debt in their capital structure, compared to their counter parts in North America. Lets now briefly discuss different sources of funds that MNCs may access for financing their long term capital requirements.

3.7 CREATION OF EURO

The euro will be created as the currency of the European monetary union on 1 January 1999. This will have substantial implications for the international monetary system; for the currency composition of portfolios; for exchange rates, and hence monetary policies; and for economic efficiency and welfare. The key determinant of the extent and speed of internationalization of the euro will be transaction costs in foreign exchange and securities markets. There has been extensive discussion of the potential international role of the euro, most without any underlying analytical framework. We propose a new analytical basis for this discussion and offer specific estimates of the consequences, using new data.

Check your Progress

1) When the Liquidity Adjustment Facility is introduced?

3.7.1 Benefits of the euro

The euro will help for economic stability in Estonia, ensuring low inflation and low interest rates in the long term that are a pre-condition for durable economic prosperity. The single currency will bring stable prices for citizens and more opportunities for businesses. Moreover, being part of the single currency and the euro area will also create greater trade opportunities in the global economy and attract foreign investment.

Price stability

By adopting the single currency, Estonia will join an economic and monetary union of stable prices and low interest rates. The euro area has a proven track record of maintaining price stability. Before the euro, it was not rare for many Member States to have inflation rates well above 10% or even 20%.

Beyond the impact of the recent global crisis, the political determination to join the euro area has been an important element of domestic policy in Estonia contributing to much reduced inflation levels. As euro area inflation has remained only just above 2% in the last 10 years, the EMU's culture of economic stability should help maintain stable price expectations in Estonia.

Job creation

The benefits brought by the euro will help sustain robust economic growth and create more jobs for Estonian citizens. Membership of economic and monetary union means a stable economy that supports business, boosts trade and inspires the confidence of foreign investors. Combined, these advantages will help support the recovery of the Estonian economy and foster a swifter decline in its currently high unemployment. In the euro area, job creation has been significantly higher since the introduction of the euro; nearly 16 million jobs have been created since the launch of the single currency in 1999 compared to only 3 million in the 8 preceding years.

Low interest rates

Estonia will benefit from the low interest rates in the long term that are a pre-condition for durable economic prosperity. This will bring very practical benefits, allowing Estonian citizens and businesses to borrow with more confidence and security. Membership of the euro area will help shield Estonia against economic turbulence and significant interest rate increases.

Reduced costs for travelers

With the disappearance of transaction costs, Estonian citizens will be able to travel in the euro area for leisure or business at lower expense. They will not only be relieved of the hassle of changing money at borders but can expect to make considerable savings. While abroad, and thanks to the euro, citizens can now send money home to friends and family at a fraction of the cost. Before the euro, the average bank fee to transfer the equivalent of €100 to another country was €24. Now the average cost has been reduced to just €2.50.

Lower costs for businesses

The euro saves money for Estonian enterprises and supports a dynamic business environment. Following the introduction of the euro and the disappearance of transaction

costs, businesses in the European Union have been relieved of an estimated €20-25 billion in costs. In Estonia, a considerable amount of transaction costs will also be saved after the changeover to the euro. This will allow Estonian companies to invest more in job creation and to become more competitive.

Increased trade

The euro will facilitate trade by eliminating transaction costs and exchange rate risks, making Estonia a more attractive trading partner for existing euro area members. It is estimated that the euro has already increased trade within the euro area by 4-10% since its launch. For Estonia, this represents a significant advantage due to the high openness of its economy as, in 2008, external trade represented over 180% of GDP, while around 35% of Estonian exports were to euro area members.

A strong and attractive international currency

With the euro, Estonia will have a currency of global rank. The role of the euro in international trade, the global bond market and as an official reserve currency has increased substantially and will continue to grow in importance. On some measures, the euro has even overtaken the US dollar in the international bond market, representing almost 49% of outstanding bonds as opposed to 35% for the dollar at the end of 2007.

Euro cash is also increasingly used outside the euro area, with 10-20% of the total value of euro banknotes in circulation currently held outside the euro area, while for the US dollar the value reaches an estimated 60%. The attractiveness of the euro as a world currency means that tourists can increasingly travel all over the world with euro in their pockets while businesses are increasingly able to trade in euro beyond the borders of the euro area. The value of euro coins and bills in circulation recently overtook that of US dollars, with 1,075.8 billion US dollar worth of euro coins and bills in circulation versus 816.9 billion US dollar coins and bills in March 2008.

3.8 EMERGENCY OF EURO CURRENCY MARKETS

Within national borders, the sole use of one currency is usually imposed by government fiat. Only in exceptional circumstances, such as very rapid inflation, is a national currency replaced in one or more of its functions by other currencies or commodities. In the international economy, demand factors play a much more important

role in the determination of which currencies are used. The view that public (state) use of a currency precedes and dictates private use (Goodhart, 1996) is not valid in the international domain. Since there is no supranational authority that can impose the use of a single currency, these issues are decided in the market place, by the behaviour of private and public agents of all countries. But here the market may not function well: because of economies of scale and externalities in the use of currencies, as well as considerable uncertainty and asymmetric information, there is no guarantee that the world will end up with the best monetary system, let alone a single international currency. There is, however, an important lesson from the models of international money: history will matter. Once an exchange structure is established, it will persist unless the system experiences a shock large enough to shift it from one equilibrium to another (Krugman 1980, Rey 1997a).

Check your Progress

2) What is FRN?

3.8.1 Foreign exchange markets

The dollar is currently used in 83% of two-way transactions in foreign exchange markets, while the DM is used in only 37%; other EMS currencies are used in 21% of transactions, and sterling in 10%; the yen is used in 24% of transactions (BIS 1996). This is despite the fact that the EU accounts for a higher proportion of world trade than the US (even netting our intra-EU trade): in 1992, the EU accounted for 17% of the world exports, the US 12%, and Japan 9%. But the dollar intermediates in the financing of trade between the EU and third countries, as well as trade of third countries among themselves, partly because of lower transaction costs in the inter-bank market. The lower transaction costs in all markets involving the euro will make some substitution likely (Kenen 1996, p. 24, reaches a similar conclusion).

3.8.2 Securities markets

The share of US dollar bonds in the international bond market has fallen substantially since the early 1980s: from 62% of the stock of bonds outstanding in 1985 to only 38% at end-1996 (of a total stock amounting to $3,200 billion), with a corresponding sharp rise in the share of yen-denominated bonds to 16% (BIS 1997, p.11). According to McCauley and White (1997, p. 11), the euro money market is likely to prove a very liquid market

from its inception (see also European Commission 1997a). Even a 'narrow' monetary union (essentially France and Germany) would have a market in derivative transactions larger than that for the yen and a larger market than the dollar for futures on longer-dated government securities (Prati and Schinasi, 1997).

3.8.3 The Official Sector

We have focused so far on private-sector behaviour, because we believe that financial market use of an international currency takes the lead, that use as a vehicle currency is the main determinant of use by the monetary authorities as an intervention currency (Kenen 1995, p.110), and that this in turn determines use as a reserve currency (Krugman 1984, p.273). But reserve-holding and currency pegging by governments deserve some attention. Pegging too, we believe, either follows the establishment of a currency as an international currency or is dictated by international politics. The share of the US dollar in official reserves, although declining, is overwhelmingly higher than the share of any other single currency.3 From 76.1% of total official currency reserves in 1973, the dollar fell to 63.3% in 1994. The share of major European currencies shows a steady increase, from 14.3% in 1973 to 21.9% in 1994 (the share of the DM has risen from 7.1% to 15.5%). The Japanese yen rose from almost zero in 1973 to 8.5% of the total in 1994.

3.9 INTERNATIONAL MONEY MARKETS INSTRUMENTS

3.9.1 Money Market Meaning

Money market is a place for trading in money and short-term financial assets that are close substitutes to money. *Short term financial assets* mean assets which get rolled over within a period of one year *'Close substitutes for money'* means financial assets which can be quickly converted into money with minimum transaction cost.

Money market is not a well-defined place where business is transacted like in a Stock Exchange. Money market is essentially an over-the-phone market. where the deals are put through on phones/telexes with or without the intervention of brokers. Subsequently, the deals are conformed in writing.

The money market provides an avenue for equilibrating the short-term surplus funds of the lenders/investors with the short-term requirements of borrowers. An

important feature of the money market instruments is that they are liquid with varying degree and can be traded at low cost. The market should provide a focal point for the RBI intervention for influencing liquidity in the economy as per monetary policy. The market should also provide reasonable access to the users of short-term money to meet their requirements at realistic prices.

3.9.2 Importance of Money Market

- ❖ It is a source of finance to the industry and commerce.
- ❖ Commercial banks and financial institutions are helped to match their assets and liabilities as per regulations and financial procedure. It helps them to gainfully deploy and borrow to adjust their short-term surpluses/deficits.
- ❖ It helps RBI to effectively implement the monetary policy through intervention in the market.
- ❖ It helps the Government to raise short-term funds through issue of treasury bills.
- ❖ The capital market grows in the presence of a strong money market.
- ❖

3.9.3. Measures Taken to Prop-up Money Market

- ❖ Establishment of Discount and Finance House of India on April 25, 1988.
- ❖ Freeing of interest rates on inter-bank call money market in May 1989.
- ❖ Introduction of Certificates of Deposit during March 1989, Inter-Bank Participation Certificates in 1989 and Commercial Papers during January 1990.
- ❖ Allowing corporate entities to participate in the market in order to broad base the market.
- ❖ Introduction of Money Market Mutual Funds during April 1991 for broad basing and development of secondary market for the money market instruments.
- ❖ Introduction of 91 days, 192 days and 364 days treasury bills at varying discount rates through periodical auctions.
- ❖ Establishment of Primary and Satellite Dealers to activate the secondary market for government securities.
- ❖ Remission to stamp duty on usance bills during August 1989.
- ❖ Introduction of Reports in December 1992 in government securities.

3.9.4. MONEY MARKET INSTRUMENTS

Some of the characteristics of the Money Market instruments are: short duration, large volume, deregulated interest rates, and highly liquid and safe instruments due to issuers' inherent strength. Some of the money market instruments are discussed below:

I) Call Money Market

The inter-bank call market is part of the domestic money market from where banks borrow and lend funds on a daily basis.

Funds are borrowed and lent for one day (Money at call) and for a period up to 14 days (short notice) without any collateral security. Normally, funds are borrowed for one day and up to three days on weekends. The participants in this market are split into two categories. The first consists of those who can both borrow and lend in this market, and the second, those who can lend but not borrow. The participants in this market are commercial banks, co-operative banks and DFHI. These can be both lenders and borrowers. LIC, UTI, GIC, IDBI and NABARD are permitted to participate in the money market as lenders.

The RBI is the market regulator and cannot lend or borrow funds in the call market. However, as a regulator it can intervene in the market as and when rates go through the roof. It intervenes in the market through two market intermediaries: the Securities Trading Corporation of India (STCI) and Discount Finance House of India (DFHI). The STCI lends funds against the government securities that a bank holds with an offer to sell back the security (called R*epurchases or Repos)* while the DFHI lends funds that it receives from the central bank against repos of certain securities specified as eligible for them. The RBI also allows banks to rediscount proceeds of export bills of exchange.

Check your Progress

3) What is meant be Repo?

3.7.5 FORMS OF MONEY MARKET INSTRUMENTS

Following is a brief account of money market instruments:

- *Call Money:* Money traded over night, i.e., amounts borrowed today have to be returned the very next day.
- *Notice Money:* Money traded for 2 to 14 days.

- *Term Money:* Money traded for 15 days to 3 months.
- *Bills Rediscounting:* The banks' bills discounted portfolio(built up at various branches) can be rediscounted by drawing a derivative pronote supported by a signed declaration that the bank is holding discounted bills of amount at least equivalent to the amount of pronote and that the bills arise out of bonafide commercial transactions. The derivative pronote should be drawn for a period of 15 days and up to a maximum of 90 days.
- Other commonly used instruments are treasury bills with maturity of 91 and 364 days. They are the most liquid money market instruments and are regularly traded in the inter bank market.
-

Some of the arbitrage opportunities available to dealers are:

- *Time arbitrage:* Borrowing under call at one time and lending at another time
- *Place arbitrage:* Borrowing at a place, say Bangalore, and lending at Mumbai or Kolkata.
- *Instrument arbitrage:* Borrowing under notice and lending under call or *vice versa*, or borrowing under bills rediscounting or carry Forward and lending under call/notice or Bills Rediscounting Scheme or carry Forward deals at different rates. Banks are also expected to keep cash in hand and balance with the RBI in current account. Further under schedule 9 banks also make advances in the form of bills discounted, cash credit, overdrafts, terms loans, secured loans and loans to priority sectors and public sectors. A good part of investment also goes in to creating own premises and other fixed assets.

II) **Inter-Bank Term Deposit Market**

Inter-Bank Term Deposit Market is a market for commercial and cooperative banks. In this market funds are borrowed and lent for a period of over 14 days to 90 days without any collateral security. Rate of interest in this market is market-determined. Lenders cannot prematurely recall the deposits. Hence this instrument is not liquid. Selected financial institutions viz., IDBI, IFCI, ICICI, IRBI, SIDBI, Exim Bank and

NABARD have been permitted to borrow from the term deposit market for periods in the maturity range of 3 months to 6 months.

III) Commercial Bills

Bills of exchange are drawn by the seller (drawer) on the buyer (drawee) for the value of goods delivered to him. These trade bills arising out of genuine trade/ commercial transactions evidencing sale of goods, from the date of rediscounting, are called *commercial bills* when they are accepted for discounting by the commercial banks. This is an important source of borrowing for commercial banks and as the instrument is highly liquid. safe and gives an attractive return, investors also prefer to invest. Effective April 29. 1995. rediscounting of commercial bills and derivative usance promissory notes is required to be for a minimum of 15 days. During the currency of the bill, if the seller is in need of funds, he may approach his bank for discounting the bill. One of the methods of providing credit to customers by banks is by discounting commercial bill at a prescribed discount rate. The bank will receive the maturity proceeds (face value) of discounted bill from the drawee. In the meanwhile. if the bank is in need of funds, it can rediscount the bills already discounted by it in the commercial bill rediscount market at the market-related rediscount rate.

Scheduled Commercial Banks. All India Financial Institutions, Mutual Funds, selected scheduled state co-operative banks and scheduled urban co-operative banks and Money Market. Mutual Funds are participants in this market. The eligibility criteria prescribed by RBI for rediscounting commercial bills. among other things. are that the bill should arise out of genuine commercial trade or transactions evidencing sale of goods and the maturity date of the bill should not be more than 90 days from the date of rediscounting. The government has exempted stamp duty on the discounting of such bills. It is transferable by endorsement and delivery and hence has high degree of liquidity.

IV) Certificate of Deposit

A Certificate of Deposit (CD) is a marketable receipt of funds deposited in a bank for a specified period at a specified rate of interest. Liquidity and marketability are the hallmarks of CDs.

Technically, CD is a usance promissory note. This is an important source of mobilisation of deposits for commercial banks. This Marketability means that CD can be transferred to any other person by endorsement and delivery. A Term (Fixed) Deposit receipt is not a negotiable instrument but a CD is negotiable. CD is assumed as liquid assets because it can be transacted easily in the market.

A person/corporation having short term surplus funds can convert it into CD and when there is lack of funds, it can be sold in the market to obtain funds back. However CDs cannot be encashed prematurely. This scheme was introduced in July 1989, with a view to enable the banking system to mobilise bulk deposits from the market, at competitive rates of interest. Following are some of the features of the CDs:

- Minimum size of these CDs is Rs. 1 lakh (multiples of Rs. 1 lakh on face value).
- Minimum period' is 15 days and Maximum period is 1 year.
- Issued at a discount to face value and discount-value of trading is determined by market-determined rates (by negotiating between investor and issuing bank).
- Payment of face value is to be made by a crossed cheque on the date of maturity (in case of the maturity date being a holiday, the payment will fall due on the preceding day).
- Bank-wise limit on CDs was withdrawn from 16th October, 1993.
- Banks will have the freedom to issue CDs depending on their requirement.
- CDs are subject to reserve requirements (i.e., SLR, CRR).
- CDs are freely transferable by endorsement and can be delivered any time as per credit policy of October 2000.
- Banks would neither grant loans against CDs nor buyback their own CDs.
- CDs can be issued only by scheduled commercial banks excluding Regional Rural Banks.
- Stamp duty will be payable by the bank on CD, which is treated as a usance Promissory note. After June 30, 2002, CDs can be issued in demat form only.
- CDs can be subscribed by individuals, corporations, companies, trust, funds association etc. Non-Resident Indians (NRIs) may also subscribe to CDs only on non-repatriable basis and non-transferable basis.

V) Commercial Paper

Commercial Paper (CP) is a short-term debt, in the form of an unsecured promissory note, issued by highly rated companies to the investors for funds received from them. This is one more source for raising short-term funds by corporate borrowers. It is an additional instrument available to investors. The issue is privately placed through the agency of banks or financial institutions. CP was introduced in January 1990 in India. Only companies with a tangible net worth of not less than Rs. 4 crore as per the latest audited balance sheet, enjoying working capital (fund-based) limit of not less than Rs. 4 crore, with 'Standard Asset' classification, shares listed on one or more stock exchanges, are permitted to raise funds through CP. Some of the features of the CP are:

- Issuing company should obtain a specified rating from the approved rating agencies like CRISIL, ICRA, CARE, FITCH Ratings India Pvt. Ltd. and the ratings should be equivalent to CRISIL rating P2; ICRA rating A2.
- Minimum period is 15 days and Maximum period is one year.
- Minimum size Rs. 5 lakh (multiples of Rs. 5 lakh).
- CP is in the form of usance promissory note and issued at a discount to face value. Discount rate is determined by market forces. CP can be issued through any of the depositories approved by and registered with SEBI, w.e.f. 1.7.2001. Primary Dealers/ Financial Institutions / Banks shall hold CPs in demat form only.
- The aggregate amount to be raised by issue of CP shall not exceed (effective from April 21, 1995) 75% of the cash credit component of the working capital limit instead of 75% of MPBF.
- The total amount should be raised within a period of 2 weeks from the date on which the issue opens. Each CP shall have the same maturity date. Every issue of CP, including renewal, should be treated as a fresh issue.
- Individuals, banking companies, other corporate bodies registered or incorporated in India and unincorporated bodies, Non-Resident Indians (NRIs) and Foreign Institutional Investors (for FIIs within the limits set for their investments by SEBI) are investors in CP.
- Banks can not either underwrite or co-accept issue of CPs.

Check your Progress

4) State the purpose GDR issues

- ❖ CPs are subject to stamp duty.
- ❖ CPs are freely transferable by endorsement and delivery.
- ❖ As CP is carved out of working capital, the working capital is reduced by the amount by which CP is raised. In effect, the repayment of CP is assured, as the issuer can automatically draw on the cash credit limit, in case there is no rollover.

VI) Treasury Bills

Treasury Bills (TB) are promissory notes issued by the Central Government for a fixed period extending upto one year as a device for raising short term funds issued at a discount. It was being issued for a maturity period of 91/364 days. TBs are an ideal form of short term investment for banks and financial institutions. They are eligible securities for SLR purpose. They can be purchased by any person resident in India including individuals, firms, companies, corporate bodies, banks and financial institutions. *TBs have two important roles in the money market*. They are:

a) A *fiscal role* as an instrument for raising funds for Government's short-term needs.

b) A *monetary role* as an instrument with RBI to influence liquidity in the market.

Some of the features of Treasury Bills are:

- ❖ Minimum amount of face value is Rs. 1 Lakh and in multiples thereof. There is no specific amount/limit on the extent to which these can be issued or purchased.
- ❖ The rate of interest is determined by market based on the demand for and supply of funds in the money market.
- ❖ These are highly liquid and safe investments giving attractive yield.
- ❖ These are approved assets for SLR purposes and DFHI is the market maker for these instruments and provide (daily) two way quotes which assure liquidity.
- ❖ The bills are the only security in which the repurchase option (Repo) or carry forward transactions are permitted. This is the most important instrument for hedging against volatility in call loan market.

VII) Ways and Means Advances

Ways and Means Advances (WMAs) are temporary advances extended by RBI to the governments, to bridge the interval between expenditure and receipts. They are not sources of finance but are meant to provide support, for purely temporary difficulties that arise on account of mismatch/shortfall in revenue or other receipts for meeting the government liabilities. They have to be periodically adjusted to enable use of such financing for future mismatches. Section 17(5) of RBI Act allows RBI to make WMAs both to the Central and State governments.

VIII) Bills Rediscounting Scheme

This scheme is operative since 1970 and commercial banks are permitted to issue derivative usance promissory notes for maturity of not more than 90 days backed by genuine trade bills of similar tenor. This can be further rediscounted by the holder by endorsement and delivery. The stamp duty on these notes was waived during 1989.

All scheduled commercial banks are eligible to issue usance promissory notes which can be discounted by commercial banks, selected financial institutions and urban cooperative banks. DFHI participates actively in this market and provides bid rate on daily basis. This assures liquidity to the instruments. This used to be an important source of funds for the commercial banks in the past and borrowing under this scheme is not included as liability to consider Net Demand and Time Liabilities. Due to high liquidity, safety and attractive return, it is a favourable instrument with the investors. The scheme is rarely used by banks now due to liquidity surplus and availability of various other instruments.

IX) Dated Securities

Dated securities are those instruments which have tenure over one year. The returns on dated securities are based on fixed coupon rates akin to corporate bonds. These instruments are considered risk free.

X) Inter-Bank Participation Certificate

On the recommendation of *Vaghul Committee*, Inter-Bank Participation Certificates (IBPCs) were introduced in January 1989 with a view to provide an

additional investment for evening out short-term liquidity within the banking system. If Bank 'A' has an extended Credit-Deposit ratio, then it has either to increase deposits or reduce advances. It can reduce advances for a temporary period by allowing Bank 'B' (which is having surplus funds) to participate in its identified advance. As a record of such participation, a participation certificate is issued by Bank 'A' to Bank 'B'. There are two types of IBPCs: IBPCs *with risk* and IBPCs *without risk.* These are open to scheduled commercial banks only. The IBPCs with risk have maturity period from 91 days to 180 days while IBPCs without risk have a maturity period of not more than 90 days. The rate of interest is decided by participating banks but there is no ceiling in the case of IBPCs without risk.

Some of the important features of IBPCs are:

- *The objectives of this instrument* are greater mobilisation of funds, reducing recourse to the RBI, and diversifying the availability of financial instruments. This instrument was also intended to even out the liquidity imbalances within the financial system by providing a temporary avenue of investment for the floating funds of financial institutions awaiting eventual long-term investment.
- A Participation Certificate (PC) is issued to a third party, which could be a bank or a specified financial institution, against the working capital advances made by the Bank. Besides the scheduled commercial banks, PCs can be issued only to\ financial institutions such as UTI, GIC and other institutions which are approved by the RBI. *PCs issued to banks are called IBPCS.*
- Under this scheme, the underlying advances are earmarked in favour of the holder of the certificates, and the same are specified on the certificate as well. The period of maturity of the certificates issued to institutions other than commercial banks is between 30 to 180 days; the restriction regarding the maturity period is not applicable in the case of IBPCs.
- The recent surge in interest in the IBPCs can be attributed to the low call money rates and the urgency on the part of the banks to raise funds to expand its operations and to decrease reliance on call money markets for its short term funds requirements. The banks which have issued the IBPCs are the ones who have faced rough times with the uncertain call money market rates in the recent past.

These banks have a very high incremental credit to deposit ratio and have already deployed crores of rupees in the form of working capital advances.

- ❖ IBPCs are "Non Transferable" instruments.
- ❖ IBPCs are payable on date of maturity. Issuing Bank will repay the amount with interest except when "Risk" has materialized. In the latter case, issuing bank will take necessary action, in consultation with participating bank and share recoveries proportionately.
- ❖ With Risk IBPCs, the amount of such participations in any account should not exceed 40% of the advances outstanding in the account at the time of issue.
- ❖ Under "With Risk" IBPCs, issuing banks will reduce the amount to participation from the advances outstanding while the participating bank will show the participation as part of its advances.
- ❖ Under "Without Risk" arrangement, issuing bank will show the participation as a **Short Term Investments** borrowing, while participating bank will show it as advance to bank. Then it becomes part of Net Demand and Time Liabilities for issuing bank and net bank balances for purpose of statutory reserve requirements (SLR and CRR). The scheme benefits both the issuing and participating banks to the extent it provides access to funds/advances comparatively with less cumbersome procedures than regular consortium tie-up.

Check your Progress

5) State the components of Cost of issue of GDR

XI) Money Market Mutual Funds

Money Market Mutual Fund (MMMF) is a mutual fund, which invests in short-term money market instruments like Government securities (e.g., 182/364 TB), CP, CD, call money, etc. and passes on the benefit of higher yield on these instruments to the shareholders consisting mainly of individuals and other small investors. The genesis of the MMMFs in India is not very old. In September, 1991, the RBI, while initiating the reforms process in the country, felt the necessity of strengthening the money market and appointed a task force to examine indirect participation of individual investors in the money market through MMMFs. The RBI had twin objectives behind inviting the household sector; one, to provide depth, stability and maturity to the money market, and

two, to increase returns on investments of individual investors. This tendency on the part of individual investors was obvious from their active participation in the capital market.

On the basis of the recommendations made by the task force headed by D. Basu. MMMFs Scheme was introduced in April 1992. Initially only mutual funds floated by insurance companies, public financial institutions, and nationalised banks were allowed to start MMMFs. The RBI issued guidelines stipulating certain limits for investments by MMMFs. The recent relaxations permitted by the RBI make them more attractive and provide greater liquidity and depth to the money market. RBI has also permitted private sector funds to set up MMMFs. Some of the features of this scheme are:

- ❖ MMMFs can be set up by scheduled commercial banks and public financial institutions or through their existing Mutual Funds/Subsidiaries engaged in Funds Management.
- ❖ MMMFs can be set up either as Money Market Deposit Accounts (MMDAs) or Money Market Mutual Funds (MMMFs).
- ❖ As per the original guidelines the limit for raising resources under the MMMF scheme should not exceed 2 per cent of the sponsoring bank's fortnightly average aggregate deposits. In the case of banks whose limit is less than Rs. 50 crore, it will be necessary for them to pool their limit with other banks and jointly set up an MMMF. In the case of public financial institutions, the limit should not exceed 2 per cent of the long term domestic borrowings as indicated in the latest available audited balance sheets. The revised guideline is that both minimum and maximum ceiling on raising resources has been abolished.
- ❖ MMMFs would be free to determine the minimum size of investment by a single investor. The investors cannot be -guaranteed a minimum rate of return.
- ❖ The minimum lock-in period for investment would be 46 days. This has been reduced to 30 days (RBI announcement dated 1st July 1996).
- ❖ As Money Market Mutual Funds are primarily intended to be a vehicle for individual investors to participate in the money markets, the units/shares of MMMFs can be issued only to individuals. Individual Non-Resident Indians (NRIs) may also subscribe to shares/ units of MMMFs. Dividend and income on these subscriptions can be repatriated but the principal amount is not repatriable.

Now MMMFs can be issued to corporates and others on par with other mutual funds as regards who can invest in such schemes.

- ❖ In the case of MMMFs set up by banks, the resources mobilised by them would not be considered as part of their net demand and time liabilities for purposes of reserve requirements and as such these resources would be free from any reserve requirements.
- ❖ The shares/units issued by MMMFs would be subject to stamp duty.

The Reserve Bank of India has withdrawn with effect from the close of business on March 7, 2000, all the guidelines on Money Market Mutual Funds (MMMFs) issued by it. All scheduled commercial banks and financial institutions have been accordingly advised. In effect, the regulation of money market mutual fund schemes would now come under the scope of the Securities and Exchange Board of India (Mutual Funds) Regulations. Banks and financial institutions which are desirous of setting up MMMFs would, however, have to seek necessary clearance from the Reserve Bank for undertaking this additional activity before approaching SEBI for registration.

XII) Floating Rate Note

A Floating Rate Note (FRN) usually adopts a reference rate of interest which reflects the market rate of interest. The interest rate of FRN then is certain percentage points over the reference rate or benchmark rate. This benchmark rate is either the interest rate on Treasury Bills (T-bills) or the maximum deposit rate charged by banks. A mark-up is added over this benchmark which is the interest rate on the FRNs, Thus the interest rate varies periodically reflecting the prevailing market interest rate.

The first floating rate bond in the Indian capital market was launched by State Bank of India (SBI) in December 1993, adopting as the maximum rate the bank's ceiling fixed deposit rate and the floor rate (minimum interest payable) as 120%. Other companies that issued FRNs are IDBI, Tata Sons, Arvind Mills, Kotak Mahindra etc. Some of the features of these notes are:

- ❖ The notes are issued in the form of bonds in the nature of unsecured promissory notes and each note carries a promise by the issuer to pay a certain sum of money with interest as indicated therein.

- ❖ The notes are negotiable instruments, title of which shall pass by endorsement and delivery.
- ❖ The rate of interest payable on each interest payment date in respect of the notes shall be determined by the issuer from time to time in accordance with the terms and conditions contained therein.

Floating rate notes help borrowers hedge against the changes in interest rates. They are useful in a regime of market-oriented interest rate structure, particularly when the rates are volatile. In times of high interest rates, companies raising long term resources do not want to get locked into high costs. Also, investors borrowers get/pay the market-related rates. In India the banking system is yet to introduce floating rates for their term deposits.

XIII) Liquidity Adjustment Facility for Banks

Liquidity Adjustment Facility (LAF) was introduced by RBI during June, 2000 in phases, to ensure smooth transition and keeping pace with technological up gradation. Under the scheme, (i) Repo auctions (for absorption of liquidity), and (ii) Reverse Repo auctions (for injection of liquidity) are conducted on a daily basis (except Saturday). For normal days the Repo tenor will be one day. On Fridays, the auctions will be held for three days maturity to cover the following Saturday and Sunday. The funds under LAF are used by the banks for their day-to-day mismatches in liquidity.

All commercial banks (except RRBs) and Primary Dealers (PDs) having current account and SGL account with RBI can participate in these auctions. The size of the bid will be Rs 5 crore and in multiple of Rs 5 crore. The eligible securities are Repos and Reverse Repos in transferable Central Govt. dated securities and treasury bills. LAF is conducted on "multiple prices" auction. Interest rates in respect of both Repos and Reverse Repos will be, accordingly, based on the bids quoted by participants and subject to the cut-off rates as decided by the Reserve Bank of India, at Mumbai. RBI has an additional option to switchover to fixed rate Repos on overnight basis; but this option is expected to be sparingly used. In addition to over night Repos, RBI will also have the discretion to introduce longer term Repos upto 14 day period as and when required.

3.10 GLOBAL DEPOSITARY RECEIPTS (GDRs)

GDR is a security issud abroad and is listed and traded on a foreign stock exchange. GDR holder can at any time convert it into shares represented by it. Till conversion, GDRs do not carry any voting right. Depository receipts facilitate cross border trading and settlement, minimise transaction cost and broaden the potential investor base. The shares are issued by a company to an intermediary called the depository in whose name, the shares are registered. This depository subsequently issues the GDRs. The physical possession of equity shares is entrusted to another intermediary called the custodian who acts as an agent of depository .The advantage in GDR issue is that company does not assume any exchange risk. The dividend outflow from the company is in Rupees only but depository converts these rupee payments and pays the dividend in US dollar to the ultimate investors after deducting a withholding tax of 10 per cent on deposit. Once a GDR has been issued, it can be freely traded among international investors. GDR plays a crucial role in international corporate finance. GDR's are used to:

(I) raise debt or equity capital;

(II) diversify shareholder base;

(III) increase demand for securities;

(IV) enhance global image; and

(V) create dollar-securities.

The depository performs the following functions:

- ❖ Issuing depository receipts upon delivery of the underlying security to its custodian account and releasing the underlying security into the home market upon cancellation of DR.
- ❖ Processing DR transfers, maintaining records of registered holders, paying dividends and responding to shareholder enquiries.
- ❖ Holding. consultations with the issuer to promote its DR programme, reporting on the progress, supplying trading and shareholding information and-providing assistance in ensuring regulatory compliance.

Cost of issue of GDR comprises of following components:

(I) Brokerage. (II) Underwriter commission. (III) Management fee.

(IV) Legal fee (V) Travel and road shows. (VI) Printing and stationery,

(VII) Listing fee. (VIII) Stamp duty. (IX) Accounting fees.

In a size of $ 50 million euro issue, cost would be around 4 to 6 per cent whereas in a issue of equivalent size in domestic market, the cost would be between 14-18 per cent.

Procedure for GDR issue

In a GDR issue, the issuing company issues ordinary shares as per the scheme and delivers the ordinary shares to domestic custodian bank, which will, in terms of the agreement, instruct the overseas depository bank to issue global depository receipt. or certificate to the non-resident investors against the shares held by domestic custodian bank. GDR is normally issued in negotiable form and may be listed on any international stock exchange for trading outside India. Most companies list GDRs in Luxembourg or Dublin Stock Exchanges. The shares underlying the GDRs will be registered in the name of the overseas depository bank, which will be the holder in the books of the company.

The non-resident holder of GDR may transfer those receipts, or may ask the overseas depository bank (ODB) to redeem those receipts. In case of redemption, the ODB shall request domestic custodian bank (DCB) to get the corresponding shares released in favour of the non-resident investors for being sold directly on behalf of the non-resident investors or being transferred in the books of account of the issuing company in the name of the nonresident.

In case of redemption of GDRs into underlying shares, a request will be transmitted by the ODB to the DCB with a copy to the company. The cost of acquisition of the shares shall be the cost on the date on which the ODB advises the DCB for redemption. The price of the shares on the stock exchange shall be taken as the cost. Holders of GDRs will have no voting rights or other direct rights of a shareholder with respect to the shares underlying such GDRs. Registered holders of shares withdrawn from the depository arrangement will be entitled to vote and exercise other direct shareholders' rights in accordance with the Indian law. Withdrawn shares cannot be redeposited.

Holders of GDRs will be entitled to receive dividends paid on the underlying shares, subject to the terms of the issue. So long as the GDRs are not withdrawn, the

relevant ODB will, in connection with such outstanding shares, convert Rupee dividend into dollars. The outstanding shares of the company under the GDR issue will be listed on Indian Stock Exchanges. Table 10.3 lists the GDR issues by Selected Indian Companies in the recent past.

3.11 AMERICAN DEPOSITORY RECEIPTS (ADRs)

Introduced to the financial market in 1927, an American Depository Receipt (ADR) is a stock that trades in the Untied States but represents a specified number of shares in a foreign corporation ADRs are bought and sold on American markets just like regular stocks, and are issued / sponsored in the U.S. by a bank or brokerage.

ADRs were introduced as a result of the complexities involved in buying shares rn foreign countries. Primarily, the difficulties are associated with trading at different prices and currency values. For this reason, U.S. Banks simply purchase a lot of shares from the company, bundle the shares into groups, and reissue them on the NYSE, AMEX, or NASDAQ. The depository bank sets the ratio of U.S. ADRs per home country share. This ratio can be anything less than or greater than 1. The reason they do this is because they wish to price the ADR high enough so as to show substantial value, yet low enough, so that the individual investors can purchase these shares. The majority of ADRs range between $10 and $100 per share. If, in the home country, the shares were worth considerably less, then each ADR would represent several real shares.

There are three different types of ADR issues:

Level 1 This is the most basic type of ADR where foreign companies either don't qualify or don't wish to have their ADR listed on an exchange. Levell ADRs are found on the OTC market and are an easy and inexpensive way to gauge interest for its securities in North America. Levell ADRs also have the loosest requirements from the SEC.

Level 2: This type of ADR is listed on an exchange or quoted on NASDAQ. These ADRs have slightly more rigorous requirements from the SEC but they also get higher visibility and trading volume.

Level 3: The most prestigious of the three, this is when an issuer floats a public offering of ADRs on a U.S. exchange. Level 3 ADRs are able to raise capital at low cost and gain substantial visibility in the U.S. financial markets.

The advantages of ADRs are twofold. For individuals, ADRs are an easy and cost effective way to buy shares in a foreign company. They save considerable money by reducing administration costs and avoiding foreign taxes on each transaction. Foreign entities like ADRs because they get more U.S. exposure and allow them to tap into the wealthy North American equity markets. In return, the foreign company must provide detailed financial information to the sponsoring bank.

A significant portion of public offering by non-US companies (and we're most concerned with Indian companies) in the US is in the form of ADRs, or American Depository Receipts (also called American Depository Shares or ADS)!

ADRs are negotiable receipts issued to investors by an authorised depository, normally a US bank or depository, in lieu of shares of the foreign company which are actually held by the depository.

ADRs can be listed and traded in a US-based stock exchange and help the Indian company to be known in the highly liquid US stock exchanges.

ADRs also help the US-based and other foreign investors to have the twin benefits of having shareholding in a high growth Indian company and the convenience of trading in a highly liquid and well-known stock market.

Characteristics of an ADR

ADRs are quoted in US dollars and are generally structured so that the number of the foreign company's securities will result in a trading price for each ADR in the range of $10-$30. The multiple or fraction that an ADR is of the underlying shares is determined with this price range in mind. The depository receives dividends directly from the Indian company in rupees and issues dividend cheques to ADR holders in dollars. When an ADR is sold back to the depository, it is considered as cancelled and the stock of ADRs is not replenished.

Procedure of ADR issue

The company planning to issue ADRs must get its group accounts consolidated and audited according to US GAAP by an independent agency. It also has to appoint a team of legal and compliance experts as well as lead managers and investment bankers to the issue.

The teams will then have to prepare the draft prospectus or the registration statement which will be submitted to SEC. SEC reverts with its comments and requirements, and this goes on till SEC is satisfied with the information given. Now the draft prospectus is ready to be distributed to prospective investors.

Simultaneously, the company will also have to start the application process to list with the particular stock exchange. With the draft prospectus ready, the company can launch its road shows or the selling exercise for getting subscription to the issue. Prospective investors give their price and amount to the lead managers to the issue. Based on investor response, the lead managers fix the price of the issue, which is intimated to the SEC and the concerned stock exchange.

Difference between ADRs & GDRs

ADRs are listed on an American stock exchange. The issue process is governed by American laws and Securities and Exchange Commission (SEC) - the market regulator monitors the issue. GDRs or global depository receipts are listed in a stock exchange other than American stock exchanges, say Luxembourg or London. A listing in America involves adhering to very stringent disclosure and accounting norms. The accounts of the company have to be represented according to US GAAP or generally accepted accounting principles. US GAAP requires representing a combined balance sheet of all group companies, and not just the company which is going for the issue.

Typically, a good company can expect its reported profits according to Indian accounting rules to be eroded by 20-30 per cent under US GAAP. Against this, the disclosure requirements for GDR issues are widely thought less stringent.

An ADR listing also allows the famed American retail investors to part-take in the offering and leads to wider interest and better valuations of a company's stock, thus enhancing shareholder value. Also, the Indian company can acquire US companies

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against issue of shares. The GDR market is mainlv an institutional market with lower liquidity.

3.12 EURO BONDS

The International Bond Market consists of the Euro bond market, the Foreign Bond market and those Domestic Bond market (such as the US, Japanese and French markets), in which global bond investors participate actively. The most international of these markets is the Euro bond market. The Euro bond market raises over US$ 200 billion per annum in new capital for corporations, financial institutions and governments.

Domestic Bonds are usually fixed-interest, fixed-maturity claims with ranging maturities from 1-30 years. They are issued by domestic residents, in the domestic currency, and largely sold to domestic residents. Foreign Bonds are issued within the domestic market of the currency of denomination, but they are issued by non-resident borrowers. For example, a bond issued within the UK by a non resident issuer such as the Asian Development Bank is a Foreign Bond. Euro bonds are usually issued in the market for the borrower by a syndicate of banks from different countries and placed in countries other than the one in whose currency the bond is denominated. If the German firm issued a bond in French francs in England, Switzerland, the issue is a Euro bond.

3.13 REPO's

Repo means a purchase and sale agreement. It is a contract to buy securities and then to sell it back at an agreed future date and price. It is thus an avenue for short-term investment of surplus funds. A 'Reverse Repo' is an instrument of borrowing funds for a short period and involves selling a security and simultaneously agreeing to repurchase it at a stated future date for a slightly higher price.

Repo is an interesting product because although it is a money market product, by dint of the term to maturity of repo trades, the nature of the underlying collateral means that repo dealers must be keenly aware of the bonds that they "trade" as well. This multi-faceted nature of repo is apparent in the way that banks organize their repo trading. In some banks it is part of the money market or Treasury division, while in other banks it will be within the bond trading area. Equity repo is sometimes a back office activity, as is

the longer-established stock borrowing desk. However, it is not only commercial and investment banks that engage in repo transactions. Across the world, including financial center in the Asia-Pacific region, repo is a well-established investment product, utilised by fund managers, hedge funds, corporate treasuries and local authorities.

There are a number of benefits in using repo, which concurrently have been behind its rapid growth. These include the following:

- ❖ bank dealers are able to finance their long bond and equity positions at a lower interest cost if they repo out the assets; equally they are able to cover short positions;
- ❖ there is greater liquidity in specific individual bond issues;
- ❖ greater market liquidity lowers the cost of raising funds for capital market borrowers;
- ❖ central banks use repo in their open market operations;
- ❖ repo reduces *counterparty risk* in money market borrowing and lending, because of the security offered by the collateral given in the loan;
- ❖ investors have an added investment option when placing funds;
- ❖ Institutional investors and other long-term holders of securities are able to enhance their returns by making their inventories available for repo trading.

There is a close relationship between repo and both the bond and money markets. The use of repo has contributed greatly to the liquidity of government, Eurobond and emerging market bond markets. Although it is a separate and individual market itself, operationally repo is straightforward to handle, in that it generally settles through clearing mechanisms used for bonds. As a money market product, repo reduces the stress placed on the unsecured interbank market, and empirical evidence indicates a reduction in overnight interest-rate volatility.

The RBI has also permitted inter-bank Repo deals on the National Stock Exchange, through brokers. Apart from the Reserve Bank, the Repo market in India is also regulated by the provisions of the Securities Contract Regulation Act, which does

not permit forward contracts beyond 14 days. Generally Repo transactions are for a minimum period of 3 days to 14 days.

NOTES

3.14 COMMERCIAL PAPER

Commercial papers (CP's) are short-term (up to 1 year) unsecured borrowing through issue of financial instruments (called commercial papers) by large, reputed and financially strong corporate enjoying high credit rating. Non financial corporates (and primary dealers and All India Financial Institutions), having a specified amount of net worth (currently specified as Rs. 4 crore or more) and having a high credit rating (P2 or its equivalent) can issue commercial papers for any period between 7 days (brought down from 15 days with effect from 26th October 2004) to 1 year. Currently, CP's can be issued in denomination of Rs. 5 lakhs and in multiples of Rs. 1 lakh thereafter. The investors in CP's include banks, financial institutions, mutual funds and high net worth individuals.

3.15 LOAN SYNDICATES

Simply put, it is a highly structured group of financial institutions (primarily banks,), formed by a manager (or a group of co-managers), that lends money on common terms and conditions to a borrower.

Loan syndication typically involves a small group of knowledgeable and well capitalised banks that agree initially to provide the entire loan. These banks can then sell portions of their share of the loan to a much wider range of smaller banks. (They may however prefer to retain their shares if they so desire).

Loan syndication provides borrowers with certainty about the amount and the price of funds, while allowing wide distribution. If many banks are able to the share in small parts of different loans, their 'risk' will be more diversified and they will be willing to make more loans. In the Euro market, a borrower may come from one country, with its own regulations and accounting norms, while lenders are from other nations. Much of the risk reduction is performed not only by credit analysis, monitoring and control, but by taking smaller amounts of more diversified assets (loans), and by relying on the monitoring role of the 'lead bank' or banks,

The Syndicate Process

The syndication process commences with an invitation for bids from borrowers. Sophisticated borrowers invite bids from Euro banks by defining important loan parameters **e.g.,** amount, currency preferred, final maturity, grace period and preferred amortization.

Bids are generally invited on a fully underwritten basis opposed to a best effort basis. As the term indicates, fully underwritten bids convey the commitment of bidders to provide funding, irrespective of the market response. On the other hand, bidders submitting bids on a best effort basis are not confident of raising the finance from the market.

The bid letter will be addressed to the borrower and signed by prospective banks spelling out broadly the terms and conditions on which each bidding bank would be prepared to accept the role as an arranger or lead manager for the syndication arrangement.

Thereafter, the borrower will carefully examine the bid submitted by each bank. Each bank that submitted its bid will be called separately to discuss the terms and\ conditions submitted in their respective bids. The borrower will not reveal the terms of a bid submitted by one bank to the other banks. A strict confidentiality is maintained.

The syndication process involves the circulation of an Information Memoranda and the negotiations concerning the sharing the fees and the level of participation of other banks interested in the transaction. The information Memoranda describer the borrowing entity, its formation, ownership and mallageement. A detailed account the operations, Past and present, cash-flows, summary of financial analysis. This document is prepared by the borrower and the lead manager does not take any responsibility for its accuracy.

The Information Memoranda also contains a detailed description of guarantors (if any), many developing countries or Government owned Corporations carry the guarantee of their respective governments. This section also contains the geographical, political, economic and financial aspects of the guarantor e.g., balance of payment position, external debt etc.

3.16 EURO DEPOSITS

The term `euro' denotes that the issue is listed on a European Stock Exchange. A euro issue is an issue where the securities are issued in a currency different from the currency of the country of issue and the securities are sold in international market to individual and institutional investors. Euro securities are negotiable and transferable securities distributed by a syndicate of market intermediaries and underwriters, By an euro issue, a company is able to raise funds at a cheaper rate, Euro bond is an international bond issued to investors from throughout the world. These are issued as unsecured obligations. Indian Companies issue foreign currency convertible bonds (FCCB) which are equity linked debt instruments, convertible into equity at a specified later date. They carry a fixed rate of interest which is lower than the rate on any other similar nonconvertible debt instrument.

3.18 Answer to Check Your Progress

1) Liquidity Adjustment Facility (LAF) was introduced by RBI during June. 2000

2) A Floating Rate Note (FRN) usually adopts a reference rate of interest which reflects the market rate of interest.

3) *Repo* means a purchase and sale agreement.

4) GDR's are used to: (I) raise debt or equity capital; (II) diversify shareholder base; (III) increase demand for securities; (IV) enhance global image; and V) create dollar-securities.

5) Cost of issue of GDR comprises of following components: (I) Brokerage. (II) Underwriter commission. (III) Management fee. (IV) Legal fee (V) Travel and road shows. (VI) Printing and stationery, (VII) Listing fee. (VIII) Stamp duty. (IX) Accounting fees.

3.17 EXERCISES AND QUESTIONS

1 Briefly explain the International Finance System

2 Write an essay on the Bretton Wood Conferences

3 What you understand by European Monetary system

4 Describe about the International Financial Markets

5 How the Creation of EURO was happened?

6 Discuss the various types of International Money Markets Instruments

7. Write a short note on

1. ADR's 2 . Euro Bonds 3. REPO's 4. CP's

5. Loan Syndicates 6. Euro Deposits 7. GDR's

3.18 FURTHER READINGS

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UNIT IV

MULTINATIONAL FINANCIAL MANAGEMENT

STRUCTURE

4.1 INTRODUCTION

The main objective of international financial management is to maximise shareholder wealth. This would require making sound investment and financing decisions that would result in adding value to the firm. One of the main reasons for focusing on shareholder wealth is that the companies who do not do so may be taken over by others. If the shareholder wealth is maximized or in other words if share price is made to go up hostile takeover becomes difficult and costly. Also, it becomes easier for a company to attract additional capital from the investors if it cares for increasing shareholder wealth. Companies which create more value will have more money to distribute to all stakeholders not only shareholders-be they employees, managers or other beneficiaries in the society. It has been argued, and very rightly so, that maximizing shareholder wealth is not the best way but the only way to benefit all stakeholders.

4.2 OBJECTIVES

This chapter aims to educate the Complexities in multinational financial management, International Portfolio Management, Investment and Financial Decisions. This chapter also gives an idea about the Capital Budgeting, Cost of Capital of Overseas Investment, Risk Exposure, Types, Measurement and Management of Exposure and also Working Capital Management

4.3 COMPLEXITIES OF INTERNATIONAL FINANCIAL MANAGEMENT

Traditionally financial management is separated into two basic functions. The first is concerned with acquisition of funds, also known as financing decision. This function involves generating funds from internal as well as external sources. The effort is to get funds at the lowest cost possible. The second, that is, investment decision is concerned with deployment of the acquired funds in a manner so as to maximize shareholder wealth. Other decisions relate to dividend payment, working capital and capital structure etc. In addition, risk management involves both financing and investment decision.

A finance manager in an MNC faces many challenges that his counterpart in a domestic firm does not encounter. These challenges include political risks leading to expropriation or confiscation of assets, exchange rate risk, control on repatriation of profits, different tax laws, multiple money markets and different interest rates etc. MNC's and their financial managers have to be abreast with the changes taking place all the time and develop ways to take advantages of the changes while reducing risks that these changes create. They have operations in different countries. This gives them opportunity to access segmented capital markets to lower their overall cost of capital. They can shift profits to lower the tax outflows. They have ability to move people, money and material on a global basis to derive the maximum advantage out of these resources- They are able to practise the economic adage, "do not put all your eggs in one basket". International diversification of markets and production facilities reduces their risk. Operating globally gives MNCs continuous access to information on the latest process technologies and latest R&D activities of their competitors. They are able to access world's capital markets and thus diversify their funding sources.

International finance manager has to analyze and balance international risks and advantages. Some of the key challenges he must be prepared to face are listed hereunder:

- ❖ 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 funding ability in the international capital market?
- ❖ To understand the development and use of new instruments such as options, forwards futures and swaps for effective management.
- ❖ To develop ways to minimize risks through internal and external techniques.
- ❖ To take a balanced view of successes and failures, treating them as experiences to learn from. Decisions such as taking loan in a currency that has started appreciating fast, taking a fixed rate financing when rates have started going down will have an adverse impact and impel finance manager to contain the damage to the extent possible.

International financial management will involve the study of (a) exchange rate and currency markets, (b) theory and practice of estimating future exchange rate, (c) various risks such as political/country risk, exchange rate risk and interest rate risk, (d) various risk management techniques, (e) cost of capital and capital budgeting in international context, (t) working capital management, (g) balance of payment, and (h) international financial institutions etc.

4.4 INTERNATIONAL PORTFOLIO INVESTMENT

There has been remarkable growth in recent years in portfolio investments both by individual and institutional investors in foreign securities. This is ostensibly owing to globalization and liberalization of financial markets following the strategic initiatives by the governments of major countries including India and China giving freedom to their citizens to invest freely in foreign securities. Path breaking advancements witnessed in recent years in the Information and Communication technologies have also contributed to spurt in international investments by facilitating cross-border transactions and rapid dissemination of information across national borders. The introduction of investment vehicles, such as international mutual funds, country funds and internationally listed

stocks, which allow investors to achieve international diversification without incurring excessive costs, has also contributed to buoyancy in portfolio investments. The questions then arise as to why investors should invest their funds overseas and how much they can gain from international diversification, what problems the investors are confronted with while investing in foreign countries and how these problems can be overcome.

4.5. CAPITAL BUDGETING

Concept of capital budgeting and its importance

The term capital budgeting refers to expenditure on capital assets. No business can be performed without creating some assets and only through these assets the process of production can take place, i.e. the inputs can be converted into outputs.

Spending money on capital assets is a very important decision that a finance manager is required to make. Capital investment expenditure may be on Plant, Machinery Equipment, Land, Buildings, Roads, and Bridges etc. Although spending money on anything is important and prudence must be exercised in all such matters, but spending money on capital assets is especially more important and the finance manager is, therefore, required to be much more cautious in making such a decision, for the following reasons;

Check Your Progress

1. What is an ARR and how is this to be calculated?

(i) It involves substantially higher amounts than for other routine expenses.

(ii) The decision is irreversible, i.e. it is not possible to withdraw your steps easily, once you have taken few steps in this regard.

(iii) It has long term impact on the affairs of a company and it, infact, determines the future of a company.

Any expenditure is done on a capital asset has a long term prospective. We spend today, to gain some advantage in future. This expenditure of a capital nature may be on construction/ purchase of a plant, machinery, equipment, etc. Each such expenditure involves a big outflow of funds initially, compensated by small but recurring doses of inflow of funds in future for some time. The essence of the capital budgeting decision

making is to determine whether the initial expenditure of funds is duly compensated by the inflows of funds occurring in future. If greater values can be assigned to the inflow of funds than the present expenditure, then that capital investment proposal must be accepted because that will add to the wealth of the company.

Nature and Types of Capital Budgeting Decision

The capital budgeting decision is a decision on an expenditure of capital nature (as against revenue expenditure) which is intended to create physical assets. The assets are is turn expected to reap benefits to the company for years to come. The expenditure on monetary assets (like purchase of Bonds, Shares, Treasury bills, Debentures etc.) is not to be treated as a capital budgeting expenditure. Only investment in physical assets is appraised in capital budgeting while investment in monetary and financial assets is appraised under portfolio analysis.

The capital budgeting expenditure may also be called an expenditure on a project – big or small. Thus the financial appraisal of a project is also a capital budgeting decision. The investment done on physical assets may be of the following types

1. New Projects- The new projects mean expenditure on creation of new assets. For example, setting up an entirely new factory, a new building, a new plant, a new bridge etc. these projects are generally of a big size and take a relatively longer time for its completion and for the returns to flow in.

2. Expansion Projects- Wherever an existing capital asset needs expansion of capacities like setting up more machines in an existing factory or expanding the building of a factory or constructing a new facility etc., this will be called an 'expansion project'. This type of project is relatively of a smaller size and gives the returns faster.

3.Renewal / Renovation Projects- Whenever a new factory has been set up, after some years some machines or part of it become technically obsolete and need replacement in order to remain competitive. In such a situation the old machinery is disposed off and new machinery is installed in its place. ·Fundamentally it is also a project like the above ones, with the only difference that the disposal of old machines will fetch some price which must be accounted for, when we take the cost of the new machine.

4. Exploration Projects-Exploration projects are those projects when some new resources are to be discovered. The expenditure incurred on e.g. oil exploration may be called a project of this kind. This expenditure is also a capital budgeting expenditure, where we spend money now to reap benefits in future, with the only difference that there is far greater uncertainty about finding the resource for which the expenditure is to be incurred.

5. Research and Development (R & D) Projects- R & D projects are those projects in which present expenditure is being incurred in the hope of getting a new product, a new raw material, a new design or an improvement in the exiting ones. These projects are typically of a higher uncertainty than the above ones, because when we are undertaking a research project, we are neither sure of the time duration, nor of the expenditure, nor of the end result. Many R & D projects take a pretty long time in its completion with a high degree of uncertainty of end result.

6. Projects for the Compliance of Certain Statutory Requirements-

There are some projects which are not undertaken explicitly for business prospects,

but are nevertheless undertaken in compliance of legal requirements. These projects may be for ensuring certain safety requirements, e.g. installing fire fighting equipment or modification in existing structures for the safety of workers, or may be for controlling pollution from the factory e.g. an effluent treatment plant. Although no direct business profit seems to be coming but still no responsible company can ignore these projects. Sometimes or the other the law will take its course with immense cost to the company in terms of penalties and even closures. The case of Supreme Court ordering the closure the closure of all polluting factories around Taj Mahal is not a very old one

Methods of Capital Budgeting

The methods may be divided into two categories-

1) Simple methods:- Simple methods are those methods which are simple to calculate and do not involve elaborate calculation and discounting of cash flows. They are as follows;

1. Payback-period and
2. Accounting / Average Rate of Return (ARR)

ACCOUNTING RATE OF RETURN

The Accounting Rate of Return also called the Average Rate of Return (ARR) is the average of the rate of return for different years for the whole life of an asset. It is a ratio between the Net Profit After Tax and the amount of initial investment made in the project.

$$ARR = \frac{\text{Average PAT}}{\text{Initial Investment}}$$

Illustration (4.1):- A company wishes to make an investment of Rs. 50,000 in a machine. The machine has a life of 5 years. The profit after tax on account of this machine for next five years is Rs. 7,500; Rs. 8,200; Rs. 7,900; Rs. 8,900 and Rs. 6,500 respectively.

Calculate the ARR for this investment purpose.

$$ARR = \frac{(7,500+8,200+7,900+8,900+6,500)/5}{50,000} \times 100$$

$$= \frac{(39,000/5)}{50,000} \times 100$$

$$= \frac{7800}{50,000} \times 100 = 15.6\%$$

Another view about ARR is that since we take average of the PAT for calculating ARR we should also use average level of investment for the project. In such a situation the equation for calculating ARR should be modified as follows.

$$ARR = \frac{\text{Average Profit After Tax}}{\text{Average Investment}}$$

Average Investment would be found by taking the average book value for each year. The following Illustration will explain this:

Acceptance & Ranking Rule:-

When we adopt ARR as the decision criteria, then the acceptance rule is that the calculated ARR should be greater than some specified rate. We will reject those proposals which have an ARR lower than this specified rate. So far as ranking of projects is concerned, the project with a higher ARR should be ranked higher than other project which has a lower ARR.

Evaluation of ARR Method:-

The ARR method is a relatively simple method involving the calculation of averages. It is also based on easily understood accounting information like EBIT/PAT,

depreciation, investment etc. However, when it is evaluated for its suitability as a investment criteria for making long term investment decisions, we find it deficient in several respects. Firstly, it is ill defined; we do not know whether to use EBIT or PAT; Initial Investment or Average Investment. Each variable will give different values of ARR. Moreover, accounting information itself is not very certain and subject to great manipulation; Thirdly the average of income, whether EBIT or PAT ignores time value of money and hence not suitable for scientific decision making, and lastly the bench mark rate, against which the calculated ARR will be compared is arbitrary and there is no scientific basis for deciding it.

Check Your Progress

2 What is a payback?

PAYBACK PERIOD

The Payback- period is the time duration required to recover the initial cash outflows. This method is based on cash flows and not on accounting data like the ARR. Ordinary people not well versed in appraisal techniques, often use very simple technique to judge the profitability of any investment proposal. They think in terms of initial expenditure (outflow) and the time duration in which this amount can be recovered. Suppose somebody spent Rs.50,000 on any project and expects that within 3 year he can get back this amount, then the payback period is 3 years. Payback period of any proposal can be calculated as follows;

If the cash inflows are uniform then

$$\text{Payback period} = \frac{\text{Initial cash outflow}}{\text{Annual cash inflows}}$$

If the cash inflows are not uniform then Payback period = time period in which the

cumulative cash flows are equal to initial inflows.

Acceptance Rule and Ranking Rule: -

If the calculated payback is less than any predicted value then an investment proposal is acceptable, otherwise it will be rejected. So far as ranking is concerned, the lower the value of the payback the higher will be the ranking of any investment proposal.

Evaluation of payback method:-

It is a simple method in concept and understanding. That is why even lay men can understand and use it with ease. Moreover, since its emphasis is on early recovery of investment, it automatically takes care of risk. Projects with smaller payback are considered safer and secure as compared to the projects with longer payback.

The payback method, however, suffers from serious drawbacks. Firstly it takes into account only early cash flows which determine the payback and ignores those which come later. This may be often leading to wrong conclusions.

The payback for the above two projects is 3 years, but if we analyze the timings of cash flows we find that project Y is superior because the higher cash flows are occurring initially and will have a higher value if time value of money is taken into consideration.

Thirdly, Payback period is considered only a measure of capital recovery and it is not a perfect measure for profitability.

In spite of these limitations of the payback method, it is still widely used in modern project appraisal mainly because of its simplicity and ease of calculation. However, it is used only for a preliminary screening and not for final decision making. For example, a financial institution may decide that it will consider the projects only if they have a payback of up to 4 years. In such a case the projects with a payback less than 4 years will be considered but a final decision would be based on more scientific methods (discussed in the next unit) and not merely on payback period.

Check Your Progress

3. What is a Capital Budgeting Decision?

DISCOUNTED PAYBACK

The concept of discounted cash flows for calculating payback period has emerged in recent years. It is suggested by some authors that in order to overcome the limitation of payback that it does not use time value of money, we may use the discounted cash flows in order to calculate the payback period. Obviously the discounted payback will be longer than the simple payback period.

2) Scientific Methods:- Scientific Methods are those methods which take into calculation the time value of money and, therefore, undertake discounting of cash flows.,. They are

1. Net Present Value (NPV)
2. Internal Rate of Return (IRR) and
3. Benefit-Cost (B-C) Ratio or Profitability Index (PI)

4.5 COST OF CAPITAL

The term "Cost of Capital" means the cost of long-term funds of a company. It is the multiple of "Capital Employed" and Weighted Average Rate of Cost of Debt Capital, Cost of Equity Capital and Cost of Preference Share Capital. This is why cost of capital is known as Weighted Average Cost of Capital (WACC). WACC is post tax.

Capital Employed represents the total of Debt Capital, Equity Capital and Preference Share Capital. For Economic Value Addition, Equity capital and reserves and surplus are to be adjusted to reflect the conversion of accounting base to economic base. The mix of Debt and Equity Capital has a vital role in the cost of capital. Equity Capita is, generally, costlier than Debt Capital. Use of Debt Capital increases interest payment risk, reduces WACC and increases Shareholders' return. Optimum Debt Equity mix should always be aimed at considering the trade-off in between risk and return.

Cost of capital has two dimensions; one is management perspective and other one is shareholders' perspective. Management perspective refers to the actual cost incurred for capital. The cost of capital discussed above is based on shareholders' perspective. It is

known as opportunity cost of capital. As opportunity cost does not involve cash outgo, many people are reluctant to apply this concept. Management is a fiduciary to the shareholders. Most of the managements of Indian Corporate have been oblivious to this role, so far. As a result, management perspective has been emboldened over Shareholders perspective in various issues of the Indian Corporate. Hence, shareholders perspective requires to be rejuvenated and opportunity cost of capital (not actual cost of capital) need to be considered for taking all managerial decisions.

4.5.1. Classification of Cost of Capital

There is no fixed base of classification of cost of capital. It varies according to need, process and purpose. It may be classified as follows :

i) Explicit Cost and Implicit Cost : Explicit cost is the discount rate that equates the present value of the funds received by the firm net of underwriting costs, with the present value of expected cash outflows. Thus, it is `the rate of return of the cash flows of financing opportunity'. On the other hand, the implicit cost is the rate of return associated with the best investment opportunity for the firm and its shareholders that will be foregone if the project presently under consideration by the firm were accepted. In the other words, explicit cost relate to raising of funds and implicit costs relate to usage of funds.

ii) Average Cost and Marginal Cost: The average cost is the weighted average of the costs of each component of funds. After ascertaining costs of each source of capital, appropriate weights are assigned to each component of capital. Marginal cost of capital is the weighted average cost of new funds raised by the firms.

iii) Future Cost and Historical Cost: In financial decision making, the relevant costs are future costs. Future cost i.e expected cost of funds to finance the projects is ascertained with the help of historical costs.

iv) Specific Cost and Combined Cost: The costs of individual components of capital are specific costs of capital. The combined cost of capital is the average cost of capital as it is inclusive of cost of capital from all sources. In capital budgeting decisions, combined cost of capital is used for accepting / rejecting the proposals.

4.6.2 Computing Cost of Capital of Individual components

There are four basic sources of long term funds for a business firm : (i) Long-term Debt and Debentures (ii) Preferences share capital, (iii) Equity share capital, (iv) Retained Earnings. Through all of these sources may not be tapped by the firm for funding its activities, each firm will have some of these sources in its capital structure. The specific cost of each source of funds is the after-tax cost of financing. It can be before-tax, provided the basis is the same for all the sources of finance being considered for calculating the cost of capital. The procedure for determining the costs of debt, procedure for determining the costs of debt, preferences and equity capital as well as retained earnings is discussed in the following sub-sections.

I) Cost of Long Term Debt

Debt may be issued at par, or at premium or at of discount. It may be perpetual or redeemable. The technique of computation of cost in each case has been explained in the following paragraphs.

(a) The formula for computing the Cost of Long Term debt at par is

$$Kd = (1 - T) R$$

Where

Kd = Cost pf long term debt

T = Marginal Tax Rate

R = Debenture Interest Rate

For example, if a company has issued 10% debentures and the tax rate is 50%, the cost of debt will be

$$(1 - .5)\ 10 = 5\%$$

Debt may be issued at par, or at premium or at of discount. It may be perpetual or redeemable. The technique of computation of cost in each case has been explained in the following paragraphs.

(b) In case the debentures are issued at premium or discount,

the cost of debt should be calculated on the basis of net proceeds realised. The formula will be as follows:

$$Kd = \frac{I}{N_P}(1 - T)$$

Where

Kd = Cost of debt after tax

I = Annual Interest Payment

N_P = Net Proceeds of Loans

T = Tax Rate

(c) Yield to maturity method of computing cost of debt capital is an approximation method. A better method is that which converts yield to maturity into a discount rate. James C. Van Horne says "the discount rate that equates the present value of the funds received by the firm, net of underwriting and other costs with the present value of expected outflows. These outflows may be interest payments, repayment of principal or dividends". It may symbolically written as:

$$np = \sum_{t=1}^{n} \frac{(\text{cash outflows})^t}{(1 + K)^t}$$

Where

np = net amount available for use

II) Cost of Preference Capital

The preference share represents a special type of ownership interest in the firm. Preference shareholders must receive their stated dividends prior to the distribution of any earnings to the equity shareholders. In this respect preference shares are very much like bonds or debentures with fixed interest payment. The cost of preference shares can be estimated by dividing the preference dividend per share by the current price per share,

as the dividend can be considered a continuous level payment.

$$\text{Cost of Preference Capital} = \frac{\text{Dividend}}{\text{Market Price} - \text{Issue Cost}}$$

For example, A company is planning to issue 9% preference shares expected to sell at Rs. 85 per share. The costs of issuing and selling the shares are expected to be Rs. 3 per share.

The first step in finding out the cost of the preference capital is to determine the rupee amount of preference dividends, which are stated as 9% of the share of Rs. 85 per share. Thus 9% of Rs. 85 is Rs. 7.65. After deducting the floatation costs, the net proceeds are Rs. 82 per share.

Thus the cost of preference capital :

$$= \frac{\text{Dividend per share}}{\text{Net proceeds after selling}}$$

$$= \frac{\text{Rs. 7.65}}{\text{Rs. 82}} = 9.33\ \%$$

Now, the companies can issue only redeemable preference shares. Cost of capital for such shares is that discount rate which equates the funds available from the issue of preference shares with the present values of all dividends and repayment of preference share capital. This present value method for cost of preference share capital is similar to that used for cost of debt capital; the only difference is that in place of 'interest' stated dividend on preference share is used.

III) Cost of Equity Capital

"Cost of equity capital is the cost of the estimated stream of net capital outlays desired from equity sources" E.W. Walker. James C. Van Horne defines the cost of equity

capital can be thought of as the rate of discount that equates the present value of all expected future dividends per share, as perceived by investors. The cost of equity capital is the most difficult to measure. A few problems in this regard are as follows:

i) The cost of equity is not the out of pocket cost of using equity capital.

ii) The relationship between the market price and the earnings is known. Dividends also affect the market value (which one is to be considered).

iii) The cost of equity is based upon the stream of future dividends as expected by shareholders (very difficult to estimate).

The following are the approaches to computation of cost of equity capital:

(a) E / P Ratio Method: Cost of equity capital is measured by earning price ratio.

Symbolically

$$\frac{\text{Eo (current earnings per share)}}{\text{Po (current market price per share)}} * 100$$

The limitations of this method are :

i. Earnings do not represent real expectations of shareholders.

ii. Earnings per share is not constant.

iii. Which earnings-current earnings or average earnings (It is not clear).

The method is useful in the following circumstances:

i. The firm does not have debt capital.

ii. All the earnings are paid to the shareholders.

iii. There is no growth in earnings.

(b) E / P Ratio + Growth Rate Method: This method considers growth in earnings. A period of 3 years is usually being taken into account for growth. The formula will be as follows:

$$\frac{Eo\ (1+b)^3}{Po}$$

Where

$(1 + b)^3$= Growth factor where b is the growth rate as a percentage and estimated for a period of three years.

For example, A firm has Rs. 5 EPS and 10% growth rate of earnings over a period of 3 years. The current market price of equity share is Rs. 50

$$\frac{\text{Rs. 5 } (1+.10)^3}{\text{Rs. 50}} * 100$$

$$\frac{\text{Rs. 5 } (1.331)}{\text{Rs. 50}} * 100 = \frac{6.655}{50} * 100$$

$$= 13.31\%$$

(c) D / P Ratio Method: Cost of equity capital is measured by dividends price ratio.

Symbolically

$$\frac{Do\ (\text{Dividend per share})}{Po\ (\text{Market price per share})} * 100$$

The following are the assumptions:

1. The risk remains unchanged.
2. The investors give importance to dividend.
3. The investors purchase the shares at par value.

Under this method, the future dividend stream of a firm as expected by the investors are estimated. The current price of the share is used to determine shareholders' expected rate of return. Thus, if Ke is the risk-adjusted rate of return expected by investors, the present value of future dividends, discounted by Ke would be equal to the price of the share. Thus,

$$P = \frac{D1}{(1+Ke)^1} + \frac{D2}{(1+Ke)^2} + \frac{D3}{(1+Ke)^3} + \frac{D4}{(1+Ke)^4}$$

where,

P = price of the share

D1 ..... Dn = dividends in periods 1,2,3,....n,

Ke = the risk adjusted rate of return expected by equity investors.

Given the current price p and values for future dividends 'Dt' , one can calculate

Ke by using IRR procedure. If the firm has maintained some regula r pattern of dividends in the past, it is not unreasonable to expect that the same pattern will prevail. If a firm is playing a dividend of 20% on a share with a par value of Rs. 10 as a level perpetual dividend, and its market price is Rs. 20, then

$$P = \frac{D}{Ke}$$

$$20 = \frac{2}{Ke}$$

$$Ke = \frac{2}{20} = 10\%$$

(d) D / P + Growth Rate Method: The method is comparatively more realistic as i) it considers future growth in dividends, ii) it considers the capital appreciation.

Thus

$$Po = \frac{D1}{Ke - g} \quad \text{or} \quad Ke = \frac{D1}{Po} + g$$

where,

Po = the current price of the equity share

D1 = the per share dividend expected at the end of year 1.

Ke = the risk adjusted rate of return expected an equity shares.

G = the constant annual rate growth in dividends and earnings.

The equation indicate that the cost of equity share can be found by dividing the dividend expected at the end of the year 1 by the current price of the share and adding the expected growth rate.

IV) Cost of Retained Earnings

Some authors do not consider it necessary to calculate separately cost of retained earnings. They say that the cost of retained earnings is included in the cost of equity share capital. They say that the existing share price is used to determine cost of equity capital and this price includes the impact of dividends and retained earnings. There are authorities who also suggest that cost of retained earnings is to be determined separately.

Two alternative approaches are there:

1. One is to regard cost of equity capital as the cost of retained earnings.
2. The concept of external yields as suggested by Ezra Soloman. It assures
3. Investment of retained earnings in another firm. Symbolically

Cost of Retained Earnings =

$$\left(\frac{D1}{Po} + G\right)\ (1 - TR)\ (1\text{-}B)$$

$$= Ke\ (1 - TR)\ (1 - B)$$

Where

Ke = Cost of equity capital based on dividends growth method

TR = Shareholder's Tax Rate

B = Percentage Brokerage Cost

For example, A firm's cost of equity capital is 12% and tax rate of majority of shareholders is 30%. Brokerage is 3%

$$= 12\%\ (1 - 30\%)\ (1 - 3\%)$$

$$= 12 * .70 * .97 = 8.15\%$$

V) Weighted Cost of Capital

Weighted cost of capital is also called as composite cost of capital, overall cost of capital, weighted marginal cost of capital, combined cost of debt and equity etc. It comprises the costs of various components of financing. These components are weighted according to their relative proportions in the total capital.

4.6.3. COST OF CAPITAL FOR MNC'S VIS-A-VIS DOMESTIC FIRMS

Although concept of cost of capital and methodology applied to compute it are invariably the same both in case of domestic firms and MNC's, yet they differ in practice because of several peculiar features of an MNC, as outlined below:

Scale of Operations:

MNC's generally being larger in size as compared to the domestic firms may be in a privileged position to garner funds both through stocks and bonds at lower cost because they are accorded preferential treatment due to their size.

a)Access to International Capital Markets:

In view of easier access to international capital markets, MNCs are in a position to obtain funds at lower cost than that paid by the domestic firms. Further, international availability permits MNCs to maintain the desired ratio, even if substantially large funds are required. This is not true in the case of domestic firms. They have either to rely on internally generated funds or borrow for short and medium-term from commercial banks. Furthermore, subsidiaries may be in a position to procure money locally at a lower cost than that available to the parent company if the prevailing interest rates in the host country are relatively low. For example, the Coca-Cola company, because of its global presence and strong capital position and therefore, having an easy access to key financial markets, could raise funds with a lower effective cost.

b) International Diversification:

MNCs, by virtue of their diversified operations, are in a better position to reduce their cost of capital in comparison to domestic firms for at least two reasons:

A firm with cash inflows pouring in from different sources across the world enjoys relatively greater stability. for the fact that total sales will not be greatly influenced by a

single economy. Less cash flow volatility causes the firm to support a higher debt ratio leading to lower cost of capital;

International diversification (by country and by product) should lower the systematic risk of the firms, thus lowering its beta coefficient and consequently the cost of equity.

c) Exposure to Exchange Rate Risk:

Operations of MNCs and their cash flows are exposed to higher exchange rate fluctuations than domestic firms leading to greater possibility of bankruptcy. As a result, creditors and stockholders demand a higher return, which enhances the MNC's cost of capital.

d) Exposure to Country Risk:

The total country risk of foreign investment, as noted earlier, is greater in the case of foreign investment than in similar domestic investment because of the additional cultural, political and financial risks of foreign investments. Thus, risks increase the volatility of returns on foreign investment, often to the detriment of the MNC. To what extent international diversification minimizes the impact of country-specific and currency-specific risks would depend on the magnitude of capital market segmentation and how widely the firm's investments are locally or globally diversified. Where a firm's investment is concentrated in a local economy and markets are partially segmented from other capital markets, country-specific and currency-specific risks cannot be diversified and hence the firm's exposure to these risks cannot be eliminated. In contrast, a firm with globally diversified investors especially in integrated financial markets can eliminate these risks and the cost of capital of such firm will obviously be low. According to a large body of literature, MNCs have lower systematic risks in relatively integrated financial markets, such as the UK and the USA than comparable domestic companies, presumably, due to benefits of international diversification.

The above factors that distinguish between cost of capital of an MNC and that of a domestic firm are exhibited in Figure 12.1. In general, the first three factors listed below, viz; (scale, access to international capital markets, and international diversification) are favourable factors for an MNC resulting in reduced cost of capital, while the last two factors (exchange rate risk and country risk) are unfavourable, and are likely to result in increase in cost of capital.

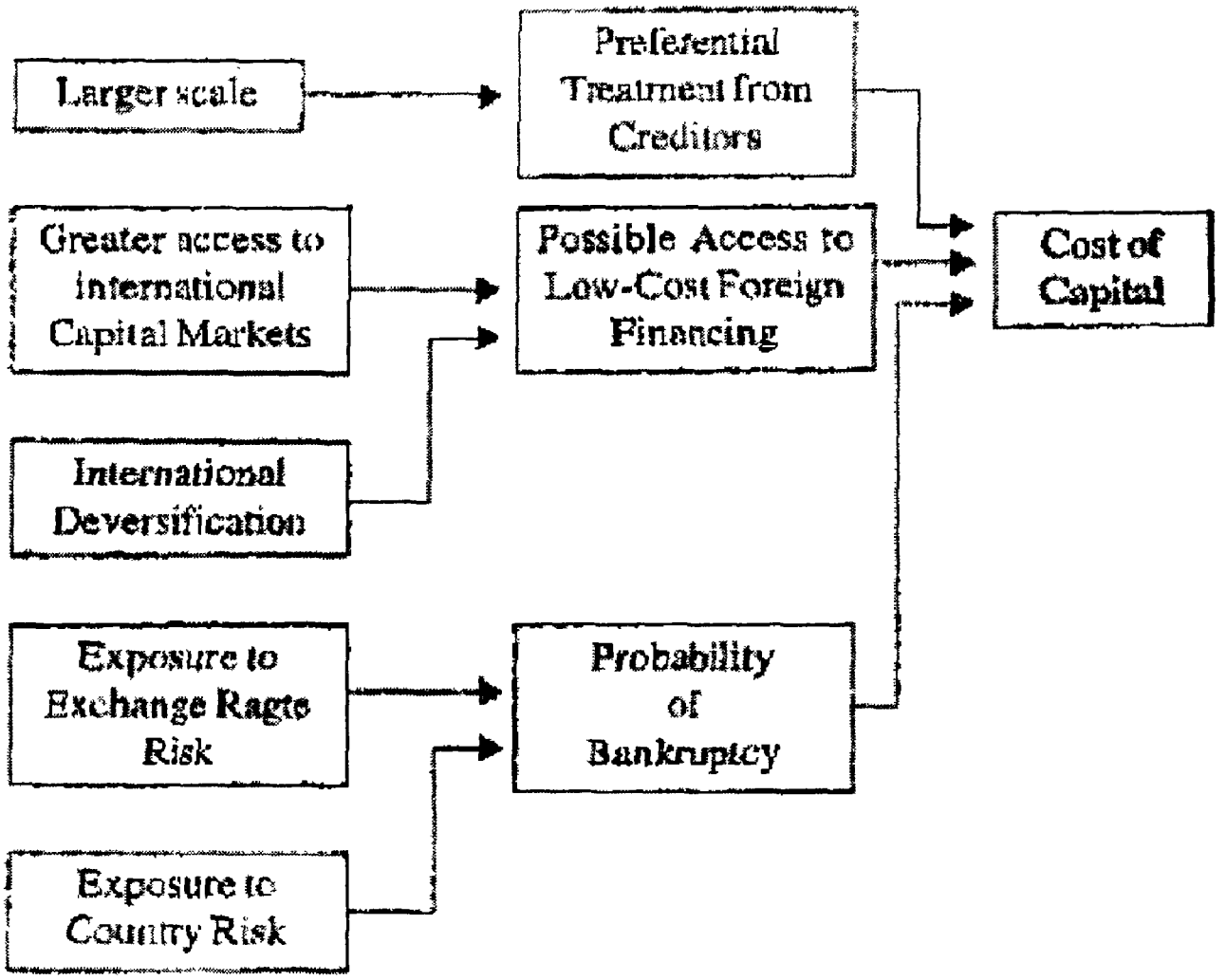


Figure 12.1: Summary of factors contributing to difference between cost of capital of MNC and that of a domestic firm

In sum, it is difficult to generalize that MNCs have always cost of capital lower than their domestic counterparts. Each MNC should evaluate the implications of each of these factors on the cost of capital and determine the net impact on overall cost of capital.

4.7 TYPES OF RISK

In the previous section, the different sources of risk for various financial services firms have been discussed. They could now be broadly classified under the following six heads:

1) Credit Risk

Many of the financial services firms like banking, credit cards, lease and hire purchase are involved in fund based business. The credit risk affects the fund based activities of the financial services. This risk arises in evaluating the proposals for lending. While credit rating, either by credit rating institutions or internally, helps to quantify the

risk, the percentage of non-performing assets measures the impact of credit risk on the firms. Many financial institutions started using new models to measure credit risk. Models such as KMV (distance to default) and Credit Metrics are widely used.

2) Asset-Liability Gap Risk

This risk also applies to firms doing fund based services. Since funds raised from external sources play a major role in the fund based activities, the duration of the liability is an important variable which needs to be considered while lending. For example, if a firm gives a five year loan against a deposit for two years, there is a mismatch between the liability (funds received) and asset (funds lent). If this mismatch exceeds a predetermined level, it may lead to a cash out situation.

3) Due-Diligence Risk

Merchant banking companies and other financial services firms which are offering fee based services like merger and acquisition have to exercise due diligence in their operations. This due diligence may have to be provided to the regulatory agencies or to their client. For example, the SEBI regulation on Merchant Banking requires the lead manager to provide a due-diligence certificate in the prescribed form before the public or rights issue opens for subscription. In the event of any lapse or mistake noticed in the due diligence subsequently, it will affect the financial services firm which has provided the due-diligence certificate in different ways. While in some cases, the financial services firm may be required to pay compensation for the loss incurred, it may also lead to suspension or cancellation of registration.

4) Interest Rate Risk

This risk affects the firms which are in fund based activities. The interest rate risk arises when there are frequent changes in the interest rates in the market. Though, we had a fairly stable interest rate regime prior to economic and financial sector reforms, the interest rates are volatile in the last five years. The financial services industry are exposed to interest rate risk in their (a) treasury operations, (b) lending and (c) resource mobilisation. As the market value of the fixed income securities has an inverse relationship with the market interest rates, the market value of current holding will decline when the interest rate in the market increases.

5) Market Risk

Financial services firms which are in the investment business or investing a part of the funds in securities are exposed to the market risk. This risk arises on account of changes in the economy and all securities are affected. Though firms can develop efficient portfolio through diversification process, it could help them to reduce the unsystematic risk. The market risk otherwise known as systematic risk cannot be eliminated. There are several measures of market risk. Recently, many financial institutions use value at risk (VaR) measure to understand the amount that the firm would loose if there is a major change in the market factor at a predetermined probability level. The top management of the financial institutions may say that it doesn't want to expose more than 6% of the total capital to risk if there is a major change in the market factor.

6) Currency Risk

Firms which are dealing in foreign exchange currencies are exposed to this source of risk. Banks, financial institutions and money changers are few financial services firms which are normally affected by this source of risk. This risk arises because of changes in the currency values which in turn were determined by the fundamental economic strength of the two countries and short-run demand and supply gap. These firms are affected by currency risk when they hold currencies or liabilities in the form of either forward contract or interest/principal payment. When the Rupee depreciates, it affects those who are holding foreign currency liabilities and when the Rupee appreciates, it affects those who are holding foreign currency. Other financial Service is also affected from this source of risk if they have borrowed money in the international capital market or raised currency loan. As and when derivatives in foreign currency transactions are allowed. firms which take position in derivative markets will also be affected from this source of risk.

4.8 WORKING CAPITAL MANAGEMENT

Concepts of Working Capital

- Gross Working CapitalTotal Current assets

Where Current assets are the assets that can be converted into cash within an accounting year & include cash , debtors etc. Referred as "Economics Concept" since assets are employed to derive a rate of return

- Net working Capital

CA – CL. Referred as 'point of view of an Accountant'. It indicates liquidity position of a firm & suggests the extent to which working capital needs may be financed by permanent sources of funds.

CONSTITUENTS OF WORKING CAPITAL

- CURRENT ASSETS
    1. Inventory
    2. Sundry Debtors
    3. Cash and Bank Balances
    4. Loans and advances given
- CURRENT LIABILITIES
    1. Sundry creditors
    2. Short term loans obtained
    3. Provisions

Characteristics of Current Assets

1. Short Life Span i.e. cash balances may be held idle for a week or two , thus a/c may have a life span of 30-60 days etc.
2. Swift Transformation into other Asset forms i.e.each CA is swiftly transformed into other asset forms like cash is used for acquiring raw materials , raw materials are transformed into finished goods and these sold on credit are convertible into A/R & finlly into cash

Need for Working Capital

As profits earned depend upon magnitude of sales and they donot convert into cash instantly, thus there is a need for working capital in the form of CA so as to deal with the problem arising from lack of immediate realisation of cash against goods sold. This is referred to as "Operating or Cash Cycle". It is defined as "The continuing flow from cash to suppliers, to inventory, to accounts receivable & back into cash". Thus needs for working capital arises from cash or operating cycle of a firm. Which refers to length of time required to complete the sequence of events. Thus operating cycle creates the need for working capital & its length in terms of time

span required to complete the cycle is the major determinant of the firm's working capital needs.

Types of Working Capital

Permanent working Capital

There is always a minimum level of ca which is continously required by a firm to carry on its business operations. thus , the minimum level of investment in current assets that is required to continue the business without interruption is referred as permanent working capital variable working capital this is the amount of investment required to take care of fluctuations in business activity or needed to meet fluctuations in demand consequent upon changes in production & sales as a result of seasonal changes distinction permanent is stable over time whereas variable is fluctuating according to seasonal demands. Investment in permanent portion can be predicted with some profitability whereas investment in variable cannot be predicted easily. While permanent is minimum investment in various current assets, variable is expected to take care for peak in business activity. While permanent component reflects the need for a certain irreducible level of current assets on a continuous and uninterrupted basis , the temporary portion is needed to meet seasonal & other temporary requirements.

MATCHING PRINCIPLE

If a firm finances a long term asset(like machinery) with a S-T Debt then it will have to be periodically finance the asset which will be risky as well as inconvenient. i.e. maturity of sources of financing should be properly matched with maturity of assets being financed. Thus Fixed Assets & permanent CA should be supported with L-T sources of finance & fluctuating CA by S-T sources.

Different approaches in determination of working capital

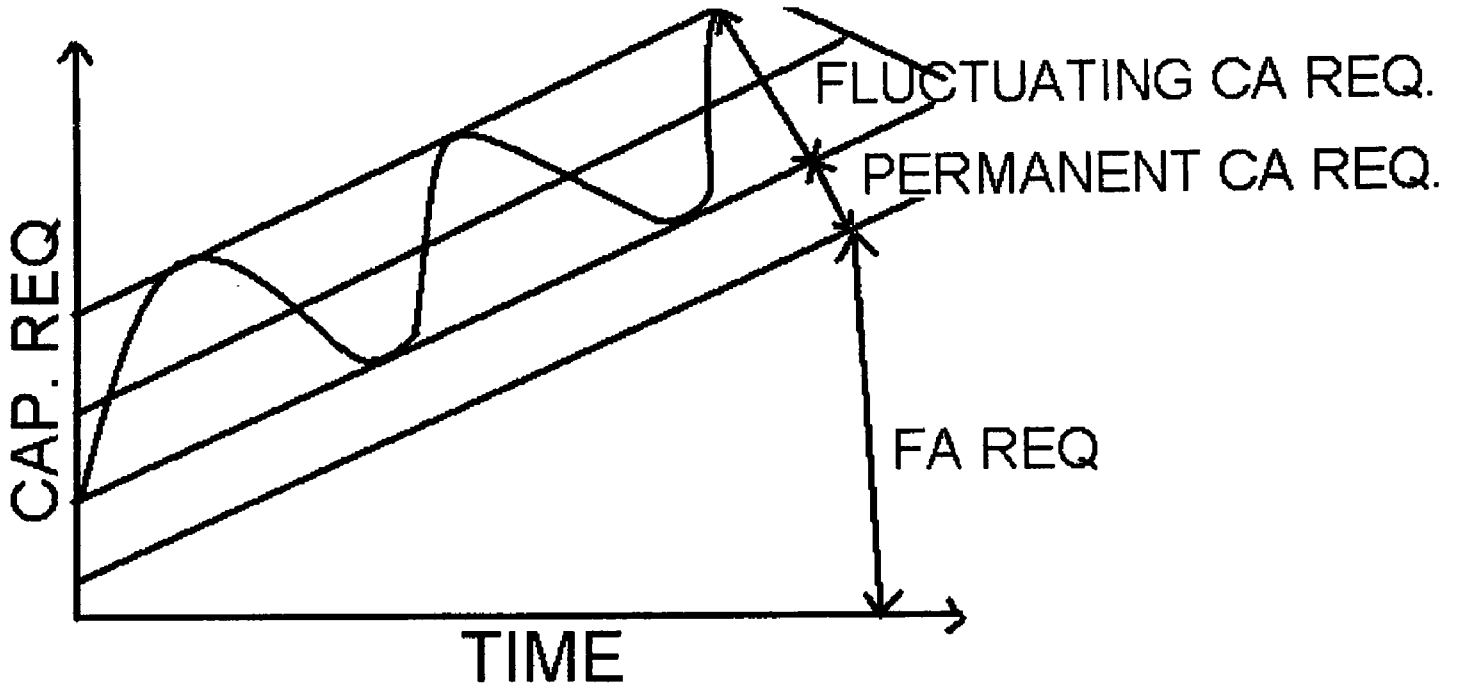
Industry norm approach

This approach is based on the premise that every company is guided by the industry practice like if majority of firms have been granting 3 months credit to a customer then others will have to also follow the majority due to fear of losing customers.

Economic modeling approach

To estimate optimum inventory is decided with the help of eoq model

Strategic choice approach



This approach recognizes the variations in business practice and advocates use of strategy in taking working capital decisions. The purpose behind this approach is to prepare the unit to face challenges of competition & take a strategic position in the market place. the emphasis is on strategic behaviour of business unit. Thus the firm is independent in choosing its own course of action which is not guided by the rules of industry,

MATCHINGPRINCIPLE

EXCESS OR INADEQUATE WORKING CAPITAL

Every business concern should have adequate working capital to run its business operations. It should have either redundant or excess working capital nor inadequate or shortage of working capital.

Both excess as well as shortage of working capital situations are bad for any business. However, out of the two, inadequacy or shortage of working capital is more dangerous from the point of view of the firm.

Disadvantages of Redundant or Excess Working Capital

1. Idle funds, non-profitable for business, poor ROI
2. Unnecessary purchasing & accumulation of inventories over required level

3. Excessive debtors and defective credit policy, higher incidence of B/D.
4. Overall inefficiency in the organization.
5. When there is excessive working capital, Credit worthiness suffers
6. Due to low rate of return on investments, the market value of shares may fall

Disadvantages or Dangers of Inadequate or Short Working Capital

1. Can't pay off its short-term liabilities in time.
2. Economies of scale are not possible.
3. Difficult for the firm to exploit favourable market situations
4. Day-to-day liquidity worsens
5. Improper utilization the fixed assets and ROA/ROI falls sharply

4.9 ANSWERS TO THE CHECK YOUR PROGRESS

1. Average rate of return is calculated by dividing average earnings by average investment
2. The time required for recovering original investment is called payback period.
3. Long term investment decision

4.10 SELF -ASSESSMENT QUESTIONS / EXERCISES

1. Why is the cost of capital the minimum acceptable rate of return on an investment ?
2. How is the Cost of Debt Capital ascertained? Give examples.
3. How will you calculate the Cost of Preferences Share Capital?
4. "Retained earnings does not have cost" comment.
5. Discuss various uses of the concept of Cost of Capital.
6. Determine the cost of capital for the following securities. These are issued by different firms and the tax rate is 40 percent.
   i) A seven year debenture with a coupon interest of 10 percent. The debenture matures in five years and has a current market price of Rs. 90 as against its par value of Rs. 100.
   ii) A preference share pays 7 percent dividend. Par value is Rs. 100 per share and its current market price is Rs. 80.

7. What are the different types of projects? And what is the distinguishing feature of each type of project?
8. Which project do you think involves highest risk and why?
9. Projects are not always for certain future benefits, they may be undertaken to avoid certain penalties in future.' Discuss this statement.
10. What is Capital Budgeting Process, and who are the specialists, whose services may be needed to make a decision. ?

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UNIT V

INTERNATIONAL BANKING

UNIT STRUCTURE

5.1 INTRODUCTION

Banking is a financial institution where various services and facilities are offered to the people keeping in mind the needs, market conditions and other factors. Banking is governed by certain banking laws and banking regulations which may be at the state level or federal level or both. Without being granted the permission of the banking authorities, a banking center is not allowed to operate. It is obligatory to take the permission prior to commence functioning. Without the permission of the state jurisdiction or the federal jurisdiction, a banking cannot operate.

A banking influences the economies of not only the home country but also of economies worldwide. The area of services offered by a banking center is vast and one needs to choose from a wide range of banking center products on the shelf. Banking

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center yields gains from the money the banking center lends to the consumers. Gains yielded by the banking center depend to a large extent on the requirements and the potentialities of the customers.

5.2 OBJECTIVES

This chapter covers the topics related to the Banking Practices of European Banks, Large Banking Centers, Japanese Banking, American Banking System,Basel I and Basel II guidelines, LIBORand SWISS Banking Practices

5.3 BANKING PRACTICES OF EUROPEAN BANKS

The European Bank for Reconstruction and Development (EBRD) the brainchild of President Mitter and following political events of 1989, was established in 1991. It exists to foster the transition towards market oriented economies and to promote private and enterpreneurial initiative in the countries of central and eastern Europe and the Common wealth of Independent States (CIS) committed to and applying the fundamental principle of multiparty democracy, pluralism and market economies.

The EBRD aims to help its countries of operation to implement structural and sectoral, economic reforms, promoting competition, privatisation and entrepreneurship taking into account the particular needs of countries at different stages of transition. Through its investment it promotes private sector activity, the strengthening of financial institutions and legal systems and the development of the infrastructure needed to support the private sector.

In fulfilling its role as a catalyst of change the EBRD encourages co-financing and foreign direct investment from the private and public sector, helps to mobilise domestic capital and provides.technical co-operation in relevant areas. It works in close co-operation with international financial institutions and other international and national organisations. In all of its activities, the Bank promotes environmentally sound and sustainable development.

The EBRD has 60 members (58 countries, the European Community and the European Investment Batik) including 26 countries of operations in central and Eastern Europe and the CIS The EBRDs initial subscribed capital is ECU 10 billion of which 30

per cent is paid in. The bank also borrows in various currencies from the world capital markets.

The powers of the EBRD are vested in a Board of Governors, to which each member appoints a Governor and an Alternate. The Board of Governors has delegated powers to a Board of Directors with 23 members, who are elected by Governors for three- year term. The Board of Directors is responsible for the direction of the general operations of the Bank including establishing policies, taking decisions concerning projects and approving the budget. The President is elected by the Board of Governors for a four year term. Vice- Presidents are appointed by the Board of Directors on the recommendation of the President.

One of the EBRD's strength is that it can operate in both the private and public sectors. It merges the principles and practices of merchant and development banking providing funding for private or privatisable enterprises and for physical and financial infrastructure projects needed to support the private sector.

The EBRD aims lo be flexible by using a broad range of financing instruments tailored to specific projects. The kind of finance it offers includes loans, equity investment and guarantee. The Bank applies sound banking and investment principles in all of its operations.

The terms of the EBRD's funding are designed to enable it to co-operate both with other international financial institutions and with public and private financial institutions through co-financing.

By 31st May 1998, the Bank has approved 574 projects - these involved ECU 3 3.9 billion of the EBRDs' own funds and was expected to mobilise an additional ECU 31 2 billion. Of the approved projects, 496 had been signed committing ECU 11.2 billion of the EBRD's own funds; sixty eight per cent of ttotzli approved funding was for private sector projects.

Project- related technical co-operation is a major feature of the EBRD's activities. By the end of 1997, 53 co-operative fund agreemerits with bilateral donors, totalling ECU 512 million had been made with the Bank for this purpose, 1818 projects with a total estimated cost of ECU 500 million had been committed.

The EBRD's operations are carried out through its Banking Department, which is composed of teams combining the Bank's private sector and public sector. Specialist country teams ensure consistent implementation of the Bank's country strategies; these are backed up by the specialist expertise of sector teams and operations support units..

The EBRD's headquarters are in London with 29 Resident office and other offices in 25 of its countries of operation.

5.4 LARGE BANKING CENTERS

Banking center charges the customers or the consumers for the several facilities the banking center offers. The charges may vary depending on the type of service the banking center offers. Banking center also assists individuals traveling abroad. With the advent of ATM (automated teller machine), electronic fund transfer or digital money one may access ones account from anywhere in the world.

Check Your Progress

1. What is banking?

Facilities offered by a banking center

- A banking center collects money from the customers in form of deposits and provides an account to the customer. The nature of the account can be savings, current etc... The accounts may belong to individuals or business houses.
- A banking center offers loans to the customers. The borrower may be an individual or a business house.
- Providing vaults or lockers to the customers where the valuables of an individual can be safely put in.
- Issuing debit cards and credit cards to the customers thus facilitating the use of plastic cards. The plastic cards are used for a variety of purposes.
- A banking center also helps individuals in getting the cheques encashed.
- A banking center also provides the facility of maintaining salary accounts of various employees. The employers usually do the needful in order to get the salary accounts activated.

- A banking center also maintains accounts for the elderly people. People who retire can avail of several facilities meant for them. Retirement plans offered by the banking center can also be availed of.
- Mailing system is also one of the services offered by a banking center.
- Tele banking is a facility offered by a banking center where a customer can conduct all the banking procedures over he phone

5.5 JAPANESE BANKING

Japan's traditional banking system was segmented into clearly defined components in the late 1980s: commercial banks (thirteen major and sixty-four smaller regional banks), long-term credit banks (seven), trust banks (seven), mutual loan and savings banks (sixty-nine), and various specialized financial institutions. During the 1980s, a rapidly growing group of non bank operations-- such as consumer loan, credit card, leasing, and real estate organizations--began performing some of the traditional functions of banks, such as the issuing of loans.

In the early postwar financial system, city banks provided short-term loans to major domestic corporations while regional banks took deposits and extended loans to medium-sized and small businesses. Neither engaged much in international business. In the 1950s and 1960s, a specialized bank, the Bank of Tokyo, took care of most of the government's foreign-exchange needs and functioned as the nation's foreign-banking representative. Long-term credit banks were intended to complement rather than to compete with the commercial banks. Authorized to issue debentures rather than take ordinary deposits, they specialized in long-term lending to major *kaisha*, or corporations.

Trust banks were authorized to conduct retail and trust banking and often combined the work of commercial and long-term credit banks. Trust banks not only managed portfolios but also raised funds through the sale of negotiable loan trust certificates. Mutual loan and savings banks, credit associations, credit cooperatives, and labor credit associations collected individual deposits from general depositors. These

deposits were then loaned to cooperative members and to the liquidity-starved city banks via the inter bank money markets or were sent to central cooperative banks, which in turn loaned the funds to small businesses and corporations. More than 8,000 agricultural, forestry, and fishery cooperatives performed many of the same functions for the cooperatives. Many of their funds were transmitted to their central bank, the Norinchukin Bank, which was the world's largest bank in terms of domestic deposits.

In 1990, the five largest banks in the world, measured by total assets, were Japanese banks. These banks opened branches abroad, acquired existing foreign banks, and became engaged in new activities, such as underwriting Euro-yen bond issues. The investment houses also increased overseas activities, especially participating in the United States Treasury bond market (where as much as 25 to 30 % of each new issue was purchased by Japanese investors in the late 1980s).

As of March 1989, the five largest city banks in Japan (in order of total fund volume) were Dai-Ichi Kangyo Bank, Sumitomo Bank, Fuji Bank, Mitsubishi Bank, and Sanwa Bank.

5.6 AMERICAN BANKING SYSTEM

The Inter-American Development Bank (IDB) the oldest and largest regional multilateral development institution. It was established in December of 1959 to help accelerate economic and social development in Latin America and the Caribbean.

The Bank was created in response to a longstanding desire on the part of the Latin American nations for a development institution that would focus on the pressing problems of the region. The Bank's original membership included 19 Latin American and Caribbean countries and the United States. Subsequently, eight other Western Hemisphere nations, including Canada, Joined the Bulk. From the beginning, the Bank developed links with many industrialized countries on other continents and in 1974 the Declaration of Madrid was signed to formalize their entry into the Bank. Eighteen non-regional countries joined the Bank between 1976 and 1993. Today Bank membership totals 46 nations.

In addition to the bank, the IDB Group consists of the Inter-American Investment Corporation (IIC) and the Multilateral Investment Fund (MIF). The IIC an autonomous affiliate of the Bank, was established to promote the ec: omic development of the region by financing small and medium-scale private enterprises me MIF was created in 1992 to promote investment reforms and to stimulate private-sector development.

In its 41 years of operations, the Bank has, become a major catalyst in mobilizing resources for the region. The Bank' Charter states that its principal functional are to utilize its own capital, funds raised by it in financial markets, and other available resources, for financing the development of the borrowing member countries; to supplement private investment when private capital is not available on reasonable terms and conditions; and to provide technical assistance for the preparation, financing, and implementation of development plans and projects.In carrying out its mission, the Bank has mobilized financing for projects that represent a total investment of $ 263 .billion. Annual lending has grown dramatically from the $ 294 million in loans approved in 1961 to almost $ 5.3 billion i11 2000, after peaking at almost $ 10.1 billion in 1998.

The Bank's operations cover the entire spectrum of economic and social development. In the past, Bank lending emphasized the productive sectors of agriculture and industry, the physical infrastructure sectors of energy and transportation and the social sectors of environmental and public health, education and urban development. Current lending priorities include poverty reduction and social equity, modernization and integration, and the environment.

During the 1960s the Bank was a pioneer in financing social projects such as health and education. The Bank has made an effort to see to it that its lending operations directly benefit low-income populations, Its innovative small projects Programmes seek to provide small financings to micro entrepreneurs and small-scale farmers and since 1990 the Bank has broadened its support to the informal sector. In recent years,' the Bank has financed sector reform loans and debt reduction programmes. In 1995, it began lending Up to 5 per cent of its ordinary capital resources directly to the private sector, without government guarantees,

The financial resources of the Bank consist of the ordinary capital, comprised account of subscribed capital, reserves and funds raised through borrowings and funds in

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administration, comprised of contributions made by member countries. The Bank also has a fund for Special Operations for lending on concessionals terms for projects in countries classified as economically less developed.

The Bank has borrowed funds for its operations from the capital markets of Europe, Japan, Latin America, Ule Caribbean and the United States. The Bank's debt is 'AAA' rated by the three major rating services in the United states, and is accorded equivalent status in the other major capital markets.

The Board of Governors is the Bank's highest authority, on which each member country is represented. Governors are usually Ministers of Finance, Presidents of Central Banks or officers of comparable rank. The Board of Governors has delegated many of its operational powers to the Board of Executive Directors, which is responsible for the conduct of Bank's operations.

Check Your Progress

2. When the EBRD was established?

The Banks, which headquarters is in Washington, D.C., has Country Offices in each of its borrowing member countries and in paris and Tokyo.

5.7 BASEL COMMITTEE AND THE ORIGINS OF INTERNATIONAL BANKING SUPERVISION

During the autumn of 1974, Bank of England Governor, Lord Richardson met his head of banking supervision George Blunden. They discussed the need for greater co-operation among bank supervisors and especially the Bank of England's requirement for more information from home country supervisors concerning the overall activities of foreign banks with branches and subsidiaries in London. At that time, banks did not present consolidated statements of their activities making it difficult, if not impossible, for supervisors in any single country including the home base, to assess the bank as a whole. Richardson decided to propose to his fellow central bank Governors that they establish a committee of banking supervisors which could have as its chief function the exchange of vital information.

At their monthly meeting in December 1974, the G-10 Central Banks' Governors, voted to support Richardson's idea, establishing the Standing Committee on Banking Regulation and supervisory practices now known informally as the "Basel Committee". The Basel

Committee was charged with the following tasks;

- ❖ general education about how banks were supervised within the member countries;
- ❖ information sharing to include the passing of "sensitive information" on banks to supervisors who were hosts to its branches.
- ❖ the establishment of an "early warning system" to detect problems within international banks;
- ❖ conducting studies on topics in banking supervision; and
- ❖ policy co-ordination in supervising international and consortium banks.

In sum, there was agreement that the basic aim of international co-operation in this field should be to ensure that no foreign banking establishment escapes supervision. The Committee's role has moved well beyond its early chapter and; now it stands at the center of international financial regulation.

BASEL CONCORDAT

In its earliest efforts at supervisory co-operation the Basel Committee looked upon banking regulation as a task that had to be shared between the home and host country.

This is evident in the first product of the committee, called Concordat, which was prepared in 1975, made public in- 1981, revised in 1983 in the wake of the Banco Ambrosiano scandal and revised again in 1997, in the wake of the BCCI collapse.

The concordat laid out the five following principles:

1. The supervision of foreign banking establishment should be the joint responsibility of host and parent authorities.

2. No foreign banking establishment should escape supervision, each country should ensure that foreign banking establishments, are supervised and supervision should be judged adequate by both host and parent authorities.

3. The supervision of liquidity should be the primary responsibility of host authorities, since foreign establishments generally have to conform to local practices for their liquidity management and must comply with local regulation.

4. The supervision of solvency of foreign branches should be essentially a matter for the parent authority. In the case of subsidiaries, while primary responsibility lies with the host authority parent authorities should take account of the exposure of their domestic banks' foreign subsidiaries and joint venture because of the parent banks' moral commitment in this regard.

5. Practical co-operation would be facilitated by transfer of information between host and parent authorities and by the granting of permission to the inspection by or on behalf of parent authorities on the territory of the host authority. Every effort should be made to remove any legal restraints (particularly in the field of professional secrecy or national sovereignty), which might hinder these forms of co-operation.

Check Your Progress

3. When the IDB was established?

THE REVISED BASEL CONCORDAT, JUNE 1983

The revised Concordat was released by the Committee in June 1983 under the title "Principles for the supervision of Banks' Foreign Establishments". From the outset, the document made clear that "its aims were quite limited". The report deals exclusively with the responsibilities of banking supervisory authorities for monitoring the prudential conduct and soundness of the banks' foreign establishments. It does not address itself to lender-of-last-resort aspects of the role of Central Banks". Furthermore, it stressed that the principles formulated were not 'laws"; instead they represented what the committee called "best practices".

General Principles governing the supervision of banks' foreign establishment

Effective co-operation between host and parent authorities is a central pre-requisite for the supervision of banks' international operations, In relation to the supervision of banks' foreign establishments there are two basic principles which are fundamental to such co-operation and which call for consultation and contacts between respective host and parent authorities ; firstly that no foreign banking establishment should escape supervision and secondly that the supervision should be adequate.

Aspects of the supervision of banks' foreign establishments

The supervision of banks' foreign 'establishment is considered from three different aspects; solvency, liquidity and foreign exchange operations.

Solvency:

The allocation of responsibilities for the supervision of solvency, of banks' foreign establishments between host and parent authorities will depend upon the type of establishments. For branches their solvency is indistinguishable from 'that of the parent bank. For subsidiaries the supervision of solvency is a joint responsibility of both host and parent authorities. For joint ventures the supervision of solvency should, normally for practical reasons, be primarily the responsibility of the authorities in the country of incorporation.

Liquidity:

The host authority has responsibility for monitoring the liquidity of the foreign hank's establishment in its country. The parent authority has responsibility for monitoring the liquidity of the banking group as a whole. For subsidiaries primary responsibility for supervising liquidity should rest with the host authority. Parent authorities should take account of any standby or other facilities granted as well as my other commitments, for example, through comfort letters, by parent banks to these establishments.

Foreign exchange operations and position:

These should be a joint responsibility of parent and host authorities. Host authorities should be in a position to monitor the foreign exchange exposure of foreign establishments in their territories and should inform themselves of the nature and extent of the supervision of these establishments being undertaken by the parent authorities.

The basic message of the new document was that home country supervision would be further strengthened through the continuing consolidation of bank statements and risk evaluations. The banks were to consolidate to the degree that supervisors could analyse the capital of the group, the quality of its worldwide assets, and its exposure to risk especially in its foreign exchange position. I11 those cases where the bank was unable to consolidate adequate information about a foreign operation (owing to, for example, secrecy laws) and where it could not rely upon the host authorities the home country supervisors "should be prepared to discourage the parent bank from continuing to operate the establishment in question".

NOTES

Home country supervision of international banking, was thus the fundamental principle that suffused the Basel Committee. Despite a number of international banking failures in which home country supervision appeared less than adequate the Committee did not recommend a supranational response to regulation.

BCCI AND AFTER

On July 5, 1996 the worldwide offices of the Bank of Credit and Commerce International (BCC1) were closed in a co-ordinilted shut down initiated by the Bank of England. Thel official investigation undertaken revealed that the bank was servirig as the hub of an international crime network, involved in money laundering and illegal trafficking in drugs and weapons.

Check Your Progress

4. What is LIBOR?

BCCI was a regulator's nightmare and its structure was expressly designed to escape consolidated supervision. The bank was headquartered in Luxembourg, operated out of London and owned largely by Abu Dhabi. "It spread globally like a virus, escaping the normal regulatory vaccines until an international effort was made to kill it".

BCCI was designed to hinder effective regulation. It engaged two auditors to examine the separate books of its subsidiaries and no consolidated accounts were made of the holding company. Although under the Basel Concordat principles the bank should have been regulated by the Luxembourg Monetary Institute (LMI), the vast majority of its operations occurred outside the small country; indeed the Luxembourg authorities admitted in a later testimony that "it was impossible to examine adequate consolidated supervision of a group 98 percent of whose activities fell outside its jurisdiction".

The Bank of England claimed that it was not the chief regulator of BCCI: that was the job of LMI. On the suggestion of British and Luxembourg officials, the members of the Basel Committee took the extra-ordinary step of forming a "College of Regulators" in 1987, with the objective of trying to gain a larger view of BCCI's operations. With the closure of the bank in July 1991 'the Committee reviewed its experience not only with the college concept but also with the Basel Concordat. Both were found wanting.

The lesson that the Committee drew from the College of Regulators was that it "is not a full substitute for a clearly designed lead supervisor who can effectively monitor it worldwide. Much has been made of the opaque structure of BCCI as an impediment to

effective supervision. From now on supervisors will be increasingly wary of any major banking group which is structured in a way which makes consolidated supervision difficult to achieve".

The College fell victim to the classic problem of collective action. As auditor Price Waterhouse said "In our experience of dealing with the College each regulator tended to focus on its own domestic concerns rather them accepting full Collegiate responsibility".

LESSONS FROM BCCI

The BCCI affair prompted reconsideration of changes in the domestic supervisory practices of overseas banks in UK, immediately followed by India.

1. Host country to have the following in place:

a) The Bank, Central Bank of the country to extend on-side supervision.

b) The Bank to devote more resources to search for fraud.

c) A duty to be imposed on auditors to report suspicion of fraud or malpractices to the Bank.

d) Overseas banks to be subject to a full-scope review by reporting accountants on an annual basis.

e) "Minimum criteria" for authorization to be strictly interpreted.

f) The Bank, if necessary, to be given an explicit power to refuse or revoke authorization on the ground that the applicant or bank cannot be effectively supervised because of the group's structure.

g) Co-operation and co-ordination between the Bank and other non-regulatory public bodies to be enhanced.

***2.* Other International Arrangements:**

a) Supervisory standards to be subject to independent monitoring

b) International supervisory co-operation to be enhanced.

c) The problem of bank secrecy provisions to be tackled.

In the aftermath of BCCI, the United States acted to strengthen international banking supervision, in two fundamental ways; fist, it demanded consolidated 'home' country supervision as the basis for foreign bank entry into the USA, second, as a powerful host country, it reserved for itself the right to grant banking licences and to determine safe and sound banking practices. With the former it continued a trend that has long been in evidence among supervision - namely the trend towards emphasizing home country control. But with the latter. it enhanced the power of the Federal Reserve over other government agencies in banking regulation, the central bank had become primus inter pares on banking matters. Thus the US model balanced home country control with host country supervision.

THE NEW CONCORDAT 1992

The 'new' Concordat, released by the Basel Committee in June 1992, articulates the following principles of international banking supervision:

1) All international banking groups and international banks should be supervised by a home country authority that capably performs consolidated supervision.
2) The creation of a cross-border banking establishment should receive the prior consent of both the host country supervisory authority and the bank's, if these are different from the banking group's home country supervisory authority
3) Supervisory authorities should posses the right to gather information from the cross border banking establishments of the banks or banking groups for which they are the home country supervisor.
4) If a host country authority determines that any of the foregoing minimum standards is not met to its satisfaction that authority could impose restrictive measures necessary to satisfy its prudential concerns consistent with these minimum standards, including the prohibition of the creation of banking establishments. The direction that the banking regulation has taken after each crisis has remained remarkably consistent, namely an increased emphasis on home country control. During the 1970s and early 1980s home country control was enhanced through consolidated supervision and information sharing among regulators; in the late 1980s and early 1990, regulations would be strengthened through the articulation of minimum regulatory standards in

areas such as capital adequacy that bank's home country was expected to monitor. Following the collapse of BCCI new rules for defining the home country were implemented by the Basel committee re emphasising home country controls, but at the same time strengthening the role of host country supervisors.

5.8 LIBOR

The Most Popular Rate

A large volume of Eurodollar lending involves the London Interbank Offered Rate. LIBOR can be defined in two ways:

i) The rate at which funds are offered to a first class bank in London for specific maturity period;

ii) The rate at which a first claw bank in London offers funds to another first class bank in London;

The LIBOR rate attempts to measure the cost td, a bank of raising new funds from the market in order to re-lend. This is the basis of almost all variable (or floating) rate lending in the Euro markets, 11, view of its importance, it must be stressed that the LIBOR concept is purely judgmental e.g.: 3-month LIBOR for US$ 1000 million will very likely differ from 3-molilh LIBOR for US$ *5* million.

We are considering the dealers judgment of what it would cost t o raise thatamount for re-lending. It may well be that it is judged that it will cost more to raise the larger amount, because it will move the market against the dealer.

Hence, normal practice for any given loan is to calculate LIBOR as an average of the rates quoted by several "reference banks" selected for this purpose.

Libor is usually fixed at a time specified (normally I I am Lolldo11 time) and invariably specified in lending/ borrowing agreements. It is quoted for deposits starting from the spot date for various periods, of which the most common are 3 and 6 months.

When two top rated banks arrange an inter bank transaction, the interest rate that I is agreed for a loan and deposit wi 11 often be somewhere between the LIBOR and the LIBID, and possibly the average of these two rates which is referred to as LIMEAN as a reference rate for their inter bank transactions,

The LIBOR convention has spread in various variations these include:

"Sibor" [Saudi Or Singapore interbank Offered Rate]

"Nibor" [New York Interbank offered Rate]

"Kibor" [Kuwait Interbank Offered Rate]

/ "Pibor" [Paris Interbank Offered Rate]

"Fibor" [Frankfurt Interbank Offered Rate]

"Dibor" [Dubai Interbank Offered Rate]

"Hkibor" [Hong Kong Interbank Offered Rate]

"Mibor"'[Madrid Interbank Offered Rate]

"Mibor" [Mumbai Interbank Offered Rate], and so on;

In all cases the concept attemptsat0 measure a bank's cost for a loan. It is quite Possible to apply the concept to other Euro deposits or domestic deposits *e,g,:* many domestic UK loans are linked to sterling LIBOR.

A deposit ill the Euro market, (unless otherwise stated), will begin on the spot date [i.e.: two business dayş from today). A period deposit is defined as a deal starting on the spot date and maturing on some fixed and predetermined date. The phrase "the periods" usually refer to some or all of tlle standard periods of 1,2,3,6,9 or 12 months.

With in the Euro markets, the Eurodollar is the foremost source of international finance. However, as confidence grew, other currencies gradually became available and the market started to permit borrowers to change the currency of outstanding periodically during the life of the loan, thereby creating a multicurrency option.

The biggest thrust to the Eurodollar market occurred during the early 70's where the oil prices quadrupled over a short period of time. Some of the oil producing countries [OPEC] did not have the capacity to deploy the revenues immediately in their domestic markets. International banks therefore became recipients of massive dollar deposits (petrol dollars) from these countries and in turn were forced to rapidly look for suitable borrowers. Not surprisingly, the oil importing countries were faced with huge deficits on account of large increases in oil prices. As a result, these sovereign importers became the borrowers that the banks were so actively seeking. A cycle, therefore, developed with the oil producing countries generating unprecedented surpluses on the oil account and

depositing a substantial proportion of these revenues with international banks who lent the money to the oil importing countries to pay their bills to oil producers.

With rapid development f Euro markets in "offshore" centers, strong resentment developed in a number of large banks in the United States and Japan on account of a loss of business at domestic centres, which was being diverted to the Euro market centres, The Central Bank [Federal Reserve] authorities in the US and Japan permitted Eurodollar business to be transacted "onshore", i.e. within therespective domestic markets. The International Banking Facilities [IBF] in New York (domestic market for the dollar), a dollar deposit with an IBF in New York is in fact a Eurodollar, because it is exempt from Federal Reserve requirements. The key determining factor of whether a dollar deposit is or is not a Eurodollar is whether or not it is exempt from domestic reserve requirements'

5.9 SWISS BANKING PRACTICES

Popular fiction has created a belief that the anonymous numbered account is the centerpiece of the Swiss banking industry. In truth, Swiss banking is known worldwide for its stability, security and careful management of investments and assets; privacy and confidentiality are – to a large extent – a relatively modern occurrence.

The "Secret" of Swiss Banking

The key to the success of Swiss banking is the country's neutrality, established in the late 1800s and respected by both sides of the conflict in World War I and II. To this day, Switzerland remains politically and economically neutral: it is not a member of the European Economic Union (EU) or the European Economic Area, and was not even a member of the United Nations until 2002.

Switzerland's strict neutrality (bolstered by national attitudes and its military capabilities) has fostered a stable environment which allowed Switzerland's economy to grow and prosper, and establishing the country as the safest place for deposits and investments. The Swiss Franc, for example, has long been considered the world's most stable currency unlike the US dollar or even the British pound, which have undergone major fluctuations in value over the years.

Currently, an estimated 2.2 trillion US dollars in offshore funds (or monies kept outside their country of origin) are handled by Swiss bankers, equivalent to a third of all offshore funds worldwide. As of 2003, 14 percent of Switzerland's Gross Domestic Product comes from the financial sector, employing almost 5.6 percent of the workforce (or 180,000 people).

Safety in the Swiss banks

Swiss banks, and Switzerland itself, have a reputation for conservative, prudent financial management. There is a minimal government insurance for small, personal bank deposits. Because of the importance of the banking industry to the overall Swiss economy, any sort of financial crisis in the banking sector would receive the full attention of both the entire Swiss banking industry and of the Swiss government. But in such a situation, there is no way to predict, or even really speculate, on what actions would be taken.

Services of Swiss Banks

Some banks specialize in only a few banking services, whereas others provide a wide range. As in most of continental Europe, individuals usually buy and sell stocks and bonds through their banks. The Swiss banks collectively have a long reputation for managing investment portfolios for their clients, and providing other services such as estate planning, wealth management, trust companies, etc., for individual customers.

Swiss bank secrecy

Banks in most countries are prohibited from divulging information about their clients, and the provisions of the Swiss law follow the same lines. Swiss law is especially strict on any breech of confidentiality, whether in banking or in other commerce. The banking act adds a special section (introduced in 1934, in order to protect accounts of Germans, especially German Jews, from Nazi confiscation) which makes it a criminal offense, with the possibility of an individual going to jail, for the bank or its employee or agent to improperly divulge any confidential information. These portions of the banking law have been interpreted, both in practice and by the courts, to make it a serious offense

to divulge any information about a bank customer to any third party, including official requests of foreign governments, unless very specific criteria have been met. Swiss bank secrecy is reinforced by a constant awareness of the seriousness of the bank's obligation to maintain confidentiality, starting with bank employees having to sign the secrecy portion of the banking act as a condition of employment. Both individuals and the banks are prosecuted if a lapse is discovered; this keeps awareness of bank secrecy high and and lapses rare. While this culture of absolute discrection is integral to the Swiss banks, the branch offices outside of Switzerland must operate according to the laws of countries in which they are located, which may not provide so much protection.

The perception that Swiss bank secrecy provides a means of hiding criminal activity is, and has been for many years now, largely myth. Banking secrecy is not a protection from criminal investigations, and Swiss legal authorities routinely cooperate with their foreign counterparts in such matters. The general rule is that an activity which both the foreign government and Switzerland consider a crime will result in cooperation, including Swiss authorities examining bank account transactions.

The perception that Swiss bank secrecy can be used to hide criminal activity is due to many factors. Partly it is an historical relic; prior to the 1980s, there were a number of financial activities which Switzerland did not consider criminal, but which many other countries did. Today, Switzerland's financial legislation is quite similar to that of most other OECD countries, and financial crimes in one jurisdiction are likely to be considered criminal in Switzerland. Partly it is due to the difficulty having enough information to make a request; "fishing expeditions" cannot be done. This is quite similar to both internal and international practice in most countries, but can be used as a convenient excuse by frustrated criminal investigators. And partly it is due to specific differences in criminal law; in particular, the legal definition of what constitutes a tax crime varies considerably from country to country.

Inheritance, divorce, and civil tax matters present special problems vis-a-vis banking secrecy because these are civil rather than criminal matters. The web site at www.switzerland.isyours.com has more information and includes links to sections of the

relevant legislation. How to deal with tax matters which foreign governments consider a crime but which Switzerland considers a civil offense is under active political discussion at present (spring 2009).

Numbered accounts

Numbered accounts (or pseudonym accounts) are not very different from normal bank accounts. The usual account records omit reference to the customer's name or other identifying information, replacing it with a code number or the pseudonym. The relationship between the code number or pseudonym and the actual customer is known only to a few senior managers and their secretaries within the bank. It is important to emphasize that a Swiss bank has an obligation to know the true identity of both the account holder and its beneficial owner, and that there is no such thing as an anonymous account. Because of the constant awareness and strict enforcement of bank secrecy, there is actually little need for numbered accounts, and it should be noted that they incur additional overheads for the bank (it is more difficult to validate transactions to and from such accounts). For all these reasons, the stories one reads about anonymous, numbered accounts are legfiction.

Opening an account in Swiss bank

Contact the bank with which you want to do business and get their conditions for opening an account. Small accounts are expensive to maintain, and for non-residents many banks have a hefty minimum deposit requirement. We continually hear rumors that this or that bank will open non-resident savings accounts with an initial deposit of Fr. 5,000, but this is rumor and we don't monitor initial deposit requirements (which a bank may change at any time); most Swiss banks have much higher minimum deposit requirements for non-residents.

Swiss laws designed to prevent money-laundering are very strict. The Swiss bank is *required* to know its client sufficiently well to ensure that the funds being placed on deposit are unlikely to be coming from illegal activities. Opening an account on behalf of someone else is very tightly regulated, and those allowed to open such accounts must

meet the same requirements as banks with respect to knowing the client. While each bank may set its own internal policies to ensure compliance with the money-laundering legislation, most banks require a personal interview before opening an account. The standard policy is therefore to interview the client at the bank's offices in Switzerland, make copies of identity documents (passport) and any other relevant informaiton, and discuss how the account will be used and the source of funds. Ony after evaluating this information will the bank decide whether to accept someone as a client. We advise extreme caution before becoming involved with a Swiss bank without going through these formalities.

Non-residents are, of course, subject to their own country's legislation with respect to foreign bank accounts. While there is no Swiss legal restriction which prevents any non-Swiss from opening an account with a Swiss bank, residents of some countries may be prohibited by their own country from having such an account. But a Swiss bank is not under an obligation to accept a client, and a number of factors will be considered in deciding whether to accept a new client. In particular this will include whether what the potiential client wants to do is legal, particularly whether there is even a hint that the new client may be laundering money. Some countries have a reputation for suspect activities and a Swiss bank therefore may have a blanket policy of not accepting new clients from that country. Another problem can be that a country has legislation which is in conflict with Swiss law and which can put the bank in an impossible position of conflict; clients from such a country may not be accepted for this reason (many Swiss banks put the USA into this category, particularly if they have their own offices in New York). All of this means that non-residents will find opening a Swiss bank account more-or-less difficult, depending on their particular residency, even when as an individual they would be a desireable client.

What is the latest information about Holocaust and other dormant accounts?

There is no federal law in Switzerland governing the disposition of dormant accounts. In general, when a client has not been heard from for a number of years, the bank declares the account dormant. What happens then depends on a number of factors, including the laws of the canton in which the account was opened and any specific

instructions the client may have given the bank for such an eventuality. Most business records in Switzerland, which includes all transactions in bank accounts, must be retained for 10 years; if an account is closed, there is therefore likely to be no record of it at all once 10 years has gone by. Small accounts may vanish because annual charges exceed any interest income, resulting in a zero balance and automatic closure; if there is then a wait of 10 years before looking, there won't even be any trace of the account. In researching a suspected lost account, the most important information is the name of the bank which held the account; if that is known, the bank should be contacted directly with as many details of the case as are known, and they will advise on the correct procedure. However, bank secrecy prevents them from answering the question "did X have an account with you"; such questions are routinely refused.

If the bank is not known, the search is obviously much more difficult. The Swiss Bankers Association has an office which, for a fee of Fr. 100, will attempt to trace dormant accounts when the bank is not known (Swiss Banking Ombudsman; Bahnhofplatz 9; Postfach; 8021 Zürich; Switzerland; Tel. (+41) 43 266 14 14; Fax. (+41) 43 266 14 15; e-mail is not available). As explained above, no guarantee of success can be given for such searches. This office, which may also be addressed as as the Swiss Banking Ombudsman, will consider all requests once the 10-year period has passed (hence in 2009 they will consider requests for accounts which have been inactive since 1999).

If the account has been dormant since 1945, bank secrecy has been eased somewhat and the procedures are different. Names of account holders for unclaimed accounts dating from the 1933-1945 period have been published; more information can be found at http://www.dormantaccounts.ch. Note that these lists contain only those accounts which have been dormant since the end of World War II, so accounts which had activity in the period immediately after the war will not be included. There is no way for the Swiss banks to know why an account has been dormant for so long, but since the initial publications in 1997 it has been determined while many belonged to Holocaust victims, others belonged to known Nazis, and some remain to be linked to anyone. While

there are a few accounts with substantial balances, the vast majority of these old accounts are rather small.

5.10 ANSWERS TO CHECK YOUR PROGRESS

1. Banking is a financial institution where various services and facilities are offered to the people keeping in mind the needs, market conditions and other factors.
2. The European Bank for Reconstruction and Development (EBRD) was established in 1991.
3. The Inter-American Development Bank (IDB) the oldest and largest regional multilateral development institution. It was established in December of 1959.
4. LIBOR means that the London Interbank Offered Rate.

5.11 REVIEW QUESTIONS

1 State the Banking Practices of European Banks

2 What you understand about Large Banking Centers

3 Write a note on Japanese Banking system

4 What you understand by American Banking System

5 Briefly explan the Basel I and Basel II guidelines

6 Write a short note on LIBOR

7 Explain the special features of SWISS Banking Practices

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UNIT VI

EXCHANGE RATES

NOTES

UNIT STRUCTURE

6.1 INTRODUCTION

The foreign exchange rate is the rate at which one currency (say, Re) is exchanged for another (say dollar). It is the price of one currency in terms of another currency. It is customary to define the exchange rate as the price of one unit of the foreign currency in terms of the domestic currency. The exchange rate between the Rupee and the dollar refers to the number of Rupees required to Purchase a dollar. For example, the exchange rate between the Rupee and the Dollar from the Indian view point is expressed as Rs. 45.50 $ 1, on a particular day.

NOTES

6.2 OBJECTIVES

This chapter gives idea about the Exchange Rate Systems, Fixed Vs Floating Exchange Rates Systems, Determinates of Exchange Rates, Exchange Controls, Gold Standard and Bretton Woods

6.3 EXCHANGE RATE SYSTEMS

Check Your Progress

1. What is exchange rate?

By definition, exchange rate is the price of one currency in terms of another currency, i.e., number of units of domestic currency that can be exchanged for one unit of foreign currency.

The demand for foreign currency arises when a country imports goods and services from another country. For example, when an Indian tourist visits the US, there is a need to exchange Rupees for US$. Similarly, when a domestic firm imports (raw material or machinery) from another country or when investments are made abroad foreign exchange is required.

The supply of foreign currencies takes place when a country exports its goods and services. For example, when a foreign tourist visits India (i.e., export of tourism services) foreign currency is exchanged for domestic currency. Similarly, when a domestic firm exports to a firm in another country, foreign currency flows into the country.

Putting together, a country pays for its imports of goods and services from the foreign exchange earnings of exports. Thus, if the total demands for foreign exchange exceeds the total foreign exchange earnings, the rate at which currencies exchange for one another will change. Thus, the demand for and supply of foreign currencies will determine the *exchange rate*. If the value of one currency (in terms of another) increases, then the currency appreciates. On the other hand, if value of the currency decreases, the currency depreciates. For example, assume the exchange rate between Rs. and $ to be Rs. 40/$. If the exchange rate changes to Rs. 45/$, then rupee is becoming cheaper relative to $, hence rupee is depreciating against $. Similarly, if the exchange rate changes to Rs. 35/$, then rupee is becoming dearer relative to $, hence rupee is appreciating against $.

There are three types of exchange rate systems, viz. floating, flexible, and fixed. *Floating rate* is a system where the exchange rates are determined by the conditions of demand for and supply of the foreign exchange in the market. The rates fluctuate freely in

line with the demand and supply without any restrictions on buying and selling. Under this rate no par value is declared.

Flexible rate is a system where the exchange rate is fixed but is frequently adjusted in line with the market conditions. Under this system there is better confidence and liquidity, and gains from free trade.

Under *the fixed exchange rate system,* the exchange rate is kept relatively fixed. The most well known is the system of gold standard. Under this system, the monetary authority (In India it is the RBI) of each nation fixes the price of gold in terms of its currency. Each nation is ready to buy and sell any amount of gold at that price.

Thus, a relationship called *mint parity* is established between the currencies of two countries. A relatively fixed or pegged exchange rate system, without any connection to gold, is also possible.

Now a day, the gold standard does not exist and due to this the fixed rates refer to maintenance of external value at a predetermined level. Whenever the rate differs with this level, it is corrected through official intervention. A fixed rate may help in promotion of international trade and investment and facilitates long range planning. It prevents speculation.

6.4 DETERMINANTS OF EXCHANGES RATES

The foreign exchange rate in the market is the result of the combined effect of multiple factors which are constantly at play. The details of these factors are:

Balance of Payment:

Whenever the balance of payment is surplus, it shows that the demand for the currency in the exchange market is higher than its supply and currency gains in value and vice versa.

Inflation:

With inflation the composition of the products being manufactured in a country, the exports decrease and demand for currency would also decline which will in turn reduce the external value of the currency.

Check Your Progress

2. What is meant by *Floating rate?*

Interest Rates:

The increase in interest rates attract short term funds from abroad and increase the demand for the currency at the centre and its value. Hence the increase in interest rates results in increase in the value of the rupee.

Money Supply:

The increase in money supply in the country causes inflation and which leads to decline in the value of the local currency.

National Income:

Increase in national income reflects increase in the income of the residents leading to higher demand for goods and higher production which may lead to higher exports also. Since there is time gap between the production and demand for goods, there could be possibility of inflation and its resultant impact on the change in the exchange rate.

Movement of Capital:

Better investment climate and political stability may encourage portfolio investments in the country leading to higher demand for the local currency and upward trend in its rate.

Political Stability:

It induces confidence in the investors and encourages capital inflow into the country which has the effect of strengthening the currency of the country. Similarly the economic policies pursued by the government have an influence on the exchange rates.

Foreign Exchange Quotations

Foreign currency in foreign exchange dealings is considered as a commodity and all transactions involve purchase and sale. Exchange quotations come under two categories i.e. direct quotations and indirect quotations. In India, w.e.f. August 2, 1993, the system prevalent is of direct quotation.

Direct Quotation:

In a direct quotation, there is a variable unit of the home currency and fixed unit of the foreign currency. When it is quoted that I US $ = Rs. 45.10, it is a direct quotation. With a view to make profit, the rule followed or quotation is buy low and sell high. For instance, if the US $ is purchased at Rs. 45.90 and sold at Rs. 46. 10, there will be gain to

the dealer. By buying low, the dealer will be required to pay lesser units of home currency and by selling high; he would receive more units of home currency.

Indirect Quotation:

In an indirect quote, there is fixed unit of home currency and a variable unit of foreign currency. When Rs. 100 = US $ 2.04 is quoted, it is a case of indirect quotation. The principle followed in indirect quotation to earn profit is to buy high and sell low. By buying high, the dealer will get more US $ per Rs. 100 and by selling low he would have to part with lesser US $.

Two way Quotations:

Banks quote two rates in foreign exchange quotation out of which one is for buying and the other is for selling. For instance, when the quotation is US $ 1= Rs. 45.90-46. 10, the buying rate on the basis of principle of buy low and sell high, would be Rs. 45.90 and the selling rate Rs. 46.10. The buying rate is also called a 'bid rate' and the selling rate as 'offer rate'.

Spot Transactions and Forward Transactions:

In a contract, the actual payment in rupees and receipt in say US $ may take place on the same day, two days later or a month later. When the payment in rupees and receipt in US $ takes place on the same day, it is called a cash transaction or value today. When the payment in rupees and receipt in US $ takes place after some time (due to time involved in administration of the transaction), say two days later, it is called a spot transaction. When the payment in rupees and receipt in US $ takes place on some predetermined future day, it is called a forward transaction. A forward contract for delivery two months means the exchange of currencies shall be completed after two months from the date of contract.

Major Buying and Selling Rates

Depending upon the time taken in realisation of foreign exchange purchased by the bank, (say (a) instantaneously, in case of purchase of drafts issued by correspondent bank, which must have credited *nostro* account at the time of issue of the draft or (b) with delay of some time, in case of purchase of foreign bill, which will be collected by the foreign correspondent and then the proceeds credited to *nostro* account), the two as of buying rates are quoted by banks in India which are called TT buying rate and Bill

NOTES

Check Your Progress

3. What is meant by *Flexible rate?*

Buying Rate. Similarly for sale transactions also, TT selling rate and bill selling rates are quoted.

TT Buying Rate:

When no delay is involved in realisation of the foreign exchange by the bank or Nostro account is already credited, TT Buying rate is applied which is calculated after deducting the exchange margin from the inter-bank buying rate, determined by the bank. The rate is generally applied for payment of demand drafts, mail transfers, foreign bill collected or cancellation of foreign exchange already sold earlier.

Bills Buying Rate:

When some delay in realisation of foreign exchange by the bank is involved, say in case of purchase of bill drawn on a customer in London, when nostro account is credited after collection of the bill by the correspondent bank in London, bill buying rate is applied. Such rates are calculated by adding the forward premium for transit and usance period, rounded off to lower month (or reducing the forward discount rounded off to the higher month) and reducing the exchange margin from the spot buying rate.

TT Selling Rate:

When handling of documents by the bank is not involved (say, in case of demand drafts, mail transfers, etc, or there is cancellation of foreign exchange purchased earlier), TT selling rate is to be applied which is calculated on the basis of inter bank selling rate by adding exchange margin.

Bills Selling Rate:

When transactions involve handling of documents, such as payment for import documents, bills selling rate is applied, which is calculated by adding exchange margin to the TT selling rate.

Currency Accounts:

For undertaking foreign exchange dealings, banks in India maintain accounts with banks outside India and some foreign banks also maintain accounts with banks in India. These accounts may be Nostro, Vostro or Loro Accounts.

Nostro Account (*our account with you*): It is an account maintained by a bank in India (say SBI) with a bank abroad (say Citibank, New York). This account would be US dollars during the course of its correspondence with the foreign bank; SBI would refer the

said account as Nostro Account. All transactions in foreign exchange (such as issue of bank draft, collection of bills abroad) are routed through the nostro accounts.

Vostro Account (*your account with us*):

When a foreign bank (say Citibank, New York) opens a rupee account with a bank in India (say SBI, in Mumbai) and if the SBI has to correspond with Citibank, New York, SBI would refer this account as Vostro account. It is important to understand that the effect of all credits to Vostro accounts amounts to remittance of foreign currency from India to the country of the bank maintaining the Vostro account and debits to Vostro account mean inflow of foreign exchange from the country concerned into India. Hence, while debiting or crediting a Vostro account, rules and regulations governing remittance of foreign exchange into and from India have to be taken care of.

Loro Account (*their account with you*):

If a bank in India (say SBI) has an account with Citibank, New York and another Indian bank say, Bank of Baroda wants to refer to that account while corresponding with Citibank, New York, it would refer the said account as Loro account.

Mirror Account

The account of a foreign bank, as maintained in the books of a bank in India is called *Mirror* or *Shadow account*. It is the exact copy of the entries in *Nostro* Account. In this account, the bank in India records entries for each transaction both in foreign exchange and in Indian rupees. While the foreign currency, credits the nostro account and debits it when making sale, in the mirror account, the purchase shall be debited and sale will be credited. The mirror account is just like a cash book maintained by a firm for a bank account where any deposit by the firm is debited in bank account in the books of the firm and credited by the bank in the account of the firm, in its books and *vice versa*.

6.5 FLEXIBLE EXCHANGE RATE OR FIXED EXCHANGE RATE

Exchange rate can be determined either by market forces (i.e., supply of and demand for foreign currency or by the government. Accordingly we have flexible exchange rate or fixed exchange rate.

Fixed Exchange Rate

In a fixed exchange rate system, the government of a country can peg its currency to the currency of another country. It is normally done in a case where the other currency

accounts for a sizeable trade with that country. The currency of Bhutan is, for example, pegged to Indian rupee.

A currency can be pegged to a basket of currencies. Indian rupee was, for example, pegged to a basket of five currencies prior to 1993. The reason is that the appreciation and depreciation of currencies in the basket make the weighted average comparatively stable.

A few currencies were pegged to SDRs when the latter was more stable. But now no currency is pegged to SDRs. Sometimes pegging is a legislative commitment that 'is often known as the currency board arrangement. The currency board pegs the domestic currency to another nation's currency and buys and sells foreign currency reserves in order to maintain the parity value. Again, it is a fact that the exchange rate is fixed in case of pegging, yet it fluctuates within a narrow margin of +/- 1.0 per cent around the central rate. On the contrary, in some countries, the fluctuation band is wider and the arrangement is known as pegged exchange rates within horizontal bands.

Floating Exchange Rate

Floating exchange rate is determined by the market forces of supply and demand. A particular currency is subject to fluctuations depending upon the changes in the demand and supply positions. Suppose the exchange rate between Indian rupee and the US dollar is determined by the demand for, and supply of, US dollar in the foreign exchange market. If dollar experiences greater demand, the value of dollar vis-a-vis Indian rupee will appreciate; or in other words, Indian rupee will depreciate vis-a-vis US dollar. On the other hand, if supply of US dollar increases, the reverse will be the case.

Floating rate system may be either independent or it may be managed. Theoretically speaking, there is no intervention by the central bank of a country in case of the independent floating. On the contrary, it does occur in a managed floating rate system. But the experiences show that intervention is a common phenomenon irrespective of the system being independent or managed. It is because of this fact that the IMF gives a clarification. If the purpose of intervention is to moderate the exchange rate and to check undue fluctuation, it will be an independent floating. But if the central bank intervenes to establish a level for the exchange rate, this will be a case of managed floating.

Now the readers must be anxious to know what is intervention. It is nothing but the sale and purchase of foreign currency by the central bank in the foreign exchange market in order to influence the demand and supply positions of the foreign currency and thereby to influence its value vis-a-vis the domestic currency. So if the Reserve Bank of India sells US dollar in the foreign exchange market, the supply of dollar will increase and rupee will appreciate vis-a-vis dollar. If it buys dollar in the market, demand for dollar will increase and rupee will depreciate vis-a-vis dollar.

Check Your Progress

4. When the FEMA is passed?

Crawling Peg

Crawling peg is a compromise between fixed rate and floating rate regimes. The government maintains a fixed rate regime but devalues/re-values the currency periodically in order to keep the exchange rate abreast with the floating rate. With such adjustments, any difference between the real and nominal exchange rates does not last longer.

Target-zone arrangement is found in case of countries forming some kind of regional monetary union. The intra-union exchange rate is fixed through the help of a common currency, although the member countries do have their own currency. This was the case with the EMU prior to 1999 when the European Currency Unit was the common currency. But the target-zone arrangement may take another shape when a single currency is in circulation throughout the union substituting the member countries' currency. In fact, this is now the case with the EMU.

6.6 FIXED RATES VERSUS FLEXIBLE RATES

After delineating the features of the fixed and the floating exchange rate regimes, it would be worthwhile to pinpoint which one of the two is more suitable. The advocates of the floating rate argue that:

1. The exchange rate changes automatically with the changes in the macro-economic fundamentals. As a result, there does not appear any gap in the real and the nominal exchange rates. The economy remains free from any ill effects of the emergence of such a gap.

2. The floating rate regime possesses insulation properties meaning that the currency of a country is not influenced by the changes in the macro-economic fundamentals in the other country. In other words, currency shocks emanating in one country does not permeate to other countries.

The arguments do have reasoning but any large-scale fluctuation in the exchange rate depending upon changing macro-economic fundaments and the psyche and behaviour of the participants in the foreign exchange market cannot be ruled out. MacDonald (1988) finds that the exchange rate changes among the countries on floating rate during 1973-85 were much more volatile than the changes warranted by the fundamental monetary variables.

Again, the insulation properties too are absent in many cases. Dunn (1983) finds that when the USA was pursuing tight monetary policy through raising the interest rate, the European countries had to raise interest rate so as to prevent large-scale capital outflow.

Yet again, the floating rate may not be suitable for many developing countries in view of their weak economic structure. It is our experience that the currency with weak economic support often tends to depreciate vis-a-vis strong currencies.

6.7 FACTORS AFFECTING FLEXIBLE EXCHANGE RATE

Shifts in the demand and supply schedules for foreign currency take place on account of a number of factors. Some of them are enumerated below. If economic growth in India increases relatively to the US, then Indian demand for US goods increases (imports rise). It shifts the supply schedule of Indian rupees to the right thereby depreciating rupee as against the dollar.

Second, if the inflation rate in India rises faster than that in the US, imports become cheaper. It leads to more imports resulting in supply schedule of rupees shifting to the right thereby depreciating the rupee against the dollar.

Third, if interest rate in India increases relative to that in the US, capital inflows rise. With an increase in demand for investment in demand, the demand schedule (for rupees) shifts to the right resulting in rupee appreciating against the dollar.

Fourth, expectations also affect the exchange rate. Speculations about interest rates, growth rates, etc. influence the supply and demand forces, which in turn, influence the exchange rate.

6.8 EXCHANGE RATES SYSTEM IN INDIA

Purchase Transactions & Sale Transaction:

An authorised dealer makes purchases of foreign currency and also sells it. When a dealer purchases foreign currency it is always referred to as a purchase transaction for foreign currency concerned. Encashment of a travellers' cheque by a bank, is a purchase transaction as in such transaction, the bank acquires foreign currency and parts with the home currency.

On the other hand, when a bank sells foreign currency it acquires home currency and parts with the foreign currency. Issuing of a travellers' cheque is a sale transaction.

Selling Rate and Buying Rate:

To keep a margin between the rate for sale and purchase, the banks quote two different rates, i.e., selling rate (at which banks sell foreign currency) and buying rate (at which banks buy foreign currency).

Intervention Currency:

Historically Indian Rupee used to be linked to Pound Sterling till 1970s, for historical, reasons, but w.e.f. September 25, 1975, rupee was linked to a basket of currencies and these currencies are to those countries with which India is a major trading partner. However Pound Sterling was an intervention currency till 1987 when US Dollar also came into picture.

Liberalisation:

During 1991 there was devaluation of rupee in two stages and w.e.f. March 1, 1992 Liberalised Exchange Rate Management System (LERMS) was introduced. Resultantly all foreign exchange transactions are put through by Authorised Dealers (ADs) at market determined rates of exchange. All foreign exchange receipts are to be retained by ADs without surrendering to RBI and all foreign exchange receipts and payments are regulated by Exchange Control.

Direct Quotation:

From 1993 dollar has been the intervention currency and the method of quotation has been changed to direct method w.e.f. August 1, 1993. Accordingly RBI transacts in the exchange rates without the need for RBI going to the overseas markets for cover operations.

6.9 EXCHANGE CONTROL REGULATIONS (ECR)

Exchange control was first introduced in India on Sep 3, 1939 at the time of 2nd World War by Virtue Of Powers derived from Defence of India Rules. Subsequently, it was placed on statutory footing through Foreign Exchange Regulation Act, 1947 and then during 1973 it was consolidated.

Objectives of ECR are:

- ❖ conservation of foreign exchange;
- ❖ proper accounting of foreign exchange receipts and payments;
- ❖ stabilising the external value of the rupee;
- ❖ to Prevent flight of scarce capital by control over remittances abroad and supervision of accounts of non-residents, so that the balance of payments deficit does not occur or does not worsen;
- ❖ to check smuggling;
- ❖ to fulfill IMF obligations.

Exchange Control regulates different kinds of transactions including: a purchase and sale and other dealings in foreign exchange:

- ❖ Procedure for realisation of proceeds of exports;
- ❖ Payments to non-residents or to their accounts in India;
- ❖ Transfer of securities between residents and non-resident and acquisition and holding of foreign securities;
- ❖ Export and import of currency, cheques, drafts, travellers cheques and other financial instruments;

Forms of Exchange Control

Exchange control may be affected in various forms such as exchange rate interventions, exchange restrictions, bilateral settlement of mutual claims (called direct

methods) and indirect methods such as import restrictions and tariffs, export subsidies and interest rate changes etc.

i) *Exchange Intervention*:

It is a system where the government of a country or any of its agency including the Central Bank practices buying and selling of the foreign exchange in the market to influence the rate. It is normally an attempt to reduce the effect of demand and supply on the rate of foreign exchange and keep the rate relatively stable or even fixed. When the rate is kept above the free market rate, with such interventions, the currency is said to be pegged up and when the rate is artificially kept lower than market rate it is called pegged down.

ii) *Exchange Restriction*:

It is a system where the supply of the foreign currency is restricted by centralising the trading with the government or any of its agencies, asking public to obtain prior permission of the government for any demand for foreign currency.

iii) *Blocked Accounts*:

It is a system where the foreigners are denied the conversion of the foreign currency into their own currency and all payments to a foreign country are made by the residents through the Central Bank of the country rather than directly. The Central Bank in such a system keeps the amount with it in the name of the foreign creditor, which can be used by him for making purchases from the concerned country only. In such circumstances, the creditor either makes use of the money by importing from the country which has blocked the account or makes the payment to the local exporter.

6.10 FOREIGN EXCHANGE MANAGEMENT ACT

The parliament passed the Foreign Exchange Management Act 1999 (FEMA) on December 02, 1999 to replace Foreign Exchange Regulation Act 1973 (FERA), to deal with foreign exchange matters. The Act has been notified to come into effect w.e.f. January 01, 2000 and extends to the entire country, all branches, offices, agencies out side India - those owned or controlled by a person residing in India.

Non-resident:

FEMA has not defined a non-resident. Anyone who is not a resident is a non-resident. A person is resident who resides in India for more than 182 days during the course of preceding financial year and does not include a person who has gone out of India or who conducts a business or vocation outside India.

Authorised Persons:

An authorised person may be a dealer or a moneychanger. It may be an off-shore banking unit or any other person appointed under the Act. RBI appoints authorised person and can revoke the authorisation so granted if the, person fails to comply with the conditions. All transactions shall be through an authorised person. No person can make any payment to or for the credit of any person residing outside India in any manner and he shall not receive any payment by order or on behalf of any person, resident outside India, except through the authorised person.

RBI powers under FEMA:

RBI has no powers to prohibit, restrict and regulate the following:

- ❖ transfer or issue of any foreign security by a resident of India and by a person residing outside India.
- ❖ transfer or issue of any security or foreign security by any branch, office or agency in India owned by a person outside India.
- ❖ any borrowing or lending in foreign exchange.
- ❖ any borrowing or lending in rupees between a resident in India and a person outside India.
- ❖ deposits between residents in India and residents outside India.
- ❖ export, import or, holding of currency or currency notes.
- ❖ transfer of immovable property outside India other than a lease not exceeding five years, by a person resident in India.
- ❖ acquisition or transfer of immovable property in India, other than a lease by a person resident outside India.
- ❖ giving guarantee or surety in respect of any debt obligation or other liability incurred by person resident in India to a person outside India and vice-versa.

Multinationals Exchange Control

Exchange control restricting the repatriation of earnings to the parent country is another reason that causes discrepancy between the project value, from the parent's perspective and from the local perspective. When an MNC is contemplating investment in a country having exchange control, the present value calculation from the parent's point of view will be based on the following facts:

The pattern of financing investment by MNC-debt or equity or both in case of investment to be funded via debt, cash generated by the project is returned to the home country to the extent of debt repayment and interest. However, this will not be possible in case of equity funded investment.

Remittances of net cash flows expected to be generated by the foreign projects. Not all remittances under exchange restrictions are permissible. Hence, forecasts of the proportion of the cash flows that can be remitted to the parent company will have to be made.

Remittances expected back to the parent company by way of debt service and agement fees and royalties. Of course, these are subject to ceilings by exchange control regulations.

Allowances for parent contribution of equipment as part of its input Any real operating option effects. In case, cash earnings expected to be generated by the foreign project are permanently blocked with no way to get back the money to the parent, the value of such blocked funds must be zero. But in real life this does not happen because countertrade and similar other techniques prevent ways of blocking. Further, there is usually some expectation of existing controls being relaxed or removed together. A profitability factor may be applied to model such expectations.

6.11 THE GOLD STANDARD

The international monetary system that operated prior to the 19 14 -18 war was Termed as the gold standard. Then the countries accepted the major assets gold and sterling in settlement of international debts. A unit of a country's currency was defined as s certain weight of gold (e.g. a pound sterling could be converted into 113.0015 grains of fins gold and the U.S. dollar into 23.22 grains. Through these Gold equivalent the value

of the pound was 113.001 5 123.22 times. (or 4.885 Times that of the dollar. Thus 4.885 dollars was the 'par value' of the pound).

A country is said to be on the gold standard when its central bank is obliged to give gold in exchange far its currency when presented to it. The gold standard was the foundation of the international trading system. The currency of a country was freely convertible into gold at a fixed exchange rate. International debt Settlement was to be in gold. When a country had a surplus in its balance of payment, gold flowed into its central bank. Thus the country with a balance of payment surplus could be expanding its domestic money supply without having the fear of insufficient gold to meet its liabilities. When the money supply increased, prices increased, hence the demand of export fell, and the balance of payments surplus was reduced.

On the other hands when a country had a deficit in its balance of payments, gold Flowed outside the country. Thus the deficit country had to contract the money Supply with the reduction in its gold stocks. The prices of commodities decreased. Its exports become more competitive and the deficit automatically got corrected, as increase in exports resulted in gold inflows.

It is argued that the system based on the gold standard provided stability and an automatic adjustment mechanism. Since the value of gold relative to other goods and services does not change much over long periods of time, the monetary discipline imposed by the gold standard was expected to ensure long-run price stability. The data on wholesale prices reveals that prices at the beginning of the World War I in 1913 were roughly the same as they had been in the previous one hundred and fifty years. However, the long-run stability includes alternative periods of inflation and deflation. During Napoleonic wars, prices shot up and later in the nineteenth century they fell down remarkably.

It is argued that even during the gold standard system the central banks, rather than allowing gold flows to adjust their domestic money supplies, intervened by varying their interest rates or expanding domestic credit. Similarly, deflationary mechanism, inherent in the gold standard, depressed employment but widespread unemployment was prevented by massive migration of the people to other countries. Nevertheless, the period from 1880 to 1914 during which the classical gold standard prevailed in most countries

was a remarkable period. There was rapid expansion of virtually free international trade, exchange rates and prices were stable, free flow of labour and capital across political borders encouraged economic growth and world peace.

6.12 BRETTON WOODS

In times of globalization the economic environment changes rapidly. Capital movements become larger and at the same time less controllable. Therefore, the need for a stabilizing system becomes more and more apparent. In the past such a system has been established at the conference of Bretton Woods. Already in 1944 the British economist John Maynard Keynes emphasised "the importance of rule-based regimes to stabilise business expectations something he accepted in the Bretton Woods system of fixed exchanged rates." Recently leading industrial nations have been calling for a renewal of the purpose and the spirit of this system in order to cope with the growing size of international trade and capital flows. This essay gives a short overview of the system's development from 1944 until today and stresses especially problems and obstacles. It identifies mistakes that have been made and points out aspects that have to be taken into account when implementing a "new system of Bretton Woods".

Bretton Woods System

The Bretton Woods system is commonly understood to refer to the international monetary regime that prevailed from the end of World War II until the early 1970s. Taking its name from the site of the 1944 conference that created the *International Monetary Fund (IMF) and *World Bank, the Bretton Woods system was history's first example of a fully negotiated monetary order intended to govern currency relations among sovereign states. In principle, the regime was designed to combine binding legal obligations with multilateral decision-making conducted through an international organization, the IMF, endowed with limited supranational authority. In practice the initial scheme, as well as its subsequent development and ultimate demise, were directly dependent on the preferences and policies of its most powerful member, the United States.

NOTES

Design of the Bretton Woods system

The conference that gave birth to the system, held in the Amrican resort village of Bretton Woods, New Hampshire, was the culmination of some two and a half years of planning for postwar monetary reconstruction by the Treasuries of the United Kingdom and the United States. Although attended by all forty four allied nations, plus one neutral government (Argentina), conference discussion was dominated by two rival plans developed, respectively, by Harry Dexter White of the U.S. Treasury and by *John Maynard Keynes of Britain. The compromise that ultimately emerged was much closer to White's plan than to that of Keynes, reflecting the overwhelming *power of the United States as World War II was drawing to a close.

Although, at the time, gaps between the White and Keynes plans seemed enormous - especially with respect to the issue of future access to international *liquidity - in retrospect it is their similarities rather than their differences that appear most striking. In fact, there was much common ground among all the participating governments at Bretton Woods. All agreed that the monetary chaos of the interwar period had yielded several valuable lessons. All were determined to avoid repeating what they perceived to be the errors of the past. Their consensus of judgment was reflected directly in the Articles of Agreement of the IMF.

Four points in particular stand out. First, negotiators generally agreed that as far as they were concerned, the interwar period had conclusively demonstrated the fundamental disadvantages of unrestrained flexibility of *exchange rates. The floating rates of the 1930s were seen as having discouraged trade and investment and to have encouraged destabilizing speculation and competitive depreciations. Yet in an era of more activist economic policy, governments were at the same time reluctant to return to permanently fixed rates on the model of the classical *gold standard of the nineteenth century. Policy-makers understandably wished to retain the right to revise currency values on occasion as circumstances warranted. Hence a compromise was sought between the polar alternatives of either freely floating or irrevocably fixed rates - some arrangement that might gain the advantages of both without suffering the disadvantages of either.

What emerged was the 'pegged rate' or 'adjustable peg' currency regime, also known as the par value system. Members were obligated to declare a par value (a 'peg') for their national money and to intervene in currency markets to limit exchange rate fluctuations within maximum margins (a 'band') one per cent above or below parity; but they also retained the right, whenever necessary and in accordance with agreed procedures, to alter their par value to correct a 'fundamental disequilibrium' in their *balance of payments. Regrettably the notion of fundamental disequilibrium, though key to the operation of the par value system, was never spelled out in any detail - a notorious omission that would eventually come back to haunt the regime in later years.

Second, all governments generally agreed that if exchange rates were not to float freely, states would also require assurance of an adequate supply of monetary reserves. Negotiators did not think it necessary to alter in any fundamental way the *gold exchange standard that had been inherited from the interwar years. International liquidity would still consist primarily of national stocks of gold or currencies convertible, directly or indirectly, into gold ('gold exchange'). The United States, in particular, was loth to alter either the central role of the dollar or the value of its gold reserves, which at the time amounted to three quarters of all central bank gold in the world. Negotiators, did concur, however, on the desirability of some supplementary source of liquidity for deficit countries. The big question was whether that source should, as proposed by Keynes, be akin to a world central bank able to create new reserves at will (which Keynes thought might be called *bancor); or a more limited borrowing mechanism, as preferred by White.

What emerged largely reflected U.S. preferences: a system of subscriptions and quotas embedded in the IMF, which itself was to be no more than a fixed pool of national currencies and gold subscribed by each country. Members were assigned quotas, roughly reflecting each state's relative economic importance, and were obligated to pay into the Fund a subscription of equal amount. The subscription was to be paid 25 per cent in gold or currency convertible into gold (effectively the dollar, which was the only currency then still directly gold convertible for central banks) and 75 per cent in the member's own money. Each member was then entitled, when short of reserves, to borrow needed foreign currency in amounts determined by the size of its quota.

A third point on which all governments agreed was that it was necessary to avoid recurrence of the kind of economic warfare that had characterized the decade of the 1930s. Some binding framework of rules was needed to ensure that states would remove existing *exchange controls limiting *currency convertibility and return to a system of free multilateral payments. Hence members were in principle forbidden to engage in discriminatory currency practices or exchange regulation, with only two practical exceptions. First, convertibility obligations were extended to current international transactions only. Governments were to refrain from regulating purchases and sales of currency for trade in goods or services. But they were not obligated to refrain from regulation of capital-account transactions. Indeed, they were formally encouraged to make use of *capital controls to maintain external balance in the face of potentially destabilizing 'hot money' flows. Second, convertibility obligations could be deferred if a member so chose during a postwar 'transitional period.' Members deferring their convertibility obligations were known as Article XIV countries; members accepting them had so-called Article VIII status. One of the responsibilities assigned to the IMF was to oversee this legal code governing currency convertibility.

Finally, negotiators agreed that there was a need for an institutional forum for international cooperation on monetary matters. Currency troubles in the interwar years, it was felt, had been greatly exacerbated by the absence of any established procedure or machinery for inter-governmental consultation. In the postwar era, the Fund itself would provide such a forum - in fact, an achievement of truly historic proportions. Even more path breaking was the decision to allocate voting rights among governments not on a one-state, one-vote basis but rather in proportion to quotas. With one-third of all IMF quotas at the outset, the United States assured itself an effective veto over future decision-making.

Together these four points defined the Bretton Woods system - a monetary regime joining an essentially unchanged gold exchange standard, supplemented only by a centralized pool of gold and national currencies, with an entirely new exchange rate system of adjustable pegs. At the center of the regime was to be the IMF, which was expected to perform three important functions: regulatory (administering the rules governing currency values and convertibility), financial (supplying supplementary

liquidity), and consultative (providing a forum for cooperation among governments). Structurally, the regime combined a respect for the traditional principle of national *sovereignty - especially, of course, that of the United States - with a new commitment to collective responsibility for management of monetary relations, expressed both in mutually agreed rules and in the powers of the Fund.

6.13 ANSWERS TO CHECK YOUR PROGRESS

1. Exchange rate is the price of one currency in terms of another currency.
2. *Floating rate* is a system where the exchange rates are determined by the conditions of demand for and supply of the foreign exchange in the market.
3. *Flexible rate* is a system where the exchange rate is fixed but is frequently adjusted in line with the market conditions.
4. The Foreign Exchange Management Act 1999 (FEMA) was passed on December 02, 1999

6.14 EXERCISES AND QUESTIONS

1. Describe the factors which determines the Exchange Rate Systems
2. Distinquesh between Fixed and Floating Exchange Rates Systems
3 Bring down the various factors which Determinates of Exchange Rates
4 Write a short note on Exchange Controls and Multinational Exchange Controls
5 What you understand about Gold Standard?
6 Write an essay regarding the provisons of Bretton Woods

6.15 FURTHER READINGS

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UNIT VII

FOREIGN EXCHANGE TRANSACTIONS

UNIT STRUCTURE

7.1 INTRODUCTION

Foreign exchange transactions have, thus, become an integral, even essential, part of international trade and finance. In the immediate aftermath of World War II, foreign exchange trading was relatively limited, as most major currencies were subject to extensive exchange controls, and the opportunities for the movement of funds across national boundaries were severely limited. The subsequent recovery and growth of the world economy brought a gradual relaxation of these controls and as a result foreign exchange trading became more and more active.

7.2 OBJECTIVES

This chapter brings idea about the foreign exchange purchase and Sale Transactions, Spot Vs forward Transactions, Forward Margins, Inter Bank Deals, Cover Deals, Trading, SWAP Deals, Arbitrage Operations and Factoring Determining Forward Margins

7.3 BEST PRACTICES IN FOREIGN EXCHANGE TRANSACTIONS

7.3.1. Opening of FCNR and SB (NRE) Accounts - Need for Adherence to KYC Norms /Guidelines

As per the extant instructions, in case of NRE/FCNRD/other accounts of Non Resident

Indians, introduction may be obtained from

i. an existing account holder

ii. A Foreign correspondent/Branch

iii. Notary Public

iv. Foreign embassy/consulate officials

Passport can also be accepted for the purpose of identifying the prospective Non Resident customer. Proper identification of the customer before opening the account as per KYC norms will minimize occurrence of frauds and to check misappropriations.

For the ready reference of branches, some of the additional precautions are reproduced below:

a. Branches should avoid accommodating unknown parties/brokers/agents who approach them with promises to mobilise deposits/business for the bank. The Branches may also ensure that the following additional precautions are taken while accepting deposits from NRIs through agents/middlemen

i] KYC guidelines go beyond merely establishing the identity of persons & satisfying about his credentials by obtaining an introductory reference from a known person

ii] The due diligence expected under KYC involves going into the purpose and reasons for opening the account, status of the account holder like employed/

Check Your Progress

1. Who are the participants in the foreign exchange market comprise?

professional/business anticipated turn over in the account, source of wealth(networth) of the person opening the account and source of funds flowing into the account

iii] Standing of the person & desirability of entertaining the person for transacting banking business

iv] Due diligence under KYC does not merely stop with the opening of an account

b. The deposit receipt should invariably be sent by registered post to the NRI depositor at the address given in the application/account opening form.

c. The deposit receipt should not be handed over to agents/middlemen/third party.

d. The branch should ensure that the complete postal address of the NRI depositor has been furnished in the account opening form. The branch should exercise special care if the address is incomplete or only a post box number has been furnished.

e. Branches should take utmost care when non-resident accounts are sought to be opened/loans sanctioned against such deposits in remote branches/places where the depositors may not have any interest or the branches may not be having adequate expertise in dealing with such accounts.

f. If such a deposit is being solicited by the branch and its officers as part of their deposit mobilisation efforts, ***the concerned Branch Manager will have to take responsibility for having identified the depositor and the genuineness of the documents produced.***

g. In addition to the usual precautions, wherever such accounts are opened through a Power of Attorney, Branches may consider introducing their own methods of verifying the identity of the depositor. These may include, contacting the depositor over telephone and e-mail at the number and address mentioned in the application, verifying address through internet, etc.

7.3.2. Remittance Facilities for Resident Indians

Following Foreign exchange Remittance Facilities can be availed by Residents from Banks on self declaration basis and without prior approval of Reserve Bank of India.

- Gift remittance up to USD 5000 per remitter / donor per annum.
- Donations up to USD 5000 per remitter / donor per annum.

- Exchange for employment abroad - Up to 100,000/-
- Exchange for emigration – Up to USD 100,000/-
- Exchange for maintenance of close relative abroad – Up to USD 100,000/-
- Exchange up to USD 25000 to a person going abroad for business visit / attending a conference or specialised training.
- Exchange for Medical Treatment abroad – Up to USD 100,000/-. Additional USD 25000 per person can be taken for meeting boarding / lodging / travel expenses of the patient and also for the accompanying attendant.
- Exchange for studies abroad – Up to USD 100,000 per academic year.
- Commission to agents abroad for sale of flats / commercial plots in India, up to 5% of the inward remittance or USD 25,000 whichever is higher.
- Foreign exchange in the form of foreign currency notes and coins up to USD 2000 or its equivalent can be released out of the overall foreign exchange released for travel purposes.

7.3.3. Foreign Exchange Eligibility for Travel Abroad

- Through Private Travels to any country except Nepal and Bhutan – USD 10000 or its equivalent in any calendar year.
- For foreign exchange above this limit, application to be submitted to concerned Regional Office of RBI.
- International credit cards, ATM cards, Debit Cards, etc. can be used while on visit to any country for meeting any expenses within the overall ceiling of USD 10000 in a calendar year.
- For travel to Nepal and Bhutan – Any amount of Indian currency except currency notes of denomination of Rs. 500 and above.
- No endorsement in passport is required when foreign exchange is sold for travel abroad on private visit.
- Foreign exchange may be released on the basis of a declaration from the traveler regarding the amount of foreign exchange availed during a calendar year.
- International credit card can also be used outside India for purchase of any item, the import of which is permitted in India.

- A person going out of India can take with him Indian currency notes upto Rs.5000 to any country other than Nepal and Bhutan.
- A person coming to India from abroad can bring along with him Indian currency notes upto Rs.5000 from any country other than Nepal and Bhutan.

Check Your Progress

2. What is Commodity swaps?

7.3.4. Time Limit for purchase & surrender of foreign exchange

- Foreign exchange can be bought 60 days ahead of the journey date. If it is not possible to use the foreign exchange within the period of 60 days, it should be surrendered to the Bank.
- Unspent foreign exchange brought back to India by a traveler should be surrendered to an authorised person within 90 days from the date of return of the traveler if the foreign exchange is in the form of currency notes.
- If it is in the form of travelers' cheques, it should be surrendered within 180 days from the date of return.
- Any amount of foreign exchange in the form of TCs / Bank drafts / Currency notes can be brought in by NRIs / Residents while returning to India.
- If the value of Foreign exchange exceeds USD 10000 or value of currency exceeds USD 5000, they have to be declared to customs in the Currency Declaration Form (CDF) during entry to India.
- Exchange so brought back can be utilised by the traveler for his subsequent visit abroad during the above specified period.
- A returning traveler is permitted to retain with him, foreign currency travelers cheques and Notes up to an aggregate amount of USD 2000 and foreign coins without any ceiling.
- Residents can carry any amount of Indian currency while traveling to or while coming from Nepal and Bhutan except currency notes of denomination Rs.500 and above. (No foreign exchange can be bought for visit to these countries).

7.4 TYPES OF EXCHANGE MARKET

There are several types of currency exchange markets. Two of them are the so called Spot Market and Forward Market.

a) Spot Market

A spot contract is a binding obligation to buy or sell a certain amount of foreign currency at the current market rate, for settlement in two business days' time. To enter into a spot deal you advise us of the amount, the two currencies involved and which currency you would like to buy or sell.

The term spot exchange refers to the class of foreign exchange transaction which requires the immediate delivery or exchange of currencies on the spot. In practice the settlement takes place within two days in most markets. The rate of exchange effective for the spot transaction is known as the spot rate and the market for such transactions is known as the spot market.

Purpose

Companies involved in international trade may be required to make payments, or to receive payments, in a foreign currency. A spot contract allows a company to buy or sell foreign currency on the day it chooses to deal.

Settlement

A spot deal will settle (in other words, the physical exchange of currencies) two working days after the deal is struck. The difference between the deal and settlement date reflects both the need to arrange the transfer of funds and, the time difference between the currency centres involved.

Spot currency trading represents the most widely used foreign currency instrument. The spot foreign exchange market basic characteristics contributing to its popularity are:

- **high volatility**

Volatility represents the degree of price fluctuation of a particular currency for a specific time period. This means that a particular currency pair may change its price with as many as 150 - 250 pips for as little as several seconds. This might represent a great opportunity for quick profits and yet, quick losses as well.

- **high liquidity**
- **short-term contract execution**

In a spot deal, the bilateral contract between two parties exchanging currencies is based on a predetermined exchange rate within two business days of the contract date. The only exception to the 2-day rule is the Canadian dollar since the spot delivery is done in the next business day.

Those three characteristics lead to minimization of the credit risk on the spot market.

After having a deal, the trader is informed of the **quota** by the bank, which serves him/her. The quota represents the evaluation of the target currency, which is done either against the US dollar or any other currency. It has two components: the **bid-price** (the price which is wanted by the seller) and the **ask-price** (the price which the buyer is willing to pay for the currency pair). The difference between the two prices and is measured in pips (points) and is called **spread**.

b) Forward Market

A forward exchange contract (or forward contract) is a binding obligation to buy or sell a certain amount of foreign currency at a pre-agreed rate of exchange, on a certain future date. To take out a forward contract you need to advise us of the amount, the two currencies involved, the expiry date and whether you would like to buy or sell the currency. It can be possible to build in some flexibility to allow the purchase or sale of the currency between two pre-defined dates rather than a single maturity date.

- The forward transactions is an agreement between two parties, requiring the delivery at some specified future date of a specified amount of foreign currency by one of the parties, against payment in domestic currency be the other party, at the price agreed upon in the contract. The rate of exchange applicable to the forward contract is called the forward exchange rate and the market for forward transactions is known as the forward market. The foreign exchange regulations of various countries generally regulate the forward exchange transactions with a view to curbing speculation in the foreign exchanges market. In India, for example, commercial banks are permitted to offer forward cover only with respect to genuine export and import transactions. Forward exchange facilities, obviously, are of immense help to exporters and importers as they can cover the risks arising out of exchange rate fluctuations be entering into an appropriate forward exchange contract. With reference to its relationship with spot rate, the forward rate may be at **par, discount or premium.** If the forward exchange rate quoted is exact equivalent to the spot rate at the time of making the contract the forward exchange rate is said to be **at par.**

Check Your Progress

3.What is equity swaps?

- The forward rate for a currency, say the dollar, is said to be **at premium** with respect to the spot rate when one dollar buys more units of another currency, say rupee, in the forward than in the spot rate on a per annum basis.
- The forward rate for a currency, say the dollar, is said to be **at discount** with respect to the spot rate when one dollar buys fewer rupees in the forward than in the spot market. The discount is also usually expressed as a percentage deviation from the spot rate on a per annum basis.
- The forward exchange rate is determined mostly be the demand for and supply of forward exchange. Naturally when the demand for forward exchange exceeds its supply, the forward rate will be quoted at a premium and conversely, when the supply of forward exchange exceeds the demand for it, the rate will be quoted at discount. When the supply is equivalent to the demand for forward exchange, the forward rate will tend to be at par.

Purpose

A forward contract is the simplest method of covering exchange risk because it locks in an exchange rate. This strategy overcomes one of the problems that you can experience when importing or exporting in foreign currency, as you can now budget at a guaranteed rate of exchange.

Pricing

The price of a forward contract is based on the spot rate at the time the deal is booked, with an adjustment which represents the interest rate differential between the two currencies concerned. For example, a company needs to buy US dollars in three months' time, so enters into a forward contract while US interest rates are higher than UK interest rates. In order to meet our obligation under the contract, HSBC buys US dollars now, paying for the dollars with sterling. We then pass you the benefit of the higher rate of interest we earn on the dollars. The adjustment to the spot rate means that the forward contract rate would be more favourable than a spot deal rate. The reverse would apply if US interest rates were lower than UK rates.

The basic characteristics of the foreign exchange forward market are:

- decentralization

  This allows traders form all over the world to enter into different deals either by using the services of a broker or on one-on-one basis.

- no standard regarding the settlement dates

  The settlement dates that are established on the forward market can range from 3 days to 3 years. Currency swaps are rarely longer than a year but in principle no technical restrictions exist to execute such a deal. The only requirement is that the date is a valid business day for the currencies that are part of the deal.

There are two parts that make up the forward price:

1. **the spot exchange rate** - the most important part of the forward price, which provides its foundations.

2. **the forward spread** (also known as *forward pips* or *forward points*) - it is used for the adjustment of the spot rate when the settlement dates differ from the spot date. This implies that the maturity date is of significant importance in determining the value of the forward price.

The participants in the forward market typically apply two tools: forward outright deals and exchange deals (also known as *swaps*). The latter represents a combination between a forward outright deal and a spot deal.

Check Your Progress

4.What is swap Deals?

To be successful at foreign exchange trading you need two main things - the knowledge and the right trading plaftorm. For a trading platform we can recommend you Easy Foreign exchange . It offers unique features such as Inside Viewer™, which will give you a unique insight of what other traders are doing, competitive spreads, 24/7 support, etc. Start trading from as little as $25.

7.6 INTERBANK DEALS

Interbank deals refer to purchase and sale of foreign exchange between the banks. In other words it refers to the foreign exchange dealings of a bank in the interbank market. The main features of interbank deals are given in this section.

Foreign exchange transactions involves transaction by a customer with the bank while interbank deals refer to purchase and sale of foreign exchange between banks. In other words, it refers to the foreign exchange dealings of a bank in interbank market.

7.5 COVER DEALS

Purchase and sale of foreign currency in the market undertaken to acquire or dispose of foreign exchange required or acquired as a consequence of the dealings with its customers is known as the 'cover deal'. The purpose of cover deal is to insure the bank against my fluctuation in the exchange rates.

Since the foreign currency is a peculiar commodity with wide fluctuations in price, the bank would like to sell immediately whatever it purchases and whenever it sells it goes to the market and makes an immediate purchase to meet its commitment. In other words, the bank would like to keep its stock of foreign exchange near zero. The main reason for this is that the bank wants to reduce the exchange risk it faces to the minimum. Otherwise, any adverse change in the rates would affect its profits.

The banks deal with foreign exchange on behalf of its customers. Purchase and sale of foreign currency in the market undertaken to acquire or dispose of foreign exchange required or acquired as a consequence of its dealings with its customers is known as the _cover deal'. In this way that is through cover deal the bank gets insured against any fluctuation in the exchange rates. While quoting a rate to the customer the bank is guided by interbank rate to which it adds or deducts its margin, and arrives at the rate it quotes to the customer. For example, if it is buying dollar from the customer special it takes interbank buying rate, deducts its exchange margin and quotes the rate. This exercise is done on the assumption that immediately on purchase from customer the bank would sell the foreign exchange to interbank market at market buying rate.

Foreign currency is considered as peculiar commodity with wide fluctuations price, the bank would like to sell immediately whatever it purchases and whenever it sells, it immediately tries to purchase so that it meets it is commitment. The main reason for this is that the bank wants to reduce exchange risk it faces to the minimum. Otherwise, any adverse change in the rate would affect its profits. In the case of spot deals the transaction is quite simple. If the bank purchased any foreign exchange, it would try to find another customer to whom it can sell this and thus books profit. In this process the profit would be the maximum because both buying and selling rates are determined by the bank and the margin between the rates is the maximum. If it cannot find another customer its sells in interbank market where the rate is determined by the market conditions and the margin is narrower here.

Futures

While a focus contract is similar to a forward contract, there are several differences between them. While a forward contract is tailor made for the client be his international bank, a future contract has standardized features the contract size and maturity dates are standardized. Futures cab traded only on an organized exchange and they are traded competitively. Margins are not required in respect of a forward contract but margins are required of all participants in the futures market an initial margin must be deposited into a collateral account to establish a futures position.

Options

While the forward or futures contract protects the purchaser of the contract fro m the adverse exchange rate movements, it eliminates the possibility of gaining a windfall profit from favorable exchange rate movement. An option is a contract or financial instrument that gives holder the right, but not the obligation, to sell or buy a given quantity of an asset as a specified price at a specified future date. An option to buy the underlying asset is known as a call option and an option to sell the underlying asset is known as a put option. Buying or selling the underlying asset via the option is known as exercising the option. The stated price paid (or received) is known as the exercise or striking price. The buyer of an option is known as the long and the seller of an option is known as the writer of the option, or the short. The price for the option is known as premium.

- **Types of options:** With reference to their exercise characteristics, there are two types of options, American and European. A European option cab is exercised only at the maturity or expiration date of the contract, whereas an American option can be exercised at any time during the contract.
- **Swap operation**
- Commercial banks who conduct forward exchange business may resort to a swap operation to adjust their fund position. The term swap means simultaneous sale of spot currency for the forward purchase of the same currency or the purchase of

spot for the forward sale of the same currency. The spot is swapped against forward. Operations consisting of a simultaneous sale or purchase of spot currency accompanies by a purchase or sale, respectively of the same currency for forward delivery are technically known as swaps or double deals as the spot currency is swapped against forward.

Arbitrage

Arbitrage is the simultaneous buying and selling of foreign currencies with intention of making profits from the difference between the exchange rate prevailing at the same time in different markets

If perfect conditions prevail in the market, the exchange rate for a currency should be the same in all centres. For example, if US dollar is quoted at Rs.49,4000 in Mumbai, it should be quoted at the same rate of Rs. 49,4000 at New York. But under imperfect conditions prevailing, the rates in different centres may be different. Thus at New York Indian rupees may be quoted at Rs.49,4800 per dollar. In such a case, it would be advantageous for a bank in Mumbai to buy US dollars locally and arranged to sell them in New York. Assuming the operations to involve Rs.10 lakhs the profit made by the bank would be:

At Mumbai US dollars purchased for Rs.10,00,000 at Rs.49,4000 would be (10,00,000 ÷ 49,4000) USD 20,242.9). Amount in rupees realized on selling USD 20,242.91 at New York at Rs.49.4800 would be Rs.1,00,619. Therefore, the gross profit made by the bank on the transactions is Rs.1,619. The new profit would be after deducting cable charges, etc., incurred for the transactions. The purchase and sale of a foreign currency in different centers to take advantage of the rate differential is known as 'arbitrage operations'. When the arbitrage operation involves only two currencies, it is known as 'simple' or 'direct' arbitrage.

7.6 TRADING

Trading refers to purchase and sale of foreign exchange in the market other than to cover bank's transactions with the customers. The purpose may be to gain on the expected changes in exchange rates. In India the scope for trading, although still subject to controls, is getting wider the relaxations being made in the exchange control regulations.

7.7 SWAP DEALS

A 'swap deal' is a transaction in which the bank buys and sells the specified foreign currency simultaneously for different maturities. Thus a swap deal may involve:

- Simultaneously purchase of spot and sage of forward or vice versa; or
- Simultaneously purchase and sale, both forward but for different maturities, For Instance, the bank may buy one month forward and sell two months forward. Such a deal is known as 'forward to forward swap'.

To be precise, a deal should fulfil the following conditions to be called a swap deal:

- There should be simultaneous buying and selling of the same foreign currency of same value for different maturities; and
- The deal should have been concluded with the distinct understanding between the banks that it is a swap deal.

A swap deal is done in the market at a difference from the ordinary deals. In the ordinary deals, the following factors enter into the rates;

- The difference between the buying and selling rates; and
- The forward margin. i.e., the premium or discount.

In a swap deal, the first factor is ignored and both buying and selling are done at the snow rate. Only the forward margin enters into the deal same as the swap difference.

Swaps include currency swaps and interest rate swaps. In the most common type of swap arrangement, one party agrees to pay fixed interest payments on designated dates to a counterparty who, in turn, agrees to make return interest payments that float with some reference rate such as the rate on Treasury bills or the prime rate. It is also called as *interest rate swap.*

For example, in an interest rate swap, the exchangers gain access to interest rates available only to the other exchanger by swapping them. In this case, the two legs of the swap are a fixed interest rate, say 3.5%, and a floating interest rate, say LIBOR + 0.5%. In such a swap, the only things traded are the two interest rates, which are calculated over a notional value. Each party pays the other at set intervals over the life of the swap. For example, one party may agree to pay the other a 3.5% interest rate calculated over a notional value of $1 million, while the second party may agree to pay LIBOR + 0.5% over the same notional value. It is important to note that the notional amount is arbitrary and is not actually traded.

Swap market

Most swaps are traded over-the-counter (OTC), "tailor-made" for the counterparties. Some types of swaps are also exchanged on futures markets such as the Chicago Mercantile Exchange Holdings Inc., the largest U.S. futures market, the Chicago Board Options Exchange, IntercontinentalExchange and Frankfurt-based Eurex AG. The Bank for International Settlements (BIS) publishes statistics on the notional amounts outstanding in the OTC derivatives market.

Usually, at least one of the legs has a rate that is *variable*. It can depend on a reference rate, the total return of a swap, an economic statistic, etc. The most important criterion is that it comes from an independent third party, to avoid any conflict of interest. For instance, LIBOR is published by the British Bankers Association, an independent trade body.

Types of swaps

The five generic types of swaps, in order of their quantitative importance, are: interest rate swaps, currency swaps, credit swaps, commodity swaps and equity swaps. There are also many other types.

7.8 INTEREST RATE SWAPS

A is currently paying floating, but wants to pay fixed. B is currently paying fixed but wants to pay floating. By entering into an interest rate swap, the net result is that each party can 'swap' their existing obligation for their desired obligation. Normally the parties do not swap payments directly, but rather, each sets up a separate swap with a financial intermediary such as a bank. In return for matching the two parties together, the bank takes a spread from the swap payments.

The most common type of swap is a "plain Vanilla" interest rate swap. It is the exchange of a fixed rate loan to a floating rate loan. The life of the swap can range from 2 years to over 15 years. The reason for this exchange is to take benefit from comparative advantage. Some companies may have comparative advantage in fixed rate markets while other companies have a comparative advantage in floating rate markets. When companies want to borrow they look for cheap borrowing i.e. from the market where they have comparative advantage. However this may lead to a company borrowing fixed when it wants floating or borrowing floating when it wants fixed. This is where a swap comes in. A swap has the effect of transforming a fixed rate loan into a floating rate loan or vice versa.

For example, party B makes periodic interest payments to party A based on a *variable* interest rate of LIBOR +70 basis points. Party A in return makes periodic interest payments based on a fixed rate of 8.65%. The payments are calculated over the *notional* amount. The first rate is called *variable*, because it is reset at the beginning of each interest calculation period to the then current reference rate, such as LIBOR. In reality, the actual rate received by A and B is slightly lower due to a bank taking a spread.

7.9 CURRENCY SWAPS

A currency swap involves exchanging principal and fixed rate interest payments on a loan in one currency for principal and fixed rate interest payments on an equal loan in another currency. Just like interest rate swaps, the currency swaps also are motivated by comparative advantage. WRONG INFO

Commodity swaps

A commodity swap is an agreement whereby a floating (or market or spot) price is exchanged for a fixed price over a specified period. The vast majority of commodity swaps involve crude oil.

Equity Swap

An equity swap is a special type of total return swap, where the underlying asset is a stock, a basket of stocks, or a stock index. Compared to actually owning the stock, in this case you do not have to pay anything up front, but you do not have any voting or other rights that stock holders do have.

Credit default swaps

A credit default swap (CDS) is a swap contract in which the *buyer* of the CDS makes a series of payments to the *seller* and, in exchange, receives a payoff if a credit instrument - typically a bond or loan - goes into default (fails to pay). Less commonly, the credit event that triggers the payoff can be a company undergoing restructuring, bankruptcy or even just having its credit rating downgraded. CDS contracts have been compared with insurance, because the buyer pays a premium and, in return, receives a sum of money if one of the events specified in the contract occur. Unlike an actual insurance contract the buyer is allowed to profit from the contract and may also cover an asset to which the buyer has no direct exposure.

Other variations

There are myriad different variations on the vanilla swap structure, which are limited only by the imagination of financial engineers and the desire of corporate treasurers and fund managers for exotic structures.[1]

- A total return swap is a swap in which party A pays the *total return* of an asset, and party B makes periodic interest payments. The total return is the capital gain or loss, plus any interest or dividend payments. Note that if the total return is negative, then party A receives this amount from party B. The parties have exposure to the return of the underlying stock or index, without having to hold the underlying assets. The profit or loss of party B is the same for him as actually owning the underlying asset.
- An option on a swap is called a swaption. These provide one party with the right but not the obligation at a future time to enter into a swap.
- A variance swap is an over-the-counter instrument that allows one to speculate on or hedge risks associated with the magnitude of movement, a CMS, is a swap that allows the purchaser to fix the duration of received flows on a swap.
- An Amortising swap is usually an interest rate swap in which the notional principal for the interest payments declines during the life of the swap, perhaps at a rate tied to the prepayment of a mortgage or to an interest rate benchmark such as the LIBOR.

Credit Exposures for Derivative Contracts

Derivative agreements are contracts between two parties, under which at least one of the parties faces a financial obligation to the other. Each counterparty to a contract can be subjected to credit risk, or the possibility that the other party fails to meet its obigation.

In a forward contract, commitments are made at the contract outset but settlement is due at expiration. Consider an agreement under which party A agrees to buy the S&P 500 index from party B for 1,500 in one year. IfÂ the S&P 500 is at 1,400, party A owes party B 100, and party B faces potential credit risk (prior to settlement) and actual credit

risk (at the time of settlement.) When the S&P 500 is higher than 1,500 it is party A that is subject to credit risk.

Swap contracts are similar to a series of forward contracts, with interim payments occurring along the way. Each payment exposes one party to credit risk. As each payment is made, the total potential credit risk is reduced.

Option contracts have unilateral credit risk – only the seller is obligated to make a payment, so only the buyer is exposed to credit risk once the initial premium has been paid.

Managing Credit Risk Associated With Derivative Contracts

Derivative contracts are agreements between two parties to pay a cash flow or series of cash flows based on the value of some underlying instrument. Whenever one of the counterparties is owed a cash flow that party faces credit risk: the chance that the other party will fail to honor its obligation. There are a number of ways firms dealing with a large number of derivative contracts can manage this risk.

Position limits are simply pre-set guidelines on how much exposure can be allocated to a given party. The limits could be in dollar terms, a percentage of the notional value of total contracts, or based on other factors (such as allocating a higher limit to more trusted parties.)

Collateral such as margin are required for many contracts. The margin is a small percentage of the notional value kept in escrow. Usually if the margin falls to a specific percentage of how much is actually owed, either more margin must be put up or the margin is paid out and the contract terminated. Netting procedures are set up for most contracts so that if both parties owe something only the difference (the net payment) is made by the party owing the larger amount. This reduces the credit risk and causes it to apply only to the party owed the larger amount.

Traditional credit analysis techniques can be used to vet counterparties according to credit standards at the outset of a contract. However, if the contract is long-term in nature the credit quality can change during the contract life. Finally, there are a number of credit derivatives that can be used to transfer specific aspects of credit risk to other parties willing to accept the risk.

Creating an Index Portfolio Using Total Return Swaps

An equity swap is an agreement between two parties in which one agrees to pay the total return on an equity or equity index portfolio and the other party agrees to pay an interest payment (usually either a fixed rate or one based on LIBOR) or the return on a different equity or index portfolio. Swaps can be an efficient way for portfolios to gain access to an index, as the cost of the swap may be lower than the transaction costs of replicating the portfolio. Active managers may also use swaps as an efficient way of increasing/decreasing exposure to various markets over time.

Valuation

The value of a swap is the net present value (NPV) of all estimated future cash flows. A swap is worth zero when it is first initiated, however after this time its value may become positive or negative.[1] There are two ways to value swaps: in terms of bond prices, or as a portfolio of forward contracts.[1]

Using bond prices

While principal payments are not exchanged in an interest rate swap, assuming that these are received and paid at the end of the swap does not change its value. Thus, from the point of view of the floating-rate payer, a swap position in a fixed-rate bond (i.e. *receiving* fixed interest payments), and a short position in a floating rate note (i.e. *making* floating interest payments):

$$V_{swap} = B_{fixed} - B_{floating}$$

From the point of view of the fixed-rate payer, the swap can be viewed as having the opposite positions. That is,

$$V_{swap} = B_{floating} - B_{fixed}$$

Similarly, currency swaps can be regarded as having positions in bonds whose cash flows correspond to those in the swap. Thus, the home currency value is:

$V_{swap} = B_{domestic} - S_0 B_{foreign}$, where $B_{domestic}$ is the domestic cash flows of the swap, $B_{foreign}$ is the foreign cash flows of the LIBOR is the rate of interest offered by banks on deposit from other banks in the eurocurrency market. One-month LIBOR is the rate offered for 1-month deposits, 3-month LIBOR for three months deposits, etc.

LIBOR rates are determined by trading between banks and change continuously as economic conditions change. Just like the prime rate of interest quoted in the domestic market, LIBOR is a reference rate of interest in the International Market.

7.10 ARBITRAGE ARGUMENTS

As mentioned, to be arbitrage free, the terms of a swap contract are such that, initially, the NPV of these future cash flows is equal to zero. Where this is not the case, arbitrage would be possible.For example, consider a plain vanilla fixed-to-floating interest rate swap where Party A pays a fixed rate, and Party B pays a floating rate. In such an agreement the *fixed rate* would be such that the present value of future fixed rate payments by Party A are equal to the present value of the *expected* future floating rate payments (i.e. the NPV is zero). Where this is not the case, an Arbitrageur, C, could:

1. assume the position with the *lower* present value of payments, and borrow funds equal to this present value
2. meet the cash flow obligations on the position by using the borrowed funds, and receive the corresponding payments - which have a higher present value
3. use the received payments to repay the debt on the borrowed funds

4. pocket the difference - where the difference between the present value of the loan and the present value of the inflows is the arbitrage profit.

Subsequently, once traded, the price of the Swap must equate to the price of the various corresponding instruments as mentioned above. Where this is not true, an arbitrageur could similarly short sell the overpriced instrument, and use the proceeds to purchase the correctly priced instrument, pocket the difference, and then use payments generated to service the instrument which he is short.

7.11 FEATURES OF EXCHANGE MARKET

Foreign exchange market is described as an Over the Counter market as there is no physical place where the participants meet to execute the deals, as in the case of stock exchange. It is more an informal arrangement among the banks and brokers operating in a financial centre purchasing and selling currencies connected to each other by tele-communications like telex, telephone and a satellite communication network. The term foreign exchange market is used to refer to the wholesale segment of the market, where the dealings take place among the banks. The retail segment refers to the dealings take place between banks and their customers. This retail segment is situated at a large number of places. They can be considered not as foreign exchange markets, but as the counters of such markets.

Foreign exchange market is the largest financial market with a daily turnover of over USD 2 trillion. Foreign exchange markets were primarily developed to facilitate settlement of debts arising out of international trade. But these markets have developed on their own so much so that a turnover of about three days in the foreign exchange market is equivalent to the magnitude of world trade in goods and services. The largest foreign exchange market is London, followed by New York, Tokyo, Zurich and Frankfurt.

The markets are situated throughout the different time zones of the globe in such a way that when one market is closing the other is beginning its operations. Thus at any point of time one market or the other is open. Therefore, it is stated that foreign exchange

market is functioning throughout 24 hours of the day. However, a specific market will function only during the business hours. Some of the banks having international network and having centralized control of funds management may keep their foreign exchange department in the key centre open throughout to keep up with developments at other centers during their normal working hours.

Developments in communication have largely contributed to the efficiency of the market. Any significant development in any market is almost instantaneously received by the other market situated at a far off place and thus has global impact. This makes the foreign exchange market very efficient as if the functioning goes under one roof.

In most markets, US dollar is the vehicle currency, viz., the currency used to denominate international transactions. This is despite the fact that with currencies like Euro and Yen gaining larger share, the share of US dollar in the total turnover is shrinking.

In few centers like Paris and Brussels, foreign exchange business takes place at a fixed place, such as the local stock exchange buildings. At these physical markets, the banks meet and in the presence of the representative of the central bank and on the basis of bargains, fix rates for a number of major currencies. This practice is called fixing. The rates thus fixed are used to execute customer orders previously placed with the banks. An advantage claimed for this procedure is that exchange rate for commercial transactions will be market determined, not influenced by any one bank. However, it is observed that the large banks attending such meetings with large commercial orders backing up tend to influence the rates.

II. PARTICIPANTS

The participants in the foreign exchange market comprise:

i. Corporates ii. Commercial banks iii. Exchange brokers iv. Central banks

III. TRANSACTIONS IN INTERBANK MARKETS

The exchange rates quoted by banks to their customers are based on the rates prevalent in the inter bank market. The big banks in the market are known as market makers as they are willing to buy or sell foreign currencies at the rates quoted by them up to any extent. Depending upon its resources a bank may be a market maker in one or few major currencies. When a banker approaches the market maker it would not reveal its intention to buy or sell the currency. This is done in order to get a fair price from the market maker.

Spot and forward transactions

The transactions in the inter bank market may place for settlement

a. On the same day; or

b. Two days later; or

c. Some day late; say after a month.

Where the agreement to buy and sell is agreed upon and executed on the same date, the transaction is known as cash or ready transaction. It is also known as value today.

The transaction where the exchange of currencies takes place two days after the date of the contact is known as spot transaction. The transaction in which the exchange of currencies takes place at a specified future date subsequent to the spot date is known as forward transaction.

IV. FACTORS DETERMINING FORWARD MARGIN

1. **Rate of interest:** The difference in the rate of interest prevailing at the home centre and the concerned foreign centre determines the forward margin. If the rate of interest at the foreign centre is higher than that prevailing at the home centre, the forward margin would be at discount. Conversely if the rate of interest at the foreign centre is lower than that at the home centre, the forward margin would be at premium.

2. **Demand and supply:** Forward margin is also determined by the demand for and the supply of foreign currency. If the demand for foreign currency is more than its supply, forward rate would be at premium. If the supply exceeds the demand, the forward rate would be at discount.

3. **Speculation about spot rates:** Since the forward rates are based on spot rates, any speculation about the movement of spot rates would influence forward rates also. If the exchange dealers anticipate the spot rate to appreciate, the forward rate would be quoted at premium. If they expect the spot rate to depreciate, the forward rates would be quoted at a discount.

4. **Exchange regulations:** Exchange control regulations may put some conditions on the forward dealings and may obstruct the influence of the above factors on the forward margin. Such restrictions may be with respect to keeping of balances abroad, borrowing overseas. Intervention in the forward market by the central bank may also do to influence the forward margin.

7.12 FORWARD EXCHANGE CONTRACTS

An FEC is a binding agreement between you and Travelex in which one currency is sold or bought against another currency at an agreed exchange rate on an agreed date beyond two (2) business days in the future. When you enter into an FEC you nominate the amount of currency to be bought or sold, the two currencies to be exchanged and the date that you wish to exchange the currencies (the Value Date). The currencies that you wish to exchange must be acceptable to Travelex. Travelex will determine the exchange rate applicable to the FEC based on the currencies and the Value Date that you have nominated. With the exception of a Non-Deliverable Forward (NDF) on the Value Date you are required to deliver the currency that you are exchanging in accordance with the exchange rate determined by Travelex and agreed by you at the time the FEC was entered into. Upon receipt Travelex will pay you or your nominated beneficiary the amount of currency that you have purchased. A description of how an NDF works is set out in Section 8.

FEC's allow parties to fix exchange rates. This allows you to hedge your currency exposure by providing protection against unfavorable currency movements between the time that you enter into an FEC and the Value Date. It may also assist you in managing your cash flow by negating the uncertainty associated with exchange rate fluctuations for the certainty of a specified cash flow.

1. Purpose 2. Issuer 3. How does an FEC work? 4. What is a Forward Exchange Contract? 5. What is the purpose of an FEC?

A foreign exchange rate is the price of one currency (the Base Currency) in terms of another currency (the Terms Currency). A quotation shows how many units of the Terms Currency will equal one unit of the Base Currency. For example the foreign exchange rate AUD/USD 0.7215 means one Australian dollar is equal to 72.15 US cents. In this example the Australian dollar is the Base Currency and the US Dollar is the Terms Currency. Exchange rates are quoted on the interbank market and fluctuate according to supply and demand. This market is restricted to authorised exchange dealers and banks that constantly quote to each other at wholesale rates and in minimum parcel sizes.

Factors that influence supply and demand include:

- Investment inflows/outflows
- Market sentiment or expectations
- Economic and political influences
- Import/export of goods and services

Exchange rates quoted in the media generally refer to interbank rates and will usually differ from exchange rates quoted to you. Travelex sets its Spot Rate by applying a margin to the Interbank Exchange Rate that it receives. Travelex determines this margin by taking account of a number of factors, including:

- The size of the transaction
- The currency pair
- Market volatility
- The time zone you choose to trade in
- The frequency with which you trade with Travelex

In determining the rate applicable to an FEC, Travelex applies a forward margin to its Spot Rate.

Travelex takes into account a number of factors in determining a forward margin although in general terms it reflects:

- The differing interest rates prevailing in the two currencies involved in the FEC.
- Market volatility.
- Transaction size and Travelex's ability to off set the transaction in the inter-bank market.

A forward margin can be either a positive or a negative number; where it is a positive number it is added to the Spot Rate and where it is a negative number it is subtracted from the Spot Rate. For example, an exporter needs to buy Australian dollars (AUD) in three months time in exchange for US dollars (USD) and Australian interest rates are higher than US interest rates.

The pricing principle assumes that Travelex buy AUD now at the Spot Rate, paying for the AUD with USD. Travelex will pass on the benefit of the higher rate of interest that it earns on the AUD. The adjustment, which would be an addition to the Spot Rate means that the forward exchange rate would be more favourable than a Spot Rate. The reverse would apply if Australian interest rates were lower than US interest rates.

7.13 SUMMARY

Forecasting exchange rates is very difficult. For a company to use only the spot market for its foreign currency requirements may be a high risk strategy because exchange rates could move significantly in a short period of time. For example, if you placed an order for raw materials from Germany for payment in three months' time, and use the spot market to meet the invoice when it falls due, your company could lose significantly if rates move against you.

A forward contract is an obligation to buy or sell a certain amount of foreign currency at a pre-determined date. Even if your requirements change over the term of the forward contract, you are still obliged to deal.

- A forward contract obliges you to deal at a specific rate - you are not in a position to benefit from any favourable movements in exchange rates between booking the contract and completing the deal.
- No premium is payable.

7.15 ANSWERS TO CHECK YOUR PROGRESS

1) i. Corporates ii. Commercial banks iii. Exchange brokers iv. Central banks

2) A commodity swap is an agreement whereby a floating (or market or spot) price is exchanged for a fixed price over a specified period.

3) An equity swap is a special type of total return swap, where the underlying asset is a stock, a basket of stocks, or a stock index.

5) A 'swap deal' is a transaction in which the bank buys and sells the specified foreign currency simultaneously for different maturities

7.16 REVIEW QUESTIONS

1. Write the procedures of the foreign exchange transactions

2 Bring down the best practices in foreign exchange transactions

3. Give the guidelines on travel related foreign exchange transactions

4 . List down the various kinds of the foreign exchange market

5. What you understand about spot and forward market

6 write a short note on

1. interbank deals 2. cover deals 3. trading 4. swap deals

5. Interest rate swaps 6. Currency swaps 7. Arbitrage arguments

7 State the different features of exchange market

8 What you understand about forward exchange contracts

9 Describe the the term of an FEC

7. 17 FURTHER READINGS

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UNIT VIII

READY AND FORWARD EXCHANGE RATES

UNIT STRUCTURE

8.1 INTRODUCTION

Companies involved in international trade can be seriously affected by adversely moving exchange rates. A forward exchange contract is an effective hedging mechanism similar to an insurance policy, as it protects a trader from unfavourable exchange rate movements. However, it precludes the trader from profiting from a favourable movement in the currency's exchange rate. A forward exchange contract is an agreement between two parties to exchange a specified amount of one currency or another currency at a specified foreign exchange rate on a future date.

8.2 OBJECTIVES

After reading this chapter you can get an idea about types of cover, factors to consider when selecting a contract type, as well as the various methods of delivery that

can take place with a FEC. These are: early delivery, extension and cancellations or surrenders.

8.3 FORWARD EXCHANGE CONTRACTS

Forward exchange contracts are used to secure a rate today for settlement at some time in future, usually longer than two business days.

Definition

A forward exchange contract, commonly known as FEC or forward cover, may be defined as a contract between a bank and its customer whereby a rate of exchange is fixed immediately for the purchase (or sale) of one currency for another, or for delivery at an agreed future date. Forward exchange contract rates are based on interest differentials between the countries concerned, and are not predictions of what the rates of exchange will be in the future.

Note: While the rate of exchange is fixed when the contract is entered into, value (money) only changes hands at the maturity date.

8.3.1. Purpose of Forward Exchange Contracts

Forward exchange contracts are used by market participants to set exchange rates for a future date. Importers, exporters and investors commonly use forward exchange contracts to hedge foreign currency cash flows.

A forward exchange contract can be:

- for a fixed term, such as months;
- for a fixed delivery date; or
- for a fixed term or fixed delivery date, but with an optional delivery period (in which case you can take delivery at any time in an agreed period leading up to the delivery date). If you decide to enter into a forward exchange contract, you will need to tell us the term or delivery date, as this will identify when you want delivery of the currency. If you want a contract with an optional delivery period, you will also need to identify when the period is to begin.

8.3.2. Pricing of Forward Exchange Contracts

The forward exchange rates that we quote are not a forecast of where we believe the foreign exchange rate will be on any future date. Rather, we calculate a forward

exchange rate, by taking the 'current spot foreign exchange rate' and adjusting it by a 'forward margin'.The spot foreign exchange rate is the term given to the foreign exchange rate when the delivery date is two clear business days after the date the rate is quoted. The forward margin reflects interest rate differentials between the two currencies. It is expressed as a number of foreign exchange points, and is either added to or subtracted from the current spot exchange rate to determine the forward exchange rate. This depends on which currency has the higher or lower interest rate.

8.3.3. Foreign currency contracts

In the international foreign exchange markets, the values of the various local currencies are expressed by indicating the price of one US dollar in local currency. To calculate and quote a rand/foreign currency exchange rate, a South African bank will use the rand/dollar rate, and the dollar/foreign currency rate. In view of this there are two distinct "legs" (transactions) in any rand/foreign currency deal. To calculate a forward exchange rate for such transactions, the interest differentials must be taken into account for both "legs" (transactions).

8.3.4. Premium or Discount on Forward Transactions

The forward rate of a currency is normally either costlier or cheaper than its spot rate. The difference between the spot rate and forward rate is *called forward margin or swap* points. When the forward margin is at premium the forward rate will be higher/costlier than the spot rate. Similarly, if the forward margin is at a discount, the forward rate shall be lower or cheaper than the spot rate. Under a direct quotation, the premium is added to the spot rate for reaching the forward rate and discount is deducted from the spot rate to arrive at the forward rate. If US$ is quoted on a particular day as spot at US$ I=Rs. 45.90/46.10, this would be interpreted as buying rate of Rs. 45.90 and selling rate as Rs. 46.10. Factors such as (a) rate of interest prevailing at home centre and the concerned foreign currency centre, (b) demand and supply position of the foreign currency, (c) speculation about spot rates, and (d) exchange control regulations; generally determine the premium or discount.

The interest rate differential between two countries could either be at a premium or a discount. When the foreign interest rate is higher than the South African interest rate, the foreign currency is at a discount. The forward rate is then lower than the spot rate

Check Your Progress

1) What is Forward Exchange Contracts?

which will benefit the importer but will be at a cost to the exporter. Conversely, when the foreign interest rate is lower than the South African interest rate, the foreign currency is termed to be at a premium. The forward rate is then higher than the spot rate and will benefit the exporter but will be at a cost to the importer.

8.3.5. Establishment

Application for a forward contract must be made to any International Trade Services front office. As a forward contract represents a contingent liability, the branch manager who will apply the normal credit criteria when assessing the request must sanction it. Once the facility has been granted and limits set in place, the applicant will be required to complete a form covering the general conditions applicable to forward exchange contracts. The general conditions form is valid for a period of 10 years, and needs to be renewed thereafter.

A customer wanting to enter into a forward exchange contract must state what type of contract is required, and what type of cover is needed.

8.3.6 Types of Forward Exchange Contract (FEC)

The following contracts are available:

1. **Fixed contract:** a specific delivery date is agreed upon. The delivery of the foreign currency at the rate fixed in the FEC will be made on the exact date (fixed date) specified in the contract.
2. **Partially optional contract:** this contract is fixed during the first period (from opening to option start date) and then fully optional from option start date to due/maturity date. The delivery of the foreign currency at the forward contract rate can take place at any time during the optional period.
3. **Fully optional contract:** the delivery of the foreign currency can take place at the forward contract rate at any time throughout the entire existence of the FEC.

8.3.6.1 Considerations when selecting the type of contract:

- Is the payment / accrual date of the underlying commitment determinable, or is there some uncertainty?

- What are the terms and conditions of the underlying contract of sale and is there any uncertainty regarding the adherence to manufacturing / delivery dates which in turn will have a bearing on payment / accrual dates?

- Is the currency quoted at a premium or discount?

- Is it likely that the premium / discount will increase / decrease during the life of the contract?

8.3.7 Types Of Cover

The importer/exporter can cover either one of the two legs of the transaction, or both of them, depending on his view of the currency market. He can opt for:

- **Foreign currency/dollar cover** thereby leaving the rand/dollar leg uncovered;
- **Rand/dollar cover** thereby leaving the foreign currency/dollar leg uncovered; or
- **Rand/foreign currency cover** thereby eliminating the entire currency risk.

A customer under forward exchange contract knows in advance the time and amount of foreign exchange to be delivered and the customer is bound by this agreement. There should not be any variation and on the due date of the forward contract the customer will either deliver or take delivery of the fixed sum of foreign exchange agreed upon. But, in practice, quite often the delivery under a forward contract may take place before or after the due date, or delivery of foreign exchange may not take place at all. The bank generally agrees to these variations provided the customer agrees to bear the loss, if any, that the bank may have to sustain on account of the variation.

Though the delivery or take delivery of a fixed sum of foreign exchange under a forward contract has to take place at the agreed time, quite often this does not happen and it may either take place before or after the due date agreed upon. However, the bank generally agrees to these variations provided the customer bears the loss if any on account of this variation.

Based on the circumstances, the customer may end up in any of the following ways:

1. Delivery on the due date.
2. Early delivery.
3. Late delivery.
4. Cancellation on the due date.

Check Your Progress

2) What is early delivery?

5. Early cancellation.
6. Late cancellation.
7. Extension on the due date.
8. Early extension.
9. Late extension.

As per the Rule 8 of FEDAI, a request for delivery or cancellation or extension of the forward contract should be made by the customer on or before its maturity date. Otherwise a forward contract which remains unutilized after the due date becomes an overdue contract. Rule 8 of FEDAI stipulates that banks shall levy a minimum charge of Rs. 100 for every request from a merchant for early delivery, extension or cancellation of a forward contract. This is in addition to recovery of actual loss incurred by the bank caused by these changes.

Delivery on Due Date:

This is the situation envisaged when the forward contract was entered into. When the foreign exchange is delivered on the due date, the rate applied for the transaction would be the rate originally agreed, irrespective of the spot rate prevailing.

Early Delivery:

When a customer requests early delivery of a forward contract, i.e., delivery before its due date, the bank may accede to the request provided the customer agrees to bear the loss, if any, that may accrue to the bank.

8.4 CANCELLATIONS AND EXTENSIONS OF FORWARD EXCHANGE CONTRACTS

The customer is having the right to cancel a forward contract at any time during the currency of the contract. The cancellation is governed by Rule 8 of the FEDAI. The difference between the contracted rate and the rate at which the cancellation is done shall

be recovered or paid to the customer, if the cancellation is at the request of the customer. Exchange difference not exceeding Rs.50 shall be ignored.

The spot rate is to be applied for cancellation of the forward contract on due date. The forward rate is to be applied for cancellation before due date. In the absence of any instruction from the customer, contracts which have matured shall on the 15th day from the date of maturity be automatically cancelled. If the 15th day falls on a holiday or Saturday the cancellation will be done on the next succeeding working day.

The customer is liable for recovery of cancellation charges and in no case the gain is passed on to the customer since the cancellation is done on account of customer's default. The customer may approach the bank for cancellation when the underlying transaction becomes infractions, or for any other reason he wishes not to execute the forward contract. If the underlying transaction is likely to take place on a day subsequent to the maturity of the forward contract already booked, he may seek extension in the due date of the contract. Such requests for cancellations or extension can be made by the customer on or before the maturity of the forward contract.

Check Your Progress

3) What is cancellation of Forward Exchange Contracts?

Cancellation of Forward Contract on Due date:

When a forward purchase contract is cancelled on the due date it is taken that the bank purchases at the rate originally agreed and sells the same back to the customer at the ready TT rate. The difference between these two rates is recovered from/paid to the customer. If the purchase rate under the original forward contract is higher than the ready T.T selling rate the difference is payable to the customer. If it is lower, the difference is recoverable from the customer. The amounts involved in purchase and sale of foreign currency are not passed through the customer's account. Only the difference is recovered/paid by way of debit/credit to the customer's account. In the same way when a forward sale contract is cancelled it is treated as if the bank sells at the rate originally agreed and buys back at the ready T.T buying rate. The difference between these two rates is recovered from/paid to the customer.

Early Cancellation of a Forward Contract:

Sometimes the request for cancellation of a forward purchase contract may come from a customer before the due date. When such requests come from the customer, it would be cancelled at the forward selling rate prevailing on the date of cancellation, the due date of this sale contract to synchronize with the due date of the original forward purchase contract. On the other hand if a forward sale contract is cancelled earlier than the due date, cancellation would be done at the forward purchase rate prevailing on that day with due date of the original forward sale contract.

Extension on Due date:

An exporter finds that he is not able to export on the due date but expects to do so in about two months. An importer is unable to pay on the due date but is confident of making payment a month later. In both these cases they may approach their bank with whom they have entered into forward contracts to postpone the due date of the contract. Such postponement of the date of delivery under a forward contract is known as the extension of forward contract. The earlier practice was to extend the contract at the original rate quoted to the customer and recover from him charges for extension. The reserve bank has directed that, with effect from16.1.95 when a forward contract is sought to be extended, it shall be cancelled and rebooked for the new delivery period at the prevailing exchange rates. FEDAI has clarified that it would not be necessary to load exchange margins when both the cancellation and re-booking of forwards contracts are undertaken simultaneously. However it is observed that banks do include margin for cancellation and rebooking as in any other case. Further only a flat charge of Rs.100 (minimum) should be recovered and not Rs.250 as in the case of booking a new contract.

Overdue Forward Contracts:

As we have already seen, the customer has the right to utilize or cancel or extend the forward contract on or before its due date. No such right exists after the expiry of the contract. FEDAI Rule 8 provides that a forward contract which remains overdue with any instructions from the customer concerned on or before its due date shall on the 15th day

from the date of maturity be automatically cancelled by the bank. The customer remains liable for the exchange difference arising there from but if it results in profit it need not be passed on to the customer. In case of delivery subsequent to automatic cancellation the appropriate current rate prevailing on such delivery shall be applied.

Roll over Forward Contracts:

When deferred payment transactions of imports/exports takes place, the repayment of the installment and interests on foreign currency loans by the customer requires long term forward cover where the period extends beyond six months. The bank may enter into forward contract for long terms provided there is suitable cover is available in the market. However the cover is made available on roll over basis in which cases the initial contract may be made for a period of six months and subsequently each deferred installments for the outstanding balance of forward contract by extending for further periods of six months each. For these transactions the rules and charges for cancellation / extension of long term forward contracts are similar to those of other forward contracts.

Check Your Progress

4) Exchange Margin is determined by whom?

8.4.1. Forward exchange contracts – Early delivery

An early delivery is when a forward exchange contract is used before the maturity date of a fixed contract OR during the fixed period of a partially optional contract.

Early deliveries under a forward exchange contract are deliveries requested:

- Before the maturity date of a fixed contract, or
- During the fixed period of a partially optional contract.

Early deliveries under a forward exchange contract are done on a swap basis. For example, the importer needs to effect a payment during the fixed period of the forward exchange contract. He is unable to use the contract owing to the fixed period and to assist him the bank will provide the foreign currency converted at the current ruling rate of exchange. The forward contract remains unused and is surplus to requirements. To eliminate the surplus funds the bank enters into a contra (swap) contract to buy back (offset) the amount on the maturity date of the original contract.

8.4.2. Forward exchange contracts – Extension

On occasions, payment is delayed owing to late arrival of documents or other mishaps. When payment or receipt of funds is deferred for any reason, the maturity date of the forward contract has to be extended. This is also done by means of a swap. The importer must fulfill his obligation under the existing contract that is he will receive the foreign currency against the settlement in rand at the forward contract rate. As the importer has no foreign currency commitment at this time, he must sell the foreign currency to the bank at the spot (current) rate of exchange. At the same time, and based on the same spot rate, the bank will provide a fresh forward contract to the new maturity date.

The exporter must fulfill his obligation under the existing contract by selling the foreign currency to the bank against settlement in rand at the forward contract rate. He will but the foreign currency from the bank at the spot (current) rate of exchange, as there is no foreign currency accrual. He will obtain a fresh forward contract, to the new maturity date, based on the same spot buying exchange rate.

Please note (using the case of the importer as an example):

- The difference in exchange between buying the foreign currency at the forward contract rate and selling the currency at the spot rate of exchange is not a profit or loss in exchange, but is merely a prepayment to or an advance by the bank.

- The importer does not lose the benefit of the rate of exchange on which the original contract is based.

On occasions, payment is delayed owing to late arrival of documents or other mishaps. In such cases the maturity date of the forward contract may be extended and this is done by means of a swap.

• The importer must fulfill his obligation under the existing contract, that is, he will receive the foreign currency against settlement in rand at the forward contract rate.

• As the importer has no foreign currency commitment at this time, he must sell the foreign currency to the bank at the spot (current) rate of exchange.

• At the same time and based on the same spot rate the bank will provide a fresh forward contract to the new maturity date.

Conditions:

1.The difference in exchange between buying the foreign currency at the forward contract rate and selling the foreign currency at the spot rate of exchange is not a profit or loss in exchange, but is merely a prepayment to or an advance by the bank.

2. The importer does not lose the benefit of the rate of exchange on which the original contract is based.

8.4.3 Cancellation of a Forward Exchange Contract

You can cancel a forward exchange contract at any time. The cancellation can take place either on the delivery date or at any time before the delivery date. Any cancellation will take into account the (MTM) value of the contract and the forward margin (pre-delivery margin) if cancelled before the delivery date (refer to explanation in pre-delivery for further explanation). On cancellation of a contract, the net positive or negative cash flow of the base currency will be settled.

- Cancellations or Surrenders In the event of an importer being unable to use the forward exchange contract, in whole or in part, the outstanding balance is surrendered by settlement for the difference in exchange between:

- The forward contract rate, and
- The current day's spot telegraphic buying rate of exchange

If an order is cancelled, the forward exchange contract must be cancelled at the prevailing spot exchange rate, which can result in financial loss.

8.4. 4. Surrender

In the event of an importer being unable to use his forward exchange contract, in whole or in part, the outstanding balance is surrendered by settlement for the difference in exchange between:

- The forward contract rate, and
- The current day's spot telegraphic buying rate of exchange.

8.5. DELIVERY WILL TAKE PLACE ON A "SWAP' BASIS.

To understand a "swap" transaction, consider the following example: A person invests money on fixed deposit with the bank for six months. After three months, that

person needs the money on fixed deposit. But, the bank cannot release the money under a fixed deposit, so it then arranges for a loan for three months to help that client. On maturity of the fixed deposit, the proceeds are used to offset the three-month loan. The client will either have to pay or receive the difference in the interest between the overdraft rate and the fixed deposit rate.

Swap contracts operate on a similar basis. The importer needs to make a payment but is unable to use the contract because of the fixed period. To assist the client, the bank provides the foreign currency converted at the current ruling rate of exchange. The forward contract therefore remains unused and is surplus to requirements. To eliminate the surplus funds, the bank enters into a contra (swap) contract to buy back (offset) the amount on the maturity date of the original contract.

8.6 ADVANTAGES AND DISADVANTAGES OF FORWARD CONTRACTS

8.6.1. Advantages of Forward exchange contracts

Forward exchange contracts offer the following advantages:

- The company is protected against exchange rate fluctuations.
- The exact value of the export and import order can be calculated on the day it is processed.
- Budgeting and costing are accurate.

8.6.2 Disadvantages of Forward exchange contracts

i)Exchange rate fluctuations.

Once a company has covered a transaction with a forward exchange contract, it cannot take advantage of favourable exchange rate movements.

ii)Cancellation of commitment

If an order is cancelled theforward exchange contract may be utilised for another commitment or can be surrendered at the prevailing spot exchange rate, which can result in a financial loss/profit.

iii) Administrative burden

Early deliveries, extensions, surrenders and cancellations during the fixed period of a forward exchange contract are done on a swap basis causing additional administration. Forex Risk Management

8.7 RISKS IN FOREIGN EXCHANGE DEALINGS

The following are the major risks in foreign exchange dealings

8.7.1. Open Position Risk

The open position risk or the position risk refers to the risk of change in exchange rates affecting the overbought or oversold position in foreign currency held by a bank. Hence, this can also be called the rate risk. The risk can be avoided by keeping the position in foreign exchange square. The open position in a foreign currency becomes inevitable for the following reasons:

- The dealing room may not obtain reports of all purchases of foreign currencies made by branches on the same day.
- The imbalance may be because the bank is not able to carry out the cover operation in the interbank market.
- Sometimes the imbalance is deliberate. The dealer may foresee that the foreign currency concerned may strengthen.

8.7.2. Cash Balance Risk

Cash balance refers to actual balances maintained in the nostro accounts at the end-of each day. Balances in nostro accounts do not earn interest: while any overdraft involves payment of interest. The endeavour should, therefore, be to keep the minimum required balance in the nostro accounts. However, perfection on the count is not possible. Depending upon the requirement for a single currency more than one nostro account may be maintained. Each of these accounts is operated by a large number of branches.

Communication delays from branches to the dealer or from the foreign bank to the dealer may result in distortions.

8.7.3. Maturity Mismatches Risk

This risk arises on account of the maturity period of purchase and sale contracts in a foreign currency not coinciding or matching. The cash flows from purchases and sales mismatch thereby leaving a gap at the end of each period. Therefore, this risk is also known as liquidity risk or gap risk

Mismatches in position may arise out of the following reasons:

- Under forward contracts, the customers may exercise their option on any day during the month which may not match with the option under the cover contract with the market with maturity towards the month end.
- Non-availability of matching forward cover in the market for the volume and maturity desired.
- Small value of merchant contracts may not aggregative to the round sums for which cover contracts are available.
- In the interbank contracts, the buyer bank may pick up the contract on any day during the option period.
- Mismatch may deliberately created to minimise swap costs or to take advantage of changes in interest differential or the large swings in the demand for spot and near forward currencies.

8.7.4. Credit Risk

Credit Risk is the risk of failure of the counterparty to the contract Credit risk as classified into (a) contract risk and (b) clean risk.

- *Contract Risk:* arises when the failure of the counterparty is known to the bank before it executes its part of the contract. Here the bank also refrains from the contract. The loss to the bank is the loss arising out of exchange rate difference

that may arise when the bank has to cover the gap arising from failure of the contract.

Clean Risk Arises when: the bank has executed the contract, but the counterparty does not. The loss to the bank in this case is not only the exchange difference, but the entire amount already deployed. This arises, because, due to time zone differences between different centres, one currently is paid before the other is received.

8.7.5. Country Risk

Also known as 'sovereign risk' or 'transfer risk', country risk relates to the ability and willingness of a country to service its external liabilities. It refers to the possibility that the government as well other borrowers of a particular country may be unable to fulfil the obligations under foreign exchange transactions due to reasons which are beyond the usual credit risks. For example, an importer might have paid for the import, but due to moratorium imposed by the government, the amount may not be repatriated.

8.7.6. Overtrading Risk

A bank runs the risk of overtrading if the volume of transactions indulged by it is beyond its administrative and financial capacity. In the anxiety to earn large profits, the dealer or the bank may take up large deals, which a normal prudent bank would have avoided. The deals may take speculative tendencies leading to huge losses. Viewed from another angle, other operators in the market would find that the counterparty limit for the bank is exceeded and quote further transactions at higher premium. Expenses may increase at a faster rate than the earnings. There is, therefore, a need to restrict the dealings to prudent limits. The tendency to overtrading is controlled by fixing the following limits:

- A limit on the total value of all outstanding forward contracts; and
- A limit on the daily transaction value for all currencies together (turnover limit).

8.7.7. Fraud Risk

Frauds may be indulged in by the dealers or by other operational staff for personal gains or to conceal a genuine mistake committed earlier. Frauds may take the form of the dealings for one's own benefit without putting them through the bank accounts. Undertaking unnecessary deals to pass on brokerage for a kick back, sharing benefits by quoting unduly better rates to some banks and customers, etc. The following procedural measures are taken to avoid frauds:

- Separation of dealing form back-up and accounting functions.
- On-going auditing, monitoring of positions, etc., to ensure compliance with procedures.
- Regular follow-up of deal slips and contract confirmations.
- Regular reconciliation of nostro balances and prompt follow-up unreconciled items.
- Scrutiny of branch reports and pipe-line transactions.
- Maintenance of up-to records of currency position, exchange position and counterparty registers, etc.

8.7.8) Operational Risk

These risks include inadvertent mistakes in the rates, amounts and counterparties of deals, misdirection of funds, etc. The reasons may be human errors or administrative inadequacies. The deals are done over telecommunication and mistakes may be found only when the written confirmations are received later.

8.8 Merchant Rate

The foreign exchange dealing of a bank with its customer is known as merchant business and the exchange rate at which the transaction takes place is the merchant rate. The merchant business in which the contract with the customer to buy or sell foreign exchange is agreed to and executed on the same day is known as ready transaction or cash transaction. As in the case of interbank transactions a value next day contract is

deliverable on the next business day and a spot contract is deliverable on the second succeeding business day following the date of the contract. Most of the transactions with customers are on ready basis. In practice, the term ready and spot are used synonymously to refer to transactions concluded and executed on the same day.

Basis for Merchant Rates

When the bank buys foreign exchange from the customer, it expects to sell the same in the inter bank market at a better rate and thus make a profit out of the deal. In the interbank market, the bank will accept the rate as dictated by the market. It can, therefore, sell foreign exchange in the market at the market buying rate for the currency concerned. Thus the interbank buying rate forms the basis for quotation of buying rate by the bank to its customer.

Similarly, when the bank sells foreign exchange to the customer, it meets the commitment by purchasing the required foreign exchange from the interbank market. It can acquire foreign exchange from the market at the market selling rate. Therefore the interbank selling rate forms the basis for quotation of selling rate to the customer buy the bank. The interbank rate on the basis of which the bank quotes its merchant rate is known as the base rate.

8.9 EXCHANGE MARGIN

If the bank quotes the base rate to the customer, it makes no profit. On the other hand, there are administrative costs involved. Further the deal with the customer takes place first. Only after acquiring or selling the foreign exchange from to the customer, the bank goes to the interbank market to sell or acquire the foreign exchange required to cover the deal with the customer. An hour or two might have lapsed by this time. The exchange rates are fluctuating constantly and by the time the deal with the market is concluded, the exchange rate might have turned adverse to the bank. Therefore sufficient margin should be built into the rate to cover the administrative cost, cover the exchange fluctuation and provide some profit on the transaction to the bank. This is done by loading exchange

margin to the base rate. The quantum of margin that is built into the rate is determined by the bank concerned, keeping with the market trend.

8.10 ANSWERS TO CHECK YOUR PROGRESS

1) Forward exchange contracts are used to secure a rate today for settlement at some time in future, usually longer than two business days.

2) An early delivery is when a forward exchange contract is used before the maturity date of a fixed contract OR during the fixed period of a partially optional contract.

3) You can cancel a forward exchange contract at any time. The cancellation can take place either on the delivery date or at any time before the delivery date.

4) The quantum of margin that is built into the rate is determined by the bank concerned, keeping with the market trend.

8.11 REVIEW QUESTIONS

1 Discuss the provisions and conditions of Forward Exchange Contracts

2 How the Execution of Forward Contracts can be done?

3 What was the procedure for Cancellations and Extensions of forward contracts?

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NOTES

UNIT IX

CURRENCY DERIVATIVES

UNIT STRUCTURE

9.1 INTRODUCTION

A currency derivative is a contract between the seller and the buyer, whose value is to be derived from the underlying asset, the currency amount. A derivative based on currency exchange rates is a future contract which stipulates the rate at which a given currency can be exchanged for another currency as at a future date

A currency derivative is a product with benefits, such as:

- ❖ Access to a new asset class for trading to all Resident Indians
- ❖ Hedging current exposure:

  a. Importers and exporters can hedge future payables and receivables

b. Borrowers can hedge Foreign Currency loans for interest or principal payments

c. Hedge for offshore investment for Resident Indians

- ❖ Arbitrage opportunity for entities who can access onshore and non deliverable forward markets
- ❖ Volatility and multiplier make it a significant trading option for traders

9.2 0BJECTIVES

This chapter is framed in such a manner to bring the ideas regarding Currency Forwards, Currency Futures, Currency Options, Exchange Traded Transactions, Financial SWAPs, Forward Rates Agreements and Interest Rate Options

9.3 CURRENCY FORWARD

A forward contract in the foreign exchange market that locks in the price at which an entity can buy or sell a currency on a future date. It is also known as "Outright Forward Currency Transaction", "Forward Outright" or "Foreign Exchange Forward".

In currency forward contracts, the contract holders are obligated to buy or sell the currency at a specified price, at a specified quantity and on a specified future date. These contracts cannot be transferred.

RBI has currently permitted futures only on the USD-INR rates. ENAM Securities Direct Pvt. Ltd. offers trading facilities to investors on the Currency derivatives segment of the NSE. The contract Specification of the futures shall be as under:

Underlying	Rate of exchange between one USD and INR
Trading Hours (Monday to Friday)	09:00 a.m. to 05:00 p.m.
Contract Size	USD 1000
Tick Size	0.25 paise or INR 0.0025
Trading Period	Maximum expiration period of 12 months

Contract Months	12 near calendar months
Final Settlement date / Value date	Last working day of the month (subject to holiday calendars)
Last Trading Day	Two working days prior to Final Settlement Date
Settlement	Cash settled
Final Settlement Price	The reference rate fixed by RBI two working days prior to the final settlement date will be used for final settlement

The Currency Derivatives trading system of NSE, called NEAT-CDS (National Exchange for Automated Trading – Currency Derivatives Segment) trading System, provides a fully automated screen-based trading for currency futures on a nationwide basis as well as an online monitoring and surveillance Mechanism. It supports an order driven market and provides complete Transparency of trading operations. The online trading system is similar to that of trading of equity derivatives in the Futures & Options (F&O) segment of NSE.

Client Broker Relationship in Derivatives Segment

client of a trading member is required to enter into an agreement with the trading member before commencing trading. A client is eligible to get all the details of his or her orders and trades from the trading member. A trading member must ensure compliance particularly with relation to the following while dealing with clients:

1. Filling of 'Know Your Client' form
2. Execution of Client Broker agreement
3. Bring risk factors to the knowledge of client by getting acknowledgement of client on risk disclosure document

4. Timely execution of orders as per the instruction of clients in respective client codes.
5. Collection of adequate margins from the client.
6. Maintaining separate client bank account for the segregation of client money.
7. Timely issue of contract notes as per the prescribed format to the client.
8. Ensuring timely pay-in and pay-out of funds to and from the clients
9. Resolving complaint of clients if any at the earliest.
10. Avoiding receipt and payment of cash and deal only through account payee Cheques.
11. Sending the periodical statement of accounts to clients.
12. Not charging excess brokerage
13. Maintaining unique client code as per the regulations

The system allows the trading members to enter orders with various conditions attached to them as per their requirements. These conditions are broadly divided into the following categories:

- Time conditions
- Price conditions

Other conditions

Charges

The maximum brokerage chargeable by a trading member in relation to trades effected in the contracts admitted to dealing on the Currency Derivatives segment of NSE is fixed at 2.5% of the contract value. The transaction charges payable to the exchange by the trading member for the trades executed by him on the Currency Derivatives segment would be as prescribed by the Exchange from time to time. The trading members would also contribute to Investor Protection Fund of Currency Derivatives segment at the rate as may be prescribed by the Exchange from time to time.

Clearing and Settlement

National Securities Clearing Corporation Limited (NSCCL) undertakes clearing and settlement of all trades executed on the Currency Derivatives Segment of the NSE. It also acts as legal counterparty to all trades on the Currency Derivatives segment and guarantees their financial settlement.

Settlement of currency futures contracts

Currency futures contracts have two types of settlements, the MTM settlement which happens on a continuous basis at the end of each day, and the final settlement which happens on the last trading day of the futures contract.

Mark to Market settlement (MTM Settlement)

All futures contracts for each member are marked-to-market (MTM) to the daily settlement price of the relevant futures contract at the end of each day. The profits/losses are computed as the difference between:

Check Your Progress
1. What is currency future contact?

- The trade price and the day's settlement price for contracts executed during the day but not squared up.
- The previous day's settlement price and the current day's settlement price for brought forward contracts.
- The buy price and the sell price for contracts executed during the day and squared up.

Final settlement for futures

On the last trading day of the futures contracts, after the close of trading hours, NSCCL marks all positions of a CM to the final settlement price and the resulting profit/loss is settled in cash. Final settlement loss/profit amount is debited/ credited to the relevant CM's clearing bank account on T+2 working day following last trading day of the contract (Contract expiry Day).

Settlement prices for futures

Daily settlement price on a trading day is the closing price of the respective futures contracts on such day. The closing price for a futures contract is currently calculated as the last half an hour weighted average price of the contract in the Currency Derivatives Segment of NSE. The final settlement price is the RBI reference rate on the last trading day of the futures contract. All open positions shall be marked to market on the final settlement price. Such marked to market profit / loss shall be paid to / received from clearing members.

9.4 CURRENCY FUTURES

A Currency Futures Contract is a commitment to either take delivery or give delivery of a certain amount of a foreign currency on a future date at a specified exchange rate. Currency futures are conceptually similar to currency forward contracts. But they differ widely in terms of operational process. For example, A needs 1000 on a date sometime in near future. So, instead of buying this amount now and keeping it idle, A buys a futures contract maturing around the date when he needs 1000. Suppose this particular futures contract is quoting at Rs 56 per euro today. Once A enters into a contract to buy 1000 at Rs 56 per euro, he will have to pay neither more nor less than Rs 56 per euro irrespective of the actual spot rate on the date of delivery of the •1000.

The participants on currency futures market may be traders, brokers or brokers-traders. Traders are speculators who buy and sell to take positions on the market for their own account. Brokers do not trade but enable other clients to find buyers/sellers. They do so by charging a commission. Broker-traders operate for their own account as well as for their clients. Business enterprises, operating through their brokers, buy or sell currency futures in order to cover or hedge their currency exposures. They are called hedgers for this reason. On the other hand, speculators take positions in futures market to make profits.

Currency futures are yet another technique to remove the rigidity associated with forward contracts. In principle, the idea is very simple. If a corporation has an asset, e.g., a receivable in a currency , let us say, US$ which it would like to hedge, it should take a futures position such that futures generate a positive cash flow whenever the asset

declines in value. In this case, since the firm is long in the underlying asset, it should go short in futures, i.e., it should sell futures contract in US dollars. A direct hedge is available for most of the convertible currencies; otherwise, a firm must choose a futures contract on an underlying currency that is highly positively correlated with the currency exposure being hedged. Even when a direct hedge is available, it is almost always impossible to achieve a perfect hedge. This is due to two reasons. One is the fact that futures contracts are for standardised amounts and only rarely will the exposure to be hedged equal the value of an integral number of futures. For example, an American firm with a receivable of DM 5,50,000 cannot hedge this amount exactly by selling DM futures. Four DM futures will cover DM 5,00,000 while five contracts will be worth DM 6.25.000. The second and more important reason is that the correlation between spot, and futures prices is less than perfect. Essentially, the difficulty is that the change in spot price does not, in general, equal the change in futures price. This is known as the basis risk. On March 1, the dollar/Pound spot rate is 1.6750 while June futures are trading at 1.6680. The basis is 0.0070 or 70 ticks. Suppose, an American firm has a three month sterling receivable of 1,00,000 Pounds and hedges it by selling two sterling futures. By June 1, the spot sterling has depreciated to 1.6620 while June futures are trading at 1.6590. The basis has, thus, shrunk to 30 basis ticks. The loss on the receivable is : $ 100,000 (1.6750 –1.6620) = $ 1,300 while the gain on futures is : $(£ ,25,000(1.6680-1.6590)) = $ 1,125. Hence, even the two sterling futures do not give a perfect hedge to the sterling receivable.

Check Your Progress

2. What is a currency option?

9.5 CURRENCY OPTIONS

A currency option, as the name suggests, gives its holder a right and not an obligation to buy or sell or not to buy or sell a currency at a predetermined rate on or before a specified maturity date. Options are traded on the Over-the-Counter (OTC) market as well as on organised exchanges. _There are different categories of market operators such as enterprisers (known as hedgers) who use options to cover their exposures, banks that profit by speculating and arbitrageurs who profit by taking advantage of price distortions on different markets.

Earlier, all currency options were OTC options, written by international banks and investment banks. OTC options are tailor-made in terms of maturity length, exercise price and the amount of underlying currency. These contracts may be for as large amounts as more than one million dollar equivalent of underlying currency. They are available on all major international currencies such as British pound, Japanese yen, Canadian dollar, Swiss franc and euro; They are also available on some of the less traded currencies.

OTC options are generally of European style. Standardised currency option contracts started being traded for the first time in 1982 on Philadelphia Stock Exchange (PHLX). These options trade with March, June, September and December expiration cycle. They mature on the Friday before the third Wednesday of the expiration month. Table 7.5 contains the size of the underlying currency per contract. They are half the corresponding futures contract. The volume of OTC currency options trading is much larger than that of exchange option trading, the former being in the range of $100 billion per day while the latter may be just about $3 to $4 billion per day.

When are options useful for currency hedging? Options are particularly useful for hedging uncertain cash flows, i.e,, cash flows that are contingent on other events.

Typical situations are:

1. International Tenders: Foreign exchange inflows will materialise only if the bid is successful. If execution of the contract also 'involves purchase of materials, equipment, etc. from third countries, there are contingent foreign currency outflows too.

2. Foreign currency receivables with substantial default risk or political risk, e.g., the host government of a foreign subsidiary might suddellly inlpose on dividend repatriation.

3. Risky Portfolio Investment: A funds manager, say in UK, might hold a of foreign stocks/bonds currently won say DM 50 million which he is earning to liquidate in six months' time. If he sells DM 50 million forward, and the portfolio declines in value because of a falling German stock market and rising interest rates, he will find him self to be over insured and short in DM.

Check Your Progress

3. What are types of derivatives market?

Currency options can also be used to hedge exposure to shifts in a currency. Companies competing with firms from other nations may find their products at a price disadvantage if a major competitor's currency weakens, allowing the competitor to reduce its prices. Thus, the company will be exposed to fluctuations in the competitor's currency even if it has no sales in that currency. For example, a Swiss engine manufacturer selling in Cierlnany will be placed at a competitive disadvantage if dollar depreciation allows its principal competitor located in the United States, to sell at a lower price in Germany. The Swiss firm can purchase options on the dollar to reduce its disadvantage. Let us illustrate how:

The Swiss firm can purchase pull options - why? Because it is expecting depreciation of the dollar vis-a-vis the DM. Further, if the firm purchases out of the money put option - strike price less favourable than the market price - the firm may make a neat profit.

After the depreciation of the dollar, the out of the money put option contract is likely to become in the money put option contract - strike price more favourable than the market price. The Swiss firm can then profitably sell these options at a profit enabling it to partly compensate for its lost competitiveness.

Important Terms relating to Options

Call option:

It is the type of option that gives its holder a right to buy a currency at a pre-specified rate on or before the maturity date

Put option:

It is the type of option that gives its holder a right to sell a currency at a pre-specified rate on or before the maturity date.

Premium:

It is the initial amount that the buyer (also called the option holder) of the option pays up-front to the seller (also called the option writer) of the option. By paying this premium, the holder acquires a right for himself and by receiving it, the writer takes an obligation upon himself to fulfil the right of the holder. Generally, it is a small percentage

of the amount to be bought or sold under the option. We use notation, c, to denote premium on call option and notation, p, to denote premium on put option.

Exercise/Strike Price (Rate):

It is the exchange rate at which the holder of a call option can buy and the holder of a put option can sell the currency under the deal, irrespective of the actual spot rate at the time of exercise of option. We use "X" to denote exercise price.

Maturity Date or Expiration Date:

The date on or up to which an option can be exercised. After this date, it becomes defunct and loses its validity.

American option:

When the option has the possibility of being exercised on any date up to matu ity, it is called American type.

European option:

When an option has the possibility of being exercised only on the maturity date, it is called European type.

Value of an option:

An option (whether call or put) has either a positive value or zero value. This can be explained with examples. Suppose a European call option has an exercise price (X) of Rs 55/•. On the date of maturity, the spot rate (S_T) may be more than or equal to or less than Rs 55/•.

(a) Possibility I: S_T = Rs 56/•.

In this case; call option will be exercised by the holder of the option as he can obtain euros at Rs 55/• while spot price is higher. Here, the call option is said to have a positive value of Re 1 (Rs 56 - Rs 55) or (S,- X)

(b) Possibility II S_T. Rs 55/•:

In this scenario, the holder has no specific advantage in buying euro either from spot market or by exercising his call option; He is indifferent between the two choices. The value of the option is zero.

(c) Possibility III: S_T = Rs 53/.

In this case, the holder of the option will buy euro directly from the spot market by abandoning his call option. Here also, the call option has no value or zero value.

Check Your Progress

4. What is FRA?

Similar scenarios can be developed to show the value of a put option.

Option-in-money:

An option is said to be in-money if its immediate exercise will give a positive value. So a call option is in-money if $S_T > X$. The value of such a call option is $S_T - X$. Likewise, a put option is in-money if $S_T < X$. The value of such a put option is $X - S_T$. Here S_T means the spot rate at the time of the exercise of the option.

Option-at-money: When $S_T = X$, an option is said to be at-money

Option-out-of-money: An option is said to be out-of-money when it has no positive value (knowing that an option can have either a positive or a zero value). So a call option is out-of-money if $S_T < X$ and a put option is out-of-money if $S_T > X$.

Premium (or Price) of an option:

The market operator may use a thumb rule to decide the premium or price to be paid or charged for an option. It may be a small percentage of the amount of currency transacted. However, it should be noted that this price depends on a number of factors in a rather complex way. These factors are:

(a) **Time to maturity:**

Longer is the time to maturity, higher is the price of an option (whether call or put). If the maturity is farther in time, it means there is greater uncertainty and possibility of currency rates fluctuating in wider range is more. Hence the probability of the option being exercised increases. So the writer would demand higher premium.

(b) **Volatility of the exchange rate of underlying currency:**

Greater volatility increases the probability of the spot rate going above exercise price for call or going below exercise price for put. That is, the probability of exercise of option increases with higher volatility. Therefore, the price of an option - whether call or put - would be higher with greater volatility of exchange rate.

(c) **Type of option:**

Typically an American type option will have greater price since it gives greater flexibility of exercise than European type.

(d) **Forward premium or discount:**

When a currency is likely to harden (greater forward premium), call option on it will have higher price. Likewise, when a currency is likely to decline (greater forward discount), higher will be price of a put option on it.

(e) **Interest rates on currencies:**

Higher interest rate of domestic currency means lower present value of exercise price. So lower exercise price of a call makes it dearer as the probability of its exercise increases. On the other hand, lower exercise price lowers the probability of a put being exercised. Thus higher domestic interest rate has the effect of increasing the price of call and lowering the price of put. Similarly, higher foreign interest rate will reduce the call premium and increase put premium.

(f) **Exercise Price:**

The call price will decrease with higher exercise price since its probability of use will be less. On the contrary, put premium will decrease with higher exercise price since the probability of its use will increase.

9.6 RISK MANAGEMENT

NSCCL has developed a comprehensive risk containment mechanism for the Currency Derivatives segment. The salient features of risk containment mechanism on the Currency Derivatives segment are:

- The financial soundness of the members is the key to risk management. Therefore, the requirements for membership in terms of capital adequacy (net worth, security deposits) are quite stringent.

- NSCCL charges an upfront initial margin for all the open positions of a CM. It specifies the initial margin requirements for each futures contract on a daily basis. It also follows a value-at-risk (VaR) based margining through SPAN®. The CM in turn collects the initial margin from the TMs and their respective clients.

- The open positions of the members are marked to market based on contract settlement price for each contract. The difference is settled in cash on a T+1 basis.

- NSCCL's on-line position monitoring system monitors the member open positions and margins on a real-time basis vis-à-vis the deposits provided by the CM/ limits set for the TM by the CM. The on-line position monitoring system generates alerts whenever the margins of a member reaches X% of the capital deposited by the CM or limits set for the TM by the CM. NSCCL monitors the CMs for initial margin and extreme loss margin violations, while TMs are monitored for initial margin violation.

- CMs are provided a trading terminal for the purpose of monitoring the open positions of all the TMs clearing and settling through him. A CM may set limits for a TM clearing and settling through him. NSCCL assists the CM to monitor the intra-day limits set up by a CM and whenever a TM exceeds the limit, it stops that particular TM from further trading.

- A member is alerted of his position to enable him to adjust his position or bring in additional capital. Margin violations result in withdrawal of trading facility for all TMs of a CM in case of a violation by the CM.

- A separate settlement guarantee fund for this segment has been created out of the capital of members.
- The most critical component of risk containment mechanism for the Currency Derivatives segment is the margining system and on-line position monitoring. The actual position monitoring and margining is carried out on-line through Parallel Risk Management System (PRISM). PRISM uses SPAN® (Standard Portfolio Analysis of Risk) system for the purpose of computation of on-line margins, based on the parameters defined by SEBI.

9.7 MARGINING SYSTEM

- NSCCL has developed a comprehensive risk containment mechanism for the Currency Derivatives segment. The most critical component of a risk containment mechanism is the online position monitoring and margining system. The actual margining is done on-line, on an intra-day basis using PRISM (Parallel Risk

Management System) which is the real-time position monitoring and risk management system. The risk of each trading and clearing member is monitored on a real-time basis and alerts/disablement messages are generated if the member crosses the set limits. NSCCL uses the SPAN® (Standard Portfolio Analysis of Risk) system; a portfolio based margining system, for the purpose of calculating initial margins.

- In order to determine the largest loss that a portfolio might reasonably be expected to suffer from one day to the next day based on 99% VaR methodology, the price scan range has been currently fixed at 3.5 standard deviation The initial margin so computed would be subject to a minimum of 1.75% on the first day of currency futures trading and a minimum of 1 % thereafter.

Types of Margins

- **Initial margin:** Margin in the Currency Derivatives segment is computed by NSCCL upto client level for open positions of CMs/TMs. These are required to be paid up-front on gross basis at individual client level for client positions and on net basis for proprietary positions. NSCCL collects initial margin for all the open positions of a CM based on the margins computed by NSCCLSPAN ®. A CM is required to ensure collection of adequate initial margin from his TMs up-front. The TM is required to collect adequate initial margins up-front from his clients.

- Extreme loss margin of 1% on the value of the gross open positions shall be adjusted from the liquid assets of the clearing member on an on line, real time basis.

- **Client margins:** NSCCL intimates all members of the margin liability of each of their client. Additionally members are also required to report details of margins collected from clients to NSCCL. which holds in trust client margin monies to the extent reported by the member as having been collected form their respective clients.

Position Limits

- **Client Level:** The gross open positions of the client across all contracts should not exceed 6% of the total open interest or 5 million USD whichever is higher. The Exchange will disseminate alerts whenever the gross open position of the client exceeds 3% of the total open interest at the end of the previous day's trade.

- **Trading Member level:** The gross open positions of the trading member across all contracts should not exceed 15% of the total open interest or 25 million USD whichever is higher. However, the gross open position of a Trading Member, which is a bank, across all contracts, shall not exceed 15% of the total open interest or 100 million USD, whichever is higher.

- **Clearing Member Level:** No separate position limit is prescribed at the level of clearing member. However, the clearing member shall ensure that his own trading position and the positions of each trading member clearing through him is within the limits specified above.

- **Reporting of client margin:** Clearing Members (CMs) and Trading Members (TMs) are required to collect initial margin, extreme loss margin, calendar spread margin and mark to market settlements from all their Trading Members/ Constituents.

- CMs are required to compulsorily report, on a daily basis, details in respect of such margin amount due and collected, from the TMs/ Constituents clearing and settling through them, with respect to the trades executed/ open positions of the TMs/ Constituents, which the CMs have paid to NSCCL, for the purpose of meeting margin requirements.

- Similarly, TMs are required to report on a daily basis details in respect of such margin amount due and collected from the constituents clearing and settling through them, with respect to the trades executed/ open positions of the constituents.

The Exchange shall impose stringent penalty on members who do not collect margins from their clients. The Exchange shall also conduct regular inspections to ensure margin collection from clients.

9.8 DERIVATIVES: FUTURE AND OPTIONS

We have discussed the origin of derivatives and how their use has grown sharply. Once a facilitator of transactions the financial officer or treasurer today faces many new daunting responsibilities. Among ,these responsibilities are the use of an array of new financial products which have appeared in response lo the growth in uncertainty described earlier. Risk is the spark of innovation leading to the creation of the financial derivatives industry.

Modern derivative markets provide a wide range of products linked to the key factors affecting financial and commercial performance. Whether one is the treasurer of a importing company or a trans-national manufacturing giant, external risk is endemic to business. Risks include interest rates, foreign exchange, equity values and commodity prices. Derivative instruments allow a treasurer to manage and find opportunity in the exciting but uncertain world of modern .business, We begin with interest rate and foreign exchange linked derivative markets, describing their general features, as well as offering a global perspective. **Equity** and commodity linked derivative market will be treated in a similar manner. With regard to managing

9.6 EXCHANGE TRADED

Derivatives and Derivatives Trading is fast becoming a popular investment option in India. A Derivative is a financial instrument that is derived from some other asset, index, event, value or condition (known as the underlying).

There are two types of to the derivatives market, which are traded as Over-the-counter and Exchange Traded.

The main difference between the two is that the latter is an organized exchange just like the exchanges meant for trading stocks. In this exchange, derivatives are traded.

Let's take a closer look at exchange traded derivatives by discussing the most common forms of derivatives - Options and Futures.

What are Exchange Traded Derivatives?

Exchange Traded Derivatives are those derivatives which are traded through specialized derivative exchanges, similar to the exchanges meant for trading stocks, whereas Over-the-Counter Derivatives are those which are privately traded between two parties and involves no exchange or intermediary.

In the Exchange Traded Derivatives Market or Future Market, the exchange acts as the main party and while trading derivatives it is actually the risk which is traded between the two trading parties. Compared to trading derivatives over-the-counter ("OTC"), an organized exchange with an integrated clearing house provides investors with a higher level of transparency and reduced counterparty risk.

What are Options and Futures?

Options and futures are the most common type of exchange traded derivatives.

Options:

Options are those financial instruments that provide its holders the right to trade the underlying asset at a predetermined price. A 'call' option gives a trader the right to buy the underlying asset at a given price. A 'put' option gives a trader the right to sell the underlying asset at a given price. This given price is known as the 'strike price.' The owner of an option has the right, but not the obligation, to buy or sell an asset.

Futures:

These refer to contracts to buy or sell an asset on or prior to a specified date in the future at a predetermined price. Buying a futures contract would mean that you have agreed to pay a predetermined price for the underlying asset at a future date. Similarly, selling a futures contract would mean that you have agreed to transfer the underlying asset to the buyer at a specified price at a future date. Currency, indices and commodities are some popular underlying assets on which the futures contracts are available.

How are Options and Futures Traded?

Since options and futures are forms of derivatives, their values change according to changes in the value of the underlying asset. These are traded on organized exchanges and can be bought or sold the way stocks are traded on a stock exchange.

What are the benefits and risks of trading Options and Futures?

Benefits

- Hedging: Options and futures are hedging tools, used especially in a bearish market
- Low transaction costs: They give investors the same exposure with lower transaction cost than other debt instruments
- Standardized contract: Options and futures are exchange traded. Hence, their pricing and volume transacted are transparent
- High liquidity: Buyers and sellers of options and futures can be found easily

Risks

The risks associated with options and futures are:

- Counterparty risk: This refers to the owner of the contract refusing to buy or sell the asset as agreed
- Market risk: This refers to the risk of adverse price movements resulting in losses

The trading of foreign exchange traded derivatives or the future contracts has emerged as very important financial activity all over the world just like trading of equity-linked contracts or commodity contracts. The derivatives whose underlying assets are credit, energy or metal, have shown a steady growth rate over the years around the world.

Interest rate is the parameter which influences the global trading of derivatives, the most. Also, an important point to remember is that there is no clear consensus on whether it is better to trade using Over-the-counter derivatives or Exchange Traded Derivatives. It is up to us to understand the nuances and then decide accordingly.

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9.10 FINANCIAL SWAPS

An arrangement in which two entities lend to each other on different terms, e.g., in different currencies, and/or at different interest rates, fixed or floating. A contract in which two parties agree to exchange periodic interest payments. In the most common type of swap arrangement, one party agrees to pay fixed interest payments on designated dates to a counterparty who, in turn, agrees to make return interest payments that float with some reference rate such as the rate on Treasury bills or the prime rate. Also called *interest rate swap*

The exchange of two securities, interest rates, or currencies for the mutual benefit of the exchangers. For example, in an interest rate swap, the exchangers gain access to interest rates available only to the other exchanger by swapping them. In this case, the two legs of the swap are a fixed interest rate, say 3.5%, and a floating interest rate, say LIBOR + 0.5%. In such a swap, the only things traded are the two interest rates, which are calculated over a notional value. Each party pays the other at set intervals over the life of the swap. For example, one party may agree to pay the other a 3.5% interest rate calculated over a notional value of $1 million, while the second party may agree to pay LIBOR + 0.5% over the same notional value. It is important to note that the notional amount is arbitrary and is not actually traded.

When you swap or exchange securities, you sell one security and buy a comparable one almost simultaneously. Swapping enables you to change the maturity or the quality of the holdings in your portfolio. You can also use swaps to realize a capital loss for tax purposes by selling securities that have gone down in value since you purchased them. More complex swaps, including interest rate swaps and currency swaps, are used by corporations doing business in more than one country to protect themselves against sudden, dramatic shifts in currency exchange rates or interest rates.

The foreign exchange swap is a standard instrument that is traded in the over-the-counter (OTC) market. An foreign exchange swap has two separate legs settling on two different dates; it provides for one exchange and one re-exchange only (and is not a stream of payments), i.e., one currency is swapped for another for a period of time, and then swapped back. The **deal date** is the date on which the two counterparties enter into the foreign exchange swap contract. The deal date is also referred to as the **contract date**. The **value dates** are the dates on which the currencies are exchanged and re-exchanged. Counterparties agree to exchange two currencies at a particular rate on one value date (the "near date" or the "spot value date") and to reverse payments, almost always at a different rate, on a specified subsequent value date (the "far date"). If both value dates are less than one month from the deal date, it is known as a "short-dated swap"; if one or both value dates are one month or more from the deal date, it is a "forward swap."

The two legs of an foreign exchange swap can, in principle, be attached to any pair of value dates. In practice, a limited number of standard maturities account for most foreign exchange swap transactions. The first leg usually occurs on the spot value date, and for about three-quarters of all foreign exchange swaps the second leg occurs within a week; however, there are also foreign exchange swaps with longer maturities of up to several years. Among dealers, most of these are arranged for even or straight dates—e.g., one week, one month, three months— but odd or broken dates are also traded for customers.

The cost of a foreign exchange swap is determined by the interest rate differential between the two swapped currencies. As with outright forwards, arbitrage and the principle of covered interest rate parity operate to make the cost of an foreign exchange swap equal to the foreign exchange value of the interest rate differential between the two currencies for the period of the swap (instances of deviations from covered interest parity are discussed later in this paper). The cost of the foreign exchange swap transaction is measured in swap points. The counterparty that holds the currency that pays the higher interest rate for the period of the swap will pay the points, neutralizing the interest rate differential and equalizing the return on the two currencies, while the counterparty that holds the currency that pays the lower interest will earn or receive the points. At the

outset of the transaction, the present value of the foreign exchange swap contract is always zero (excluding the transaction cost).

The objective for utilizing an foreign exchange swap may be different from that for an outright forward. The latter is typically used to manage the risk inherent in currency markets by enabling the rate and date on which a given amount of foreign exchange will be purchased or sold. Although foreign exchange swaps are also used to hedge foreign exchange exposures— and the foreign exchange swap market tends to be much more liquid than the forward market—the most common use of foreign exchange swaps is for institutions to fund their foreign exchange balances. The foreign exchange swap differs from the interest rate swap, which provides for an exchange of a stream of interest payments in the same currency but with no exchange of principal; it also differs from the currency swap, in which counterparties exchange and re-exchange principal and streams of fixed or floating interest payments in two different currencies.

9.11 INTEREST RATE OPTIONS

Prices in competitive financial markets — both debt and equity markets as well as derivative markets — reflect market assessments of future events. Prices of Eurodollar futures and options represent the market gauge of the direction and magnitude of their expected movements of interest rates. Eurodollar futures and options on futures traded in Chicago Mercantile Exchange, are the most actively traded in the world with open nterest over 40 million and average daily volume of 3.0 million in 2006. The highly liquid market represents a market consensus and consequently the implied volatility in options represents the expectation of future volatility.

Models incorporate the information of option prices could enhance the valuation ability and thus more able to hedge interest rate exposure. Assessing hedging efficiency of Eurodollar options, the applicability of the different models within a risk management system should be considered. Although the volatility implied in option prices varies across strikes and maturities, the standard market model simplifies the assumption of volatility. Previous works tend to use sophisticated models to capture the true behavior of market volatility. The interest of this paper is to examine the standard model in valuing interest rate options and compare with a more complex model. In this paper, Black's

model (1976), an extension of Black- Scholes (BS, 1973) model, is compared with Heath, Jarrow, and Morton (HJM, 1992) model.

To examine the application of the different models within a risk management system requires two important decisions about the test methodology. First, valuation models within risk management systems must be capable of predicting future option prices if they are to correctly measure risk exposure. This capability is examined by performing ex post predictability of a model in this study.

Second, we estimate volatility parameters from option prices rather than from time series. Volatility parameters implied in option prices are the market assessment of future volatility (Mayhew, 1995) and thus contains more useful information for prediction than time series. Moreover, implicit volatility is used because options across different strikes and maturities can be evaluated. This is the key for the valuation of models since pricing options depends upon the model is able to fit into the skew of the underlying asset distribution.

Though the two models are close to each other from the theoretical point of view, they can exhibit very different behaviors in application. It is not at all obvious that all models in HJM class outperform Black's model in price prediction. Compared with Black's model. three volatility functions for HJM models are selected. The first model represents the continuous-time version of Ho and Lee's (1986) model with Gaussian forward rates and constant (absolute) volatility. The second model, assumed by Vasicek (1977), has the property of exponentially dampened volatility — that is, the volatility depends upon the proportionality of exponential decaying to time to maturity. The third model represents level dependent volatility function, assumed by Cox, Ingersoll, and Ross (1985). Each day the four models are fitted options with different strikes and maturities to estimate volatility parameters across the sample period 1 Jan 2000-31 Dec 2002. The predicting performance of the model is determined by the out-of-sample pricing, defined as the price on the next day and the next week using parameters estimated on today prices. We also analyze the moneyless bias and the maturity bias for both models.

To check the robustness of our measure, we conduct three alternative calibration strategies, calibrating models into ATM options to price all options into calls to price all options. and into puts to price all options. Models

When no-arbitrage conditions are satisfied, the specification of the HJM model is completely governed by volatility functions. To price interest rate contingent claims, one needs to propose the volatility function assumed by the market. Largely inspired by the existing literature that analyzes and proposes three most common volatility functions, the first one is the continuous version of the Ho-Lee (1986) model under the Gaussian forward rate and constant volatility function. The second is the function to capture level-dependent volatility specified with proportionality to the square root of interest rates, assumed by Cox, Ingersoll, and Ross (1985). The third one is to reflect the presence of exponentially dampening volatility, specified with the proportionality of the exponential decaying with time to maturity. This function is assumed by Vasicek (1977) and Hull and White (1990). In mathematical terms, the models studied in this paper are:

(1) Constant volatility [ABS]: $(t,T) = 1$

(2) Square root volatility [SQR]: 1 $(t,T) = 1f\,(t,T)1/2$

(3) Exponential decaying volatility [EXP]: $(t,T) =$ 1e (T t)

Apart from the HJM model, we use Black's model to compare with three models in HJM class.

In terms of the volatility function, Black's volatility can be treated as constant form of HJM model

9.12 FORWARD RATE AGREEMENT (FRA)

FRA is a financial contract between two parties to exchange interest payments for a "Notional Principal" amount on settlements date, for a specified period from start date to maturity date. Accordingly on the settlement date, cash payments based on contract (fixed) and the settlement rate are made by the parties to one another. The settlement rate is the agreed bench-mark reference rate prevailing on the settlement date.

Characteristics

a) It involves quoting interest rate from a certain future date to a further future date as opposed to cash money market where rates are always quoted from the spot date.

b) Although the agreement is always with reference to a certain principal sum, the in principal amount is never exchanged.

C) Since no exchange of principal takes place under FRAs, the purchase of the FRA has still to borrow in the cash market (if used as hedging strategy).

d) On the relevant date the actual LIBOR is compared with the FRA rate and only the difference between the two rates is received or paid, as the case may be, on the principal amount agreed. It will thus be observed that an FRA enables a borrower or lender to protect himself against interest rate movements - upwards or downwards - for a specific future period and enables it to fix its cost in advance and lock its profits or limit its loss.

An agreement can be struck between Lwo banks or a bank and its corporate client covering a three-month period that begins six months from the date of contract - called a "six against nine". One that covers six-month period beginning six months from the date of contract is called "six against twelve",

At the beginning of the agreed future period the contract rate is compared to the settlement Rate for that particular period. The interest differential is then used to work out the interest payable by one party to the' other for the contract period on the notional principal. As the interest is usually settled at the start of the contract period on settlement date, the interest is therefore discounted using the formula.

$$\frac{NP \times (SR - CR) \times CP}{36000} \times \frac{1}{1 + \frac{(SP + CP)}{36000}}$$

Where NP = Notional Principal

CP = Contract Period

SR = Settlement Rate

CR = Contract Rate

Benefits

i) Simple and flexible way of fixing future interest rate.

ii) Unlike financial htures there are no margin calls to be made.

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iii) Instrument can be tailored to precise requirements.

iv) FRAs are available in cmencies in which there are no financial futures.

Risks and Di.vadvuntages

i) No central market place, so liquidation is possible only by agreement to cancel or by a reverse.

ii) Compared with financial futures, the spread in bid and offer rates is wide.

Forward Rate Agreements (FRAs)/ Interest Rate Swaps (IRS)

There was a sharp increase in the volume in the Forward Rate Agreements (FRAs/ Interest Rate Swaps (IRS) market. Despite a significant increase in the number and amount of contracts, participation in the market continues to remain restricted to select foreign and private sector banks and a primary dealer. In a majority of these contracts, National Stock Exchange Mumbai Inter Bank Offered Rate (NSE MIBOR)\ and Mumbai Inter-Bank Forward Offered Rate (MIFOR) were used as the benchmark rates. The other rates used include yield on government paper with one-year residual maturity and primary cutoff yield on 364-day Treasury Bills.

Collateralised Borrowing and Lending Obligation

Collateralised Borrowing and Lending Obligation (CBLO) was operationalised as a money market instrument through the Clearing Corporation of India Ltd. (CCIL) on January 20, 2003 with maturity ranging from one day to one year. There were 52 members in CCIL's CBLO segment as on July 31, 2003. The total turnover in CBLO stood at Rs. 7,925 crore, with a daily average of Rs. 74 crore.

Treasury Bills

Currently, the Reserve Bank issues only 91-days (weekly, on Wednesdays) and 364-day Treasury Bills (fortnightly, on the Wednesday preceding the reporting Friday). The day of payment of both the Treasury Bills has been adjusted so as to synchronise them and to provide continuity in the maturity profile with adequate tangible stock. To make The Treasury Bill market vibrant and to provide an additional avenue of investment

to the non-bank entities. the notified amount of the 364-day Treasury Bills was increased to Rs. 1,000 crore with effect from April 3, 2002. The notified amount for auction of 91-day Treasury Bills was enhanced temporarily from Rs. 205 crore to Rs. 1.000 crore from December 11, 2002 to January 29, 2003 to absorb excess liquidity. As liquidity tightened in January 2003, the notified amount was reduced to Rs. 500 crore for the rest of the financial year.

The acceptance in the auction of 91 days Treasury Bills was less than the notified amount on two occasions (February 26, 2003) due to substantially higher yield expectations of the market. The gross amounts raised through 91-days and 364-days Treasury Bills were higher during 2002-03. There was no development on the Reserve Bank in any auction of the Treasury Bills during 2002-03.

With effect from December 11, 2002, the auction format of 91-days Treasury Bills was changed to the multiple price auction method from uniform price auction to encourage more responsible bidding from the market participants. There was a general decline in yields at auctions of both 91-days and 364-day Treasury Bills during the year (Char-8.5). During May, 2002 and in the last quarter of 2002-03, the rates firmed up because of tight liquidity conditions. During November, 2002 to January 2003, on the other hand, a surfeit of liquidity pushed the yields on 91-day and 364-day Treasury Bills below the Repo rate. Temporary tightness in the overnight rate had led to an inversion in the short-term yield curve with cut-off yield in 91 day. Treasury Bills being higher than the cut-off for 364 Treasury Bill on February 5, 2003. This was corrected in the subsequent auction on February 19, 2003. Money market rates have exhibited a significant degree of synchronicity indicating that they are increasingly getting determined by a common set of factors embodied in macroeconomic and financial conditions. In contrast to earlier instances of joint behaviour in episodes of uncertainty, the recent convergence has occurred under ample liquidity conditions as well as orderliness and selectivity in bid/ offer activity.

9.13 CURRENCY SWAPS

Currency swaps are increasingly becoming popular as a transaction exposure management technique.' In a currency swap, the two payment streams being exchanged :

are denominated in two different currencies. There are essentially three kinds of swaps: fixed to fixed currency swap, a floating to floating currency swap, and a fixed to floating currency swap. Let us first understand how a fixed to fixed currency swap works.

In fixed to fixed currency swap, one party raises a fixed rate liability in say US dollars and the other party raises fixed rate funding in another currency, say DM. The principal amounts are equivalent at the current market rate of exchange. At the initiation of the swap contract, the principal amounts are exchanged, the first party getting DM and the second party getting US dollars. Subsequently, the first party makes periodic DM payments to the second, computed as interest at a fixed rate on the DM principal while it receives from the second party payments in dollars again computed as interest on the dollar principal. On the maturity date, the principal amounts are once again exchanged. It may be noted, however, that the exchange of principals, both at the beginning and at the end is notional - not real. What is real is the cash flows resulting from interest payments. Whether or not the parties to the swap contract benefit from the swaps will depend on how the underlying currencies and interest rates move during the contract period, which is normally for three to five years. A floating to floating currency swap will have both payments at floating rate but in different currencies. In most cases, an intermediary - a swap bank structures the deal and routes the payment from one party to another.

A fixed to floating currency swap is a combination of a fixed to fixed currency swap and a fixed to floating interest rate swap, i.e., one payment stream is at a fixed rate, while the other is at a floating rate. There is a growing market for swaps for which many explanations have been advanced.\ Most of these hypotheses rely either on a capital market imperfection or factors like differences in investor attitudes, informational asymmetries. differing financial norms, peculiarities of national regulatory and tax structures, etc. You will agree that borrowers and investors differ in their preferences and market access. For instance, a manufacturing firm or a utility might prefer fixed rate funding to finance long gestation physical investment projects but finds that fixed rate investors do not view it very kindly while it is able to borrow relatively easily in the floating market. On the other side, is a large international financial institution such as a

money centre bank which can borrow on excellent terms in the fixed market but prefers floating rate funding because it has a large portfolio of floating rate loans. Swaps help borrowers and investors overcome the difficulties posed by market access and/or provide opportunities for arbitraging some market imperfection. Swaps, thus, become a good way of managing transaction exposures in any particular currency.

9.14 ANSWERS TO CHECK YOUR PROGRESS

1. A Currency Futures Contract is a commitment to either take delivery or give delivery of a certain amount of a foreign currency on a future date at a specified exchange rate
2. A currency option, as the name suggests, gives its holder a right and not an obligation to buy or sell or not to buy or sell a currency at a predetermined rate on or before a specified maturity date.
3. There are two types of to the derivatives market, which are traded as Over-the-counter and Exchange Traded.
4. FRA is a financial contract between two parties to exchange interest payments for a "Notional Principal" amount on settlements date, for a specified period from start date to maturity date.

9.15 REVIEW QUESTIONS

1 write short on

1. Currency forward *2.* Currency futures 3. Currency options 4. Currency swaps

2. Briefly explain the various procedure adopted in Risk management

3. What are Exchange Traded Derivatives?

4. What are Options and Futures?

5. How are Options and Futures Traded?

9.16 FURTHER READINGS

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UNIT X

NEED FOR RISK MANAGEMENT IN BANKS

UNIT STRUCTURE

10.1 INTRODUCTION

The very basic objective of risk management system is to put in place and operate a systematic process to give a reasonable degree of assurance to the top management that the ultimate corporate goals that are vigorously pursued by it would be achieved in the most efficient manner. In this way, all the risks that come in the way of the institution achieving the goals it has set for itself would be managed properly by the risk management system. In the absence of such a system, no institution can exist in the long-run without fulfilling the objectives for which it was set up.

10.2 OBJECTIVES

After study this chapter you should have ideas of Basle I Accord, Banking Supervision, Basle II Accord, Credit Process, Operational Practices and Credit Environment, Credit Selection Process and Transaction Risk Exposure

10.3 BASEL ACCORD

A set of agreements set by the Basel Committee on Bank Supervision (BCBS), which provides recommendations on banking regulations in regards to capital risk, market risk and operational risk. The purpose of the accords is to ensure that financial institutions have enough capital on account to meet obligations and absorb unexpected losses.

The first Basel Accord, known as Basel I, was issued in 1988 and focuses on the capital adequacy of financial institutions. The capital adequacy risk, (the risk that a financial institution will be hurt by an unexpected loss), categorizes the assets of financial institution into five risk categories (0%, 10%, 20%, 50%, 100%). Banks that operate internationally are required to have a risk weight of 8% or less.

Problems with Basel I

To understand and appreciate the basic goals of Basel II and the strategy for achieving these goals, it is important to understand the shortcomings of the current Basel Capital Accord (Basel I). Under the current Accord, capital requirements are only moderately related to a bank's risk taking. The requirement on a credit exposure is the same whether the borrower's credit rating is triple-A or triple-C. Moreover, the requirement often hinges on the exposure's specific legal form. For example, an on-balance sheet loan generally faces a higher capital requirement that an off-balance sheet exposure to the same borrower, even though financial engineering can make such distinctions irrelevant from a risk perspective. This lack of risk sensitivity under the current Accord distorts economic decision making. Banks are encouraged to structure transactions to minimize regulatory requirements or, in some cases, to undertake transactions whose main purpose is to reduce capital requirements with no commensurate reduction in actual risk taking. As an example, no capital charge is

assigned to loans or loan commitments with a maturity of less than one year. Perhaps not surprisingly, 364-day facilities have risen in popularity. The corollary to this problem is that the current system fails to recognize many techniques for actually mitigating banking risks. A closely related concern is that the current Accord is static and not easily adaptable to new banking activities and risk management techniques. Lastly, some banks may have been reluctant to invest in better risk management systems because they are costly and would not provide tangible regulatory capital benefits.

The lack of risk sensitivity also impedes effective supervision. Although both banks and supervisors have been working to improve their assessments of capital adequacy, these assessments continue to center on comparisons of actual capital levels against the regulatory minimums. Bank examiners continue to focus on these ratios in part because they are part of the legal basis for taking supervisory actions. Reflecting supervisors' emphasis on regulatory capital ratios, financial markets and rating agencies tend focus on them as well.

Check Your Progress

1. What is the basic objective of risk management?

Consequently, in some cases supervisors and even the banks themselves may have limited information about a bank's overall risk and capital adequacy. In this setting, it is difficult to ensure that banks and supervisors will respond to emerging problems in a timely manner.

Objectives of the New Basel Accord

Broadly speaking, the objectives of Basel II are to encourage better and more systematic risk management practices, especially in the area of credit risk, and to provide improved measures of capital adequacy for the benefit of supervisors and the marketplace more generally. At the outset of the process of developing the new Accord, the Basel Committee developed the so-called three pillars approach to capital adequacy involving (1) minimum capital requirements, (2) supervisory review of internal bank assessments of capital relative to risk, and (3) increased public disclosure of risk and capital information sufficient to provide meaningful market discipline. Although the Committee's proposals have evolved considerably over the past several years, these fundamental objectives and the three-pillar approach have held constant.

It is hardly necessary to emphasize the importance of banks and banking systems to financial and economic stability.8 The ability of a sound and well-capitalized banking

system to help cushion an economy from unforeseen shocks is well known, as are the negative consequences of a banking system that itself becomes a source of weakness and instability. A critical potential weakness of financial markets is that risks are in many cases under-estimated and not fully recognized until too late, with a concomitant potential for excessive consequences once they have been fully realized. This is why the Basel Committee's efforts to promote greater recognition of risks and more systematic attention to them are vitally important.

The essence of Basel II is a focus on risk differentiation and the need for enhanced approaches to assessing credit risk. Some critics have argued that it is preferable to downplay differences in risk, and indeed forbearance can sometimes appear the most expedient strategy. But experience has also shown that this will not work as an overall approach because ignoring risks inevitably leads to larger problems down the road. Thus, one of the key messages of Basel II is that bankers, supervisors, and other market participants must become better attuned to risk and better able to act on those risk assessments at the appropriate time. Bank supervisors must get better at addressing issues pre-emptively rather than in crisis mode. Significant attention to risk management is one of the primary mechanisms available to help banks and supervisors do that.

10.4 BASLE LI ACCORD

The second Basel Accord, known as Basel II, is to be fully implemented by 2015. It focuses on three main areas, including minimum capital requirements, supervisory review and market discipline, which are known as the three pillars. The focus of this accord is to strengthen international banking requirements as well as to supervise and enforce these requirements. The Basel II Framework describes a more comprehensive measure and minimum standard for capital adequacy that national supervisory authorities are now working to implement through domestic rule-making and adoption procedures. It seeks to improve on the existing rules by aligning regulatory capital requirements more closely to the underlying risks that banks face. In addition, the Basel II Framework is intended to promote a more forward-looking approach to capital supervision, one that encourages banks to identify the risks they may face, today and in

the future, and to develop or improve their ability to manage those risks. As a result, it is intended to be more flexible and better able to evolve with advances in markets and risk management practices.

The efforts of the Basel Committee on Banking Supervision to revise the standards governing the capital adequacy of internationally active banks achieved a critical milestone in the publication of an agreed text in June 2004.

10.5 BANKING SUPERVISION

The Banking Regulation Act, 1949 empowers the Reserve Bank of India to inspect and supervise commercial banks. These powers are exercised through on-site inspection and off site surveillance.

Till 1993, regulatory as well as supervisory functions over commercial banks were performed by the Department of Banking Operations and Development (DBOD). Subsequently, a new Department of Banking Supervision (DBS) was set up to take over the supervisory functions relating to the commercial banks from DBOD. For dedicated and integrated supervision over all credit institutions, i.e., banks, development financial institutions and non-banking financial companies, the Board for Financial Supervision (BFS) was set up in November 1994 under the aegis of the Reserve Bank of India. For focussed attention in the area of supervision over non-banking finance companies, Department of Supervision was further bifurcated in August 1997 into Department of Banking Supervision (DBS) and Department of Non-Banking Supervision (DNBS). These Departments now look after supervision over commercial banks & development financial institutions and non-banking financial companies, respectively. Both these departments now function under the direction of the Board for Financial Supervision (BFS).

The Board for Financial Supervision constituted an audit sub-committee in January 1995 with the Vice-Chairman of the Board as its Chairman and two non-official members of BFS as members. The sub-committeeï¿½s main focus is up gradation of the quality of the statutory audit and concurrent / internal audit functions in banks and

development financial institutions.

On site Inspection

On site inspection of banks is carried out on an annual basis. Besides the head office and controlling offices, certain specified branches are covered under inspection so as to ensure a minimum coverage of advances.

The Annual Financial Inspection (AFI) focuses on statutorily mandated areas of solvency, liquidity and operational health of the bank. It is based on internationally adopted CAMEL model modified as CAMELS, i.e., capital adequacy, asset quality, management, earning, liquidity and system and control. While the compliance to the inspection findings is followed up in the usual course, the top management of the Reserve Bank addresses supervisory letters to the top management of the banks highlighting the major areas of supervisory concern that need immediate rectification, holds supervisory discussions and draws up an action plan that can be monitored. All these are followed up vigorously. Indian commercial banks are rated as per supervisory rating model approved by the BFS which is based on ï¿½ CAMELS ï¿½ concept.

Off-site Monitoring

As part of the new supervisory strategy, a focused off-site surveillance function was initiated in 1995 for domestic operations of banks. The primary objective of the off site surveillance is to monitor the financial health of banks between two on-site inspections, identifying banks which show financial deterioration and would be a source for supervisory concerns. This acts as a trigger for timely remedial action.

During December 1995 first tranche of off-site returns was introduced with five quarterly returns for all commercial banks operating in India and two half-yearly returns one each on connected and related lending and profile of ownership, control and management for domestic banks. The second tranche of four quarterly returns for monitoring asset-liability management covering liquidity and interest rate risk for domestic currency and foreign currencies were introduced since June, 1999. The Reserve Bank intends to reduce this periodicity with effect from April 1,2000.

Check Your Progress

2. What is Basel Accord?

Corporate Governance

With a view to strengthening the corporate governance and internal control function in the banks, several steps have been initiated. Introduction of concurrent audit system, constitution of independent audit committee of board, appointment of RBI nominees on boards of banks, creation of a post of compliance officer, such are some steps. Besides, the Reserve Bank monitors the implementation of recommendations of Jilani Committee relating to internal control systems in banks on an on-going basis during the annual financial inspection of banks.

Initiatives and Directions

The Reserve Bank has taken several other supervisory policy initiatives. These include quarterly monitoring visits to banks displaying financial and systemic weaknesses, appointment of monitoring officers and direct monitoring of certain problem areas in house-keeping, etc. In addition the department provides secretarial support to the Board for Financial Supervision and acts as its executive arm. It is the BFS which evolves policies relating to supervision. It also attends to appointment of statutory central auditors / branch auditors for all banks and selected all India financial institutions and to complaints against banks. The department monitors cases of frauds perpetrated in banks and reported to it. The department as a one time measure, issued several guidelines to banks and all india financial institutions to enable them to become Y2K compliant.

Core Principles

Against the backdrop of banking sector reforms in India and the global focus on internal control and supervisory mechanism, the need for building a strong and efficient banking system comparable to the international standards cannot be gainsaid. A detailed study was carried out so as to ascertain gaps, if any, in implementing the 25 core principles of effective banking supervision enunciated by the Bank for International Settlements (BIS). Necessary steps have already been initiated to fill in the gaps, so as to make the regulatory as well supervisory system more sound and comparable to

international standards.

Supervision over financial institutions

On the basis of the recommendations made by an in-house group, the monitoring of the financial institutions first started after 1990. This was done through prescribed quarterly returns on liabilities / assets, source and deployment of funds, etc. The objective of this monitoring was to obtain a macro level perspective for evolving monetary and credit policy, to assess the quality of assets of the financial system and to improve co-ordination between banks and FIs. In 1994, these institutions were brought under the prudential regulation of the Reserve Bank.

The Reserve Bank has adopted more or less, the CAMELS approach for regulation of Fis. Since FIs are vested with developmental role as welland with responsibility of supervision of other institutions, evaluation of their developmental, co-ordinating and supervisory role is also undertaken.

The newly created division in the department at present supervises and regulates ten select all-India financial institutions viz., IDBI, ICICI, IFCI, IIBI, Exim Bank, NABARD, NHB, SIDBI, IDFC and TFCI. With a view to having a continuous monitoring and supervision of these FIs, an off-site surveillance system has also been put in place.

Further, the division collects from LIC, GIC and UTI information relating to assets and liabilities and flow of funds for the purpose of overall assessment of the impact of the operations of FIs on the total flow of resources in the economy and for compiling new liquidity and monetary aggregates.

The banking supervisory body was set up as of the constitution of Banco Central de Cuba(BCC)

Bank supervision is responsible for the care of the financial system's health, effected through on and off site inspections of the banking and non-banking financial institutions

authorised to operate in the territory. Among others, bank supervision has also the function of analysing requests for licenses to operate as financial institutions in the territory. To this purpose, there is a commission, preside by the Superintendent and integrated by the directors of Monetary Policy, Operations and the Legal Department who are in charge of the analysis of requests and submission of an opinion to the Board of Directors of BCC for a final decision on the granting of the said license.

Since BCC was established, different resolutions and agreements have been issued by its Management Board for setting up rules following the 25 Core Principles for an Effective Bank Supervision, recommended by the Basel Committee, which are related to:

- Preconditions for effective bank supervision.
- Granting of licenses and structure.
- Prudential rules and requirements.
- Methods for progressive bank supervision.
- Information requirements.
- Formal powers of supervisors.
- Off-shore banking.

Among regulations issued by BCC since its establishment, in terms of supervision, the following are included:

- Bank supervision rules.
- Rules to establish minimum capital to start operations.
- Guidelines for credit granting to natural persons or corporate entities, linked to ownership or management of financial institutions.
- Regulations on risk accumulation.
- Rules for asset rating and provision policy.
- Rules for capital adequacy.
- Agreement on risk accumulation.
- Guidelines for the regulations of bank supervision with external and internal auditors of banks and non-banking financial institutions.

- Modification of the agreement on capital adequacy regulation.
- Minimum plan of accounts and information system for bank supervision.
- Guide for all members of the banking system for detection and prevention of illegal capital movement.
- Rules to determine the minimum liquidity ratio.
- Basic rules for internal control of financial institutions.
- Rules for the granting, control and repayment of financings.
- Other complementary rules to the Guide in order to prevent and detect illegal capitals.

Work is still being carried on the elaboration of documents regulating the banking and financial discipline of the country as well as all methodological procedures to perform the supervision.

On the other side, and to complement control of financial indiscipline, it has been developed the activity of the Central de Information de Risks (Risk Information Central) by means of Resolution No. 27, of 1997, whose main objective is the monthly publication of entities which incur in due loans and indiscipline when issuing checks. This publication is sent to the whole financial system and to the Government.

As a result of these inspections, it can be affirmed that financial institutions are solvent, for their solvency coefficient or adequate capital, in all cases, surpass the minimum of 15 percent established in the rules of BCC; just the same, those institutions are within the minimum liquidity ratio for the different tiers according to regulations of BCC; besides, efficiency of the Cuban banking system is evidenced on favourable results of the indicators: spread, ROA (Return On Assets), and ROE (Return On Equities) during all the years covering the 1997-2001 period.

Finally, the health of the Cuban banking system is shown by the fact that no act of corruption nor illegal capital movement has become manifest throughout all these years.

BASEL COMMITTEE AND THE ORIGINS OF INTERNATIONAL BANKING SUPERVISION

During the autumn of 1974, Bank of England Governor, Lord Richardson met his head of banking supervision George Blunden. They discussed the need for greater co-operation among bank supervisors and especially the Bank of England's requirement for more information from home country supervisors concerning the overall activities of foreign banks with branches and subsidiaries in London. At that time, banks did not present consolidated statements of their activities making it difficult, if not impossible, for supervisors in any single country including the home base, to assess the bank as a whole. Richardson decided to propose to his fellow central bank Governors that they establish a committee of banking supervisors which could have as its chief function the exchange of vital information.

NOTES

Check Your Progress

3. Give the expansion for BFS and DBS

At their monthly meeting in December 1974, the G-10 Central Banks' Governors, voted to support Richardson's idea, establishing the Standing Committee on Banking Regulation and supervisory practices now known informally as the "Basel Committee". The Basel

Committee was charged with the following tasks;

- ❖ general education about how banks were supervised within the member countries;
- ❖ Information sharing to include the passing of "sensitive information" on banks to supervisors who were hosts to its branches.
- ❖ the establishment of an "early warning system" to detect problems within international banks;
- ❖ conducting studies on topics in banking supervision; and
- ❖ policy co-ordination in supervising international and consortium banks.

In sum, there was agreement that the basic aim of international co-operation in this field should be to ensure that no foreign banking establishment escapes supervision. The Committee's role has moved well beyond its early chapter and; now it stands at the center of international financial regulation.

BASEL CONCORDAT

In its earliest efforts at supervisory co-operation the Basel Committee looked upon banking regulation as a task that had to be shared between the home and host country.

This is evident in the first product of the committee, called Concordat, which was prepared in 1975, made public in- 1981, revised in 1983 in the wake of the Banco Ambrosiano scandal and revised again in 1997, in the wake of the BCCI collapse.

The concordat laid out the five following principles:

1. The supervision of foreign banking establishment should be the joint responsibility of host and parent authorities.

2. No foreign banking establishment should escape supervision, each country should ensure that foreign banking establishments, are supervised and supervision should be judged adequate by both host and parent authorities.

3, The supervision of liquidity should be the primary responsibility of host authorities, since foreign establishments generally have to conform to local practices for their liquidity management and must comply with local regulation.

4. The supervision of solvency of foreign branches should be essentially a matter for the parent authority. In the case of subsidiaries, while primary responsibility lies with the host authority parent authorities should take account of the exposure of their domestic banks' foreign subsidiaries and joint venture because of the parent banks' moral commitment in this regard.

5. Practical co-operation would be facilitated by transfer of information between host and parent authorities and by the granting of permission to the inspection by or on behalf of parent authorities on the territory of the host authority. Every effort should be made to remove any legal restraints (particularly in the field of professional secrecy or national sovereignty), which might hinder these forms of co-operation.

The Concordat, however, failed to address a number of critical issues for international banking supervision. First, it left open the question of which, if any, Central Bank would support a commercial bank that had failed due to fraud; the Germans were consistent in their stated refusal to bail out such institutions. Second, the supervision of subsidiaries, and agencies remained unclear. Was a "moral commitment" the same as

providing lender of- last-resort support'? The third, and most important, the Concordat failed to discuss the lender of last resort, at least explicitly. In short, while the members of the Basel Committee found that the Concordat was useful as a conceptual framework, there were many questions about how (and if) it would work in practice.

In sum the Concordat marked a first, tentative step towards developing an internationally accepted approach- to banking supervision. It emphasized the role of the home country's Central Bank in providing for the solvency needs for branches in trouble while giving host country regulator's added responsibility for supervision. But given its cautious wording, notable gaps and lack of authority, it would prove a weak reed for managing international banking crises.

Soon after the committee accepted the concordat a notable loop hole in its coverage become apparent. Simply stated the parts of a bank might not add up to the whole. Home and host country supervisors might co-operate in painting an overall picture, but given different accounting rules and regulatory standards, and the large gaps in reporting within the banks themselves, the result could well be a partial view with important pieces obscured or missing.

The solution to this problem had already been discovered by the more sophisticated banks, which had developed consolidated reporting - that is reporting that looked at the institution's balance shell and income statement from the perspective of an integrated entity. Taking this approach as its starting point, the Committee in 1978 recommended to the central hank Governors that banking supervision be conducted on the basis of consolidated statement.

The principle of consolidated accounting led to further strengthening of home country control. The Group of Ten countries had achieved important advances in the supervision of international banks with the Concordant and consolidation. Further more; the Basel Committee recognized that the power of these supervisory tools would be blunted if they remained solely in the hands of the Group of Ten countries. Accordingly, in 1979 the Committee prompted the banking supervisors from the major offshore centers, which were largely in the Caribbean to form their own organization and to adopt the supervisory principles already accepted in Basel. This "Offshore Group of Banking Supervision" Committee work in October 1980 and by 1982 it had worked out an

agreement with the Basel Committee .which extended consolidated accounting to offshore branches and subsidiaries.

These were not small achievements in themselves. But despite its collegiality and degree of common cause, the committee was proved too weak to cope with the next crises that came crashing down on the financial market place.

10.6 OPERATIONAL PRACTICES AND CREDIT ENVIRONMENT

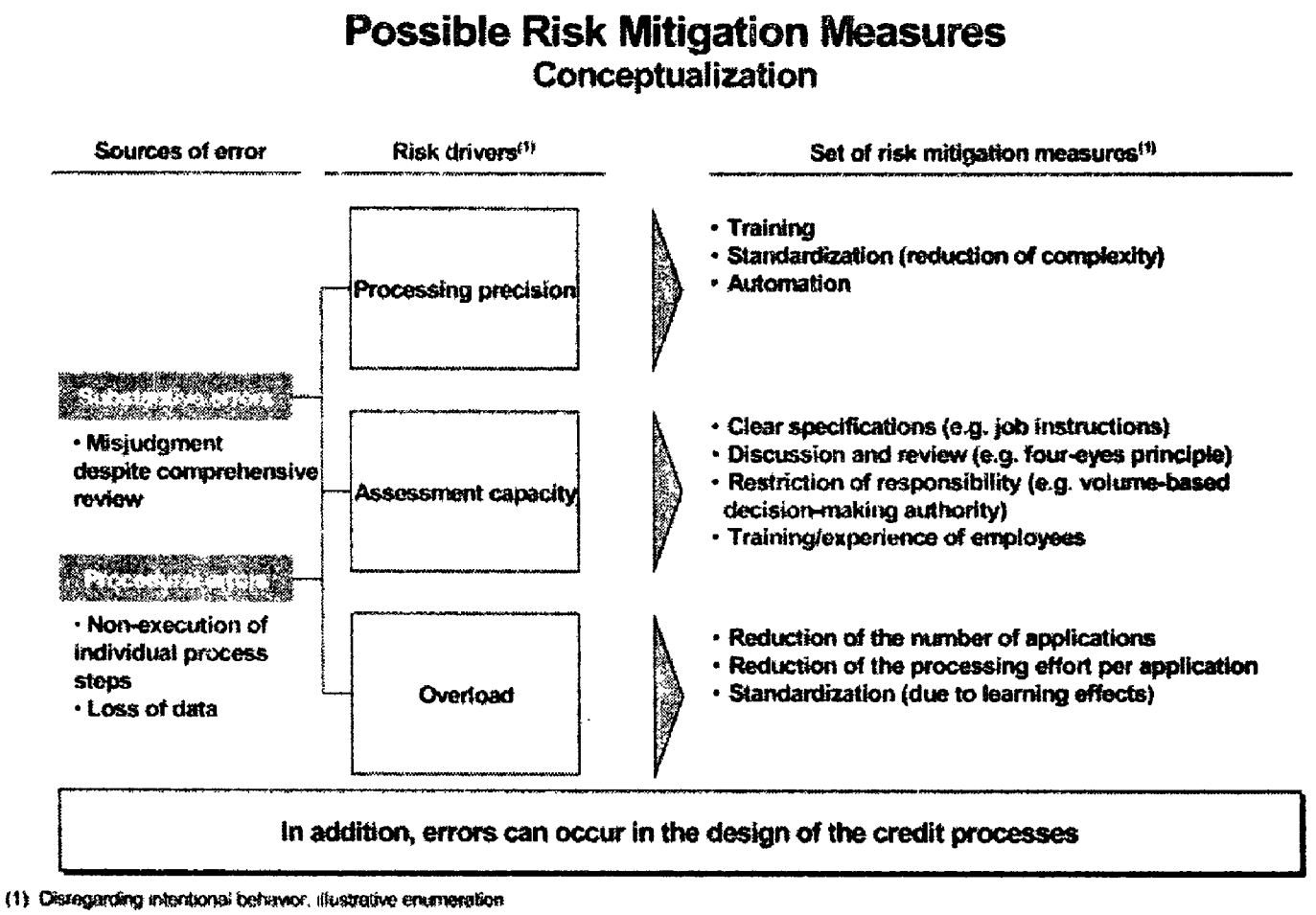
The individual steps in the process and their implementation have a considerable impact on the risks associated with credit approval. Therefore, this chapter presents these steps and shows examples of the shapes they can take. However, this cannot mean the presentation of a final model credit approval process, as the characteristics which have to be taken into consideration in planning credit approval processes and which usually stem from the heterogeneity of the products concerned are simply too diverse. That said, it is possible to single out individual process components and show their basic design within a credit approval process optimized in terms of risk and efficiency. Thus, the risk drivers in carrying out a lending and rating process essentially shape the structure of this chapter. First of all, we need to ask what possible sources of error the credit approval process must be designed to avoid. The errors encountered in practice most often can be put down to these two sources: — Substantive errors: These comprise the erroneous assessment of a credit exposure despite comprehensive and transparent presentation.

Procedural errors: Procedural errors may take one of two forms: On the one hand, the procedural-structural design of the credit approval process itself may be marked by procedural errors. These errors lead to an incomplete or wrong presentation of the credit exposure. On the other hand, procedural errors can result from an incorrect performance of the credit approval process. These are caused by negligent or intentional misconduct by the persons in charge of executing the credit approval process.

In the various instances describing individual steps in the process, this chapter refers to the fundamental logic of error avoidance by adjusting the risk drivers; in doing so, however, it does not always reiterate the explanation as to what sources of error can be reduced or eliminated depending on the way in which they are set up. While credit

review, for example, aims to create transparency concerning the risk level of a potential exposure (and thus helps avoid substantive

errors), the design of the other process components laid down in the internal guidelines is intended to avoid procedural errors in the credit approval process. Still, both substantive and procedural errors are usually determined by the same risk drivers. Thus, these risk drivers are the starting point to find the optimal design of credit approval processes in terms of risk. Chart 1 shows how banks can apply a variety of measures to minimize their risks.



Segmentation of Credit Approval Processes In order to assess the credit risk, it is necessary to take a close look at the borrowers economic and legal situation as well as the relevant environment (e.g. industry, economic growth). The quality of credit approval processes depends

on two factors, i.e. a transparent and comprehensive presentation of the risks when granting the loan on the one hand, and an adequate assessment of these risks on the other. Furthermore, the level of efficiency of the credit approval processes is an important rating

Check Your Progress

4. State"Five C's,"

element. Due to the considerable differences in the nature of various borrowers (e.g. private persons, listed companies, sovereigns, etc.) and the assets to be financed (e.g. residential real estate, production plants, machinery, etc.) as well the large number of products and their complexity, there cannot be a uniform process to assess credit risks. Therefore, it is necessary to differentiate, and this section describes the essential criteria which have to be taken into account in defining this differentiation in terms of risk and efficiency.

10.6.1 Basic Situation

The vast majority of credit institutions serve a number of different customer segments. This segmentation is mostly used to differentiate the services offered and to individualize the respective marketing efforts. As a result, this segmentation is based on customer demands in most cases. Based on its policy, a bank tries to meet the demands of its customers in terms of accessibility and availability, product range and expertise, as well as personal customer service. In practice, linking sales with the risk analysis units is not an issue in many cases at first. The sales organization often determines the process design in the risk analysis units. Thus, the existing variety of segments on the sales side is often reflected in the structure and process design1 of the credit analysis units. While classifications in terms of customer segments are, for example, complemented by product-specific segments, there appears to be no uniform model. Given the different sizes of the banks, the lack of volume2 of comparable claims in small banks renders such a model inadequate also for reasons of complexity, efficiency, and customer orientation. Irrespective of a bank size, however, it is essential to ensure a transparent and comprehensive presentation as well as an objective and subjective assessment of the risks involved in lending in all cases. Therefore, the criteria that have to be taken into account in presenting and assessing credit risks determine the design of the credit approval processes. If the respective criteria result in different forms of segmentation for sales and analysis, this will cause friction when credit exposures are passed on from sales to processing. A risk analysis or credit approval processing unit assigned to a specific sales segment may not be able to handle all products offered in that sales segment properly in terms of risk (e.g. processing residential real estate finance in the risk analysis unit

dealing with corporate clients). Such a situation can be prevented by making the interface between sales and processing more flexible, with internal guidelines dealing with the problems mentioned here. Making this interface more flexible to ease potential tension can make sense in terms of risk as well as efficiency.

10.6.2 Accounting for Risk Aspects

The quality of the credit approval process from a risk perspective is determined by the best possible identification and evaluation of the credit risk resulting from a possible exposure. The credit risk can distributed among four risk components which have found their way into the new Basel Capital Accord (in the following referred to as Basel II).

10.6.2.1 Probability of Default

Reviewing a borrower's probability of default is basically done by evaluating the borrower's current and future ability to fulfill its interest and principal. This evaluation has to take into account various characteristics of the borrower (natural or legal person), which should lead to a differentiation of the credit approval processes in accordance with the borrowers served by the bank. Furthermore, it has to be taken into account that — for certain finance transactions — interest and principal repayments should be financed exclusively from the cash flow of the object to be financed without the possibility for recourse to further assets of the borrower. In this case, the credit review must address the viability of the underlying business model, which means that the source of the cash flows required to meet interest and principal repayment obligations has to be included in the review.

10.6.2.2 Loss Given Default

The loss given default is affected by the collateralized portion as well as the cost of selling the collateral. Therefore, the calculated value and type of collateral also have to be taken into account in designing the credit approval processes.

10.6.2.3 Exposure at Default (EAD)

In the vast majority of the cases described here, the exposure at default corresponds to the amount owed to the bank. Thus, besides the type of claim; the amount

of the claim is another important element in the credit approval process. Thus, four factors should be taken into account in the segmentation of credit approval processes:

10.6.3.1 Type of Borrower

In general, type of borrower is used as the highest layer in credit approval processes.

This is due to the higher priority of reviewing legal and economic conditions within the substantive credit review process. The way in which the eco-nomic situation is assessed greatly depends on the available data. The following segments can be distinguished:

— Sovereigns

— Other public authorities (e.g. regional governments, local authorities)

— Financial services providers (incl. credit institutions)

— Corporate

— retail

Usually, at least the segments of corporate and retail customers are differentiated further (e.g. by product category).

10.6.3.2 Source of Cash Flows

The distinction of so-called specialized lending from other forms of corporate finance is based on the fact that the primary, if not the only source of reducing the exposure is the income from the asset being financed, and not so much the unrelated solvency of the company behind it, which operates on a broader basis. Therefore, the credit review has to focus on the asset to be financed and the expected cash flow. In order to account for this situation, the segmentation of the credit approval processes should distinguish between

- credits to corporations, partnerships, or sole proprietors; and
- specialized lending

Credit institutions have to distinguish between the following forms of specialized lending in the calculation of regulatory capital.

1. Project finance
2. Object finance
3. Commodities finance

4. Finance of income-producing commercial real estate

This subdivision of Basel II primarily serves to determine the required capital correctly, but it can also prove useful from a procedural point of view. This chapter does not separately address the specific design of credit approval processes in specialized lending transactions. The general procedural provisions that should be heeded to minimize the risk also apply to the forms of finance collectively referred to as specialized lending.

10.6.3.3 Value and Type of Collateral

Value and type of collateral have a significant impact on the risk involved in lending. Of particular relevance in this context are those types of collateral which afford the lender a claim in rem on the collateral, and those product constructions under which the lender has legal and economic ownership of the asset to be financed. Two forms of finance are particularly relevant in practice:

— mortgage finance and

— leasing finance

Mortgage finance and leasing are those forms of finance which often give the lender a substantial degree of control over the asset being financed. The strong legal position resulting from such collateral may warrant special treat- The HVCRE (high volatility commercial real estate) which can still be found in the EU draft Directive is no longer considered relevant at the time of printing the guide. Other forms of collateral (e.g. guarantees) also represent considerable collateralization. Still, the type of collateral is less important than the type of borrower, so that in practice no segmentation is made in terms of type of collateral. ment of the relevant forms of finance. Please refer to 2.4.2.4 for a description of the types of collateral usually accepted by banks and the valuation of such collateral.

10.6.3.4 Level of Exposure

The level of exposure has an immediate impact on the exposure at default (EAD). Therefore, any increase in the level of exposure should trigger a more detailed credit review of the respective borrower. This aspect and the risk minimization that can be

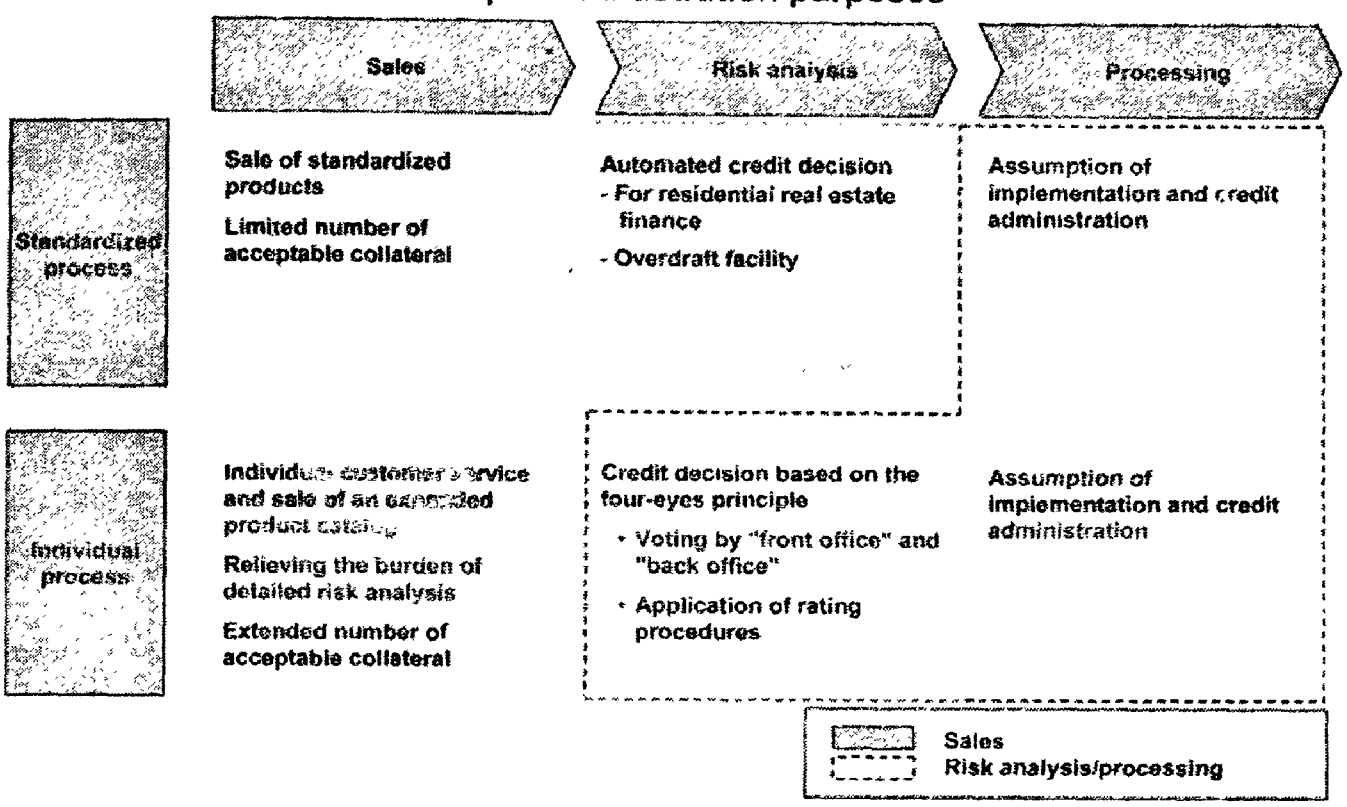
achieved by standardization and automation are the rationale behind the separation of low-volume and high-volume lending business that can often be found in the way in which credit approval processes are designed.

In practice, the ensuing sub-segmentation within the claims segments is now commonly referred to as standard process and individual process.

10.6.3.5 Standard and Individual Processes

The distinction between standard and individual processes does not create a separate segment. It is rather a common process differentiation within claims segments which are defined in accordance with the criteria described above. In the vast majority of cases, the level of engagement is the decisive element in the differentiation between standard and individual processes. In addition to the level of exposure, it is possible to describe some general differentiating criteria that characterize the process type in question. Generally speaking, the objective of establishing standard processes is more efficient process execution. As most segments show concentrations of certain product specifications, it is possible to develop processes that specifically address these characteristics. Standard processes are characterized by the fact that they are only intended and suitable for handling certain credit products with limited features and options.

Limiting the process to certain products and maximum exposure volumes allows for simplifications and automations within the process (in particular with regard to credit decisions by vote9 and highly automated credit decisions). Individual processes are characterized by an adaptive design which makes it possible to deal with a variety of products, collateral, and conditions. Typically, this will be required especially for high-volume corporate customer business, as both the borrowers_ characteristics to be taken into account in the credit review and the specifics of the products wanted are very heterogeneous. The higher risk involved with loans examined in an individual process should be addressed by using a double vote (one vote by the front office, and one vote by the back office).



10.6.3.6 Asset Classes under Basel II

As already mentioned above, the new Basel Capital Accord — in its incorporation into European and thus Austrian law — presents mandatory rules for the regulatory capital requirements of claims under any and all banking book transactions10 of credit institutions and investment firms. Basel II provides two approaches to determine the capital requirement:

1. a standardized approach and
2. an internal ratings-based approach (IRB approach)

The IRB approach11 allows a more risk-sensitive calculation (based on the bank's internal estimates) of the capital required to cover the risks associated with claims than was or will be possible under Basel I and the newly modified standardized approach. The goal is to use the capital required from an economic point of view as the yardstick for the regulatory capital requirement. However, this will only happen if the banks measure the risks in accordance with the regulatory criteria.

The IRB approach distinguishes 7 asset classes:

1. Sovereign exposures
2. Bank exposures

3. Corporate exposures

4. Retail exposures

5. Equity exposures

6. Securitization

7. Fixed assets

8 The new Basel Capital Accord also contains rules for trading book transactions, but these are not specifically addressed in this guide.

9 The further division within the IRB approach into the basic and advanced measurement approaches will not be dealt with further here.

If banks decide to apply the IRB approach in calculating the capital requirements, these asset classes and the respective sub-segments of corporate and retail exposures have to be accounted for in the segmentation process. Thus, it would make sense to harmonize and match the segmentation and the asset classes mentioned above to allow an efficient design of credit approval processes. In most cases, it will be necessary to refine the segmentation further to address a bank's business orientation. Under Basel II,12 type of borrower is the only criterion at first (asset classes 1—3), but this changes for retail exposures (asset class 4). Claims on individuals belong to the retail portfolio. Besides loans to individuals, the retail portfolio can also contain credits to SMEs provided the total exposure of the bank, or more specifically of the credit institution group, vis-à-vis each of these enterprises is less than one million euro. Furthermore, such SMEs must not be treated in the same way as large enterprises within the bank's internal credit (risk) processes. The allocation to the retail asset class is effected by means of the processes most appropriate in terms of business and from a risk perspective.

Finally, retail exposures must also show a sufficient granularity. This means that an individual exposure needs to be part of a large number of exposures which are managed by the bank in the same way. This differentiation of the retail segment from the other asset classes is highly significant, as Basel II allows a so-called pooling approach in meeting the capital requirements for retail exposures. Under this approach, deriving the risk parameters13 is not based on an individual exposure, but on a pool of homogenous exposures. Simplified credit rating processes may be used (only) in this segment.14

10.6.4 Object of Review and Exposure Management

Credit approval processes are started on behalf of a credit applicant. Especially in the context of lending to corporate customers, it is often necessary to include several (natural or legal) persons in the credit rating process. This will be required if these (natural and legal) persons are to be considered one economic unit and would thus probably have a mutual impact on each other_s credit standing. In practice, granting an individual loan often involves a large number of (natural and legal) persons. This has to be borne in mind throughout the entire credit approval process, but particularly in the course of the credit review. Credit approval for groups of companies should be designed in a manner which is specific to the risk involved and efficient and should aim to focus the review on the actual risk-bearer, that (natural or legal) person whose legal and economic situation ultimately determines the ability to fulfill the obligations under the credit agreement. In any case, Basel II requires the assessment of the borrower's credit standing.15

Especially in complex and far-reaching company networks, the link to the respective credit institution may often go beyond pure sales contacts (e.g. a foreign holding company and a domestic subsidiary). In practice, this often results in vague guidelines in terms of exposure management within credit approval processes. From a risk perspective, the overall risk of the risk-bearer should always be aggregated over the bank as a whole and then presented to the decision makers; the internal guidelines should contain provisions which clearly define the risk-bearer. This classification is usually based on loss-sharing arrangements or legal interdependences. Also, it should be stipulated whether aggregation should be effected by one person in charge (at group level) in processing or risk analysis, or in a decentralized fashion by each unit itself.

10.7 Credit Approval Process

This guideline on Credit Approval Process and Credit Risk Management is the third volume of the Guidelines on Credit Risk Management series, a joint publication of the FMA and the OeNB, and aims to fulfill two objectives: First, credit institutions need to be informed more comprehensively with regard to the preparations for Basel II, and second, the guide aims to provide information related to the current surge in the reorganization of these processes and the corresponding organizational structures in many

credit institutions. In some of these institutions, the current developments create the need for an overview of tried and tested concepts and methods. This is where this guideline comes in: It aims to offer credit institutions a sample checklist in assessing the current organization of their credit approval processes and credit risk management and to provide them with guidelines for the future design of these processes.

Due to the heterogeneous character of the Austrian credit industry, however, all concepts and methods presented here will not have the same relevance for all credit institutions. In order to present a generally accepted best practice catalog, the choice was made not to include an explicit differentiation by transaction or type of credit institution in this guideline. The Austrian credit institutions are invited to judge for themselves which of the concepts and models shown here are relevant for their respective business activities. This guideline shows the procedures and methods relating to the credit approval process and credit risk management considered best practice by the FMA and the OeNB. Each credit institution can use it as a pool of information from which it can take a piece suitable for its business activities in order to scrutinize its own lending and credit risk management processes and to discover and exploit potential scope for improvement. Each credit institution has to decide for itself to what lengths it can afford to go. To this effect, this guideline in particular offers suggestions concerning the implementation of the _FMA Minimum Standards for Credit Business and Other Business with Counterparty Risk_, which will be provided to the credit industry shortly, but it does not contain mandatory regulations for credit institutions.

The guideline is structured as follows: Chapter 2 shows separate components of the credit approval process and their inherent risks based on the multitude of the individual steps in the process, followed by a look at the methods and processes of credit risk management in chapter 3. Chapter 4 then describes risk assessment and monitoring functions and deals with their integration in bank wide capital allocation within the organizational structures of the banks. Chapter 5 looks at issues of internal auditing, and a list of references — intentionally kept short — helps the reader find further sources. Finally, we would like to point out the purely descriptive and informational character of the guideline; it cannot and does not contain any statements on regulatory requirements on credit institutions relating to the credit approval process and credit risk management,

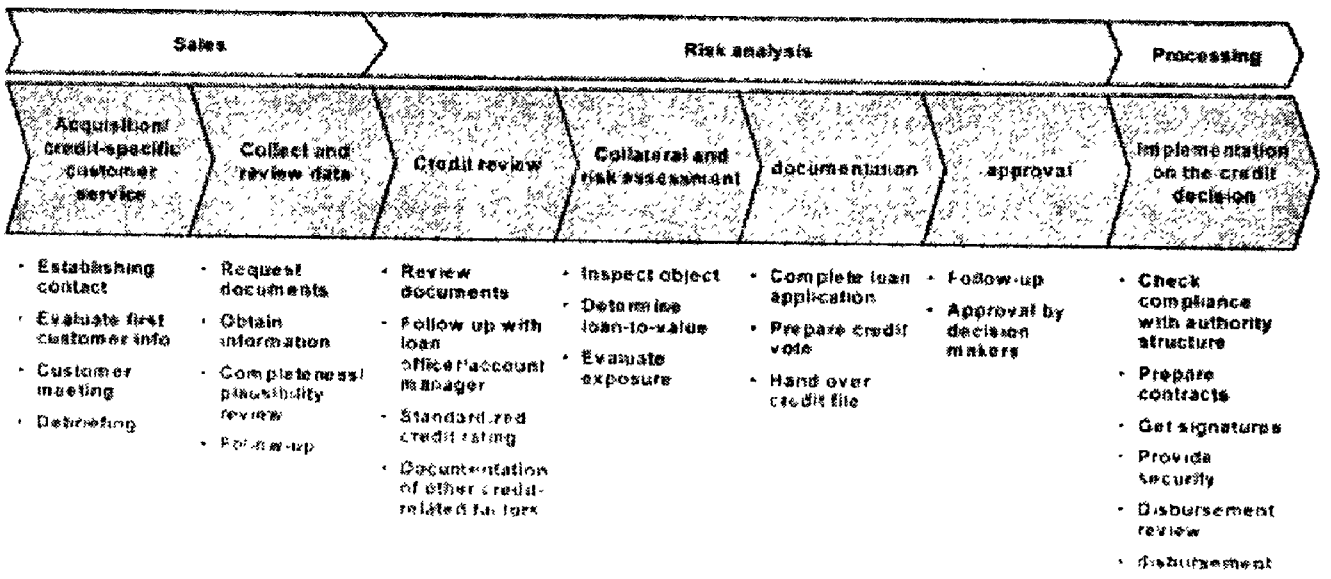
and the relevant authorities are in no way prejudiced by this guideline. Any references to draft directives are based on texts current at the time of drawing up the guideline and are for informational purposes only. Despite the highest level of diligence exercised in preparing this guideline, the editors do not assume any liability for its content.

Overview of the Credit Approval Process

The order of the following subsections reflects the sequence of steps in the credit approval process. with the credit approval process for new customers serving as the general framework. Credit approval processes for existing customers will be addressed explicitly if they contain process steps that are not found in the credit approval process for new customers at least in a similar form. Chart 3 summarizes the individual process steps:

The Credit Approval Process Is Subdivided into a Large Number of Individual Process Steps

Conceptual presentation individual process



This chapter shows a structured presentation of the criteria which should form the basis for the design of credit approval processes. The definition of exposure segments is an important prerequisite to handle credit approval processes in a manner which is specific to the risk involved and efficient. Many of the risk mitigation measures described here can only take full effect if they account for the specific characteristics of the credit applicants. Therefore, the segmentation of the credit approval processes is a central component of risk mitigation.While the risk mitigation measures should be designed in accordance with the specifics of each segment, there is a uniform basic structure of these measures which are discussed in the following subchapters. A presentation of the specific

design of these measures would only be possible with reference to a detailed definition of the individual segments. Such a definition is impossible due to the great heterogeneity among the banks addressed by this guideline to begin with and can thus only be established for each bank separately. Thus, the following subchapters will primarily discuss the basic structure of the risk mitigation measures and the way in which they work. At some points, the distinction between standard and individual processes is pointed out as this distinction is a central element in the design of credit approval processes nowadays. In case differences in the process design are considered essential for the effectiveness of the risk mitigation measures, this design will be described in more detail.

10.8 CRFDIT ANALYSIS

Regardless of where you seek funding—from a bank, a local development corporation, or a relative—a prospective lender will review your creditworthiness. A complete and thoroughly documented loan request (including a business plan) will help the lender understand you and your business. The basic components of credit analysis, the "Five C's," are described below to help you understand what the lender will look for.

The "Five C's" of Credit Analysis

- Capacity to repay is the most critical of the five factors. The prospective lender will want to know exactly how you intend to repay the loan. The lender will consider the cash flow from the business, the timing of the repayment, and the probability of successful repayment of the loan. Payment history on existing credit relationships—personal or commercial—is considered an indicator of future payment performance. Prospective lenders also will want to know about your contingent sources of repayment.
- Capital is the money you personally have invested in the business and is an indication of how much you have at risk should the business fail. Prospective lenders and investors will expect you to have contributed from your own assets

and to have undertaken personal financial risk to establish the business before asking them to commit any funding.

- Collateral or guarantees are additional forms of security you can provide the lender. Giving a lender collateral means that you pledge an asset you own, such as your home, to the lender with the agreement that it will be the repayment source in case you can't repay the loan. A guarantee, on the other hand, is just that—someone else signs a guarantee document promising to repay the loan if you can't. Some lenders may require such a guarantee in addition to collateral as security for a loan.
- Conditions focus on the intended purpose of the loan. Will the money be used for working capital, additional equipment, or inventory? The lender also will consider the local economic climate and conditions both within your industry and in other industries that could affect your business.
- Character is the general impression you make on the potential lender or investor. The lender will form a subjective opinion as to whether or not you are sufficiently trustworthy to repay the loan or generate a return on funds invested in your company. Your educational background and experience in business and in your industry will be reviewed. The quality of your references and the background and experience levels of your employees also will be taken into consideration.

10.9 TRANSACTION RISK EXPOSURE

Risk identification often produces a long list of risks, which can be hard to understand or manage. The list can be prioritised, but this does not indicate those areas of the project which require special attention, or expose recurring themes, concentrations of risk, or 'hotspots' of risk exposure. There is also often no assessment of overall project risk exposure, or of the linkages between risks, either at the same level, or aggregated to a higher level. Instead the most common techniques (such as the Probability-Impact Matrix) focus simply on prioritising individual risks, producing ranked lists such as the 'Top Ten' risks. Wouldn't it be helpful if there was a simple way of describing the structure of project risk exposure? Project management makes wide use of structures, and there are several standard project frameworks, as well as a couple which are specific to

risk management. What frameworks are available and can they help us understand risk exposure across a project? The most commonly-used project management framework is the Work Breakdown Structure (WBS), which divides project work hierarchically into manageable and definable packages to provide a basis for project planning, communication, reporting and accountability.

Organisational Breakdown Structure (OBS) and the Cost Breakdown Structure (CBS).

The OBS reflects the management structure of the project, describing different levels of control, while the CBS provides a basis for cost estimation, budgeting and control. On the risk side there are two risk-related frameworks. The Risk Breakdown Structure

(RBS) presents a hierarchical structure of potential risk sources, and can be used in a variety of ways to structure and guide the risk management process. The Risk Impact Breakdown Structure (RiBS) covers different types of risk impact to describe characteristics of the project risk exposure. Examples for RBS and RiBS are shown in Figures 1 and 2, though these are only illustrative.

How can we use these frameworks to analyse aspects of a project's risk exposure? A variety of different categorisation schemes can be created simply by mapping identified risks into the relevant framework, followed by a summation of either the number of risks, or (better) a weighted sum taking risk severity into account. For example: | WBS. Mapping risks to the WBS indicates which parts of the project scope are most at risk. The individual work packages containing most risk can be identified, and this can be aggregated or rolled up the WBS framework to find the most risky major tasks, project areas etc. | OBS. Categorising risks using the OBS shows relates risks to the areas of responsibility of the various individuals, teams or groups in the project organisation, and can be used to propose appropriate risk owners. | CBS. Linking risks into the CBS allows the cost of risk impacts and planned risk responses to be mapped into the project budget, exposing which cost elements are most uncertain, allowing calculation of an appropriate risk budget, and suggesting where contingency might be required. | RBS. Grouping risks by the RBS indicates common sources of risk, allowing preventative measures to be taken, and increasing the efficiency of risk responses by targeting root causes to tackle multiple related risks. RiBS. Mapping risks against the

RiBS allows analysis of the types of risk exposure faced by the project, indicating where the management team should focus attention when developing risk responses.

Clearly each of these categorisations can be used to support risk response planning, ensuring the responses are aimed at the right target, and making best use of the resources available. Simply mapping risks into the various project and risk frameworks provides valuable additional information to assist the project manager in addressing the risk challenge faced by the project. However, even though these simple classifications are useful, they are still only one dimensional analyses of the multi-dimensional risk problem area. Cross-framework mapping takes the analysis to another level, providing new insights into patterns of risk exposure. Here are three possible examples:

RBS x WBS. Combining WBS (project scope) with RBS (sources of risk) reveals which types of risks are affecting which areas of the project. Because both WBS and RBS are hierarchies, different levels of analysis are possible, from the top where the whole project is affected by all types of risk, down to lower levels showing particular types of risk faced by specific work packages. RBS x RiBS. Cross-mapping of RBS against RiBS indicates the combination of sources of risk and potential impacts on project objectives. Hotspots within this matrix shows particular cause effect chains which are significant for the project, and will be useful to support development of effective risk responses. These might be either preventative (targeting common causes of risk) or corrective (addressing common impact areas with fallback plans and/or contingency).As before, this analysis can be conducted at different levels.

RiBS x CBS.

Mapping of RiBS (types of risk impact) against the CBS (cost structure of the project) exposes which types of risk impact are likely to have the greatest effect on the project budget, and can be used to develop targeted contingency funds.

The value of this type of mapping lies in its ability to support development of effective risk responses, by revealing different aspects of the risk exposure of the project. The use of hierarchical frameworks has an additional benefit in allowing responses to be developed at different levels, ranging from whole-project generic responses to detailed specific actions targeting particular hotspots of exposure.

10.10 ANSWERS TO CHECK YOUR PROGRESS

1. The very basic objective of risk management system is to put in place and operate a systematic process to give a reasonable degree of assurance to the top management that the ultimate corporate goals that are vigorously pursued by it would be achieved in the most efficient manner.
2. A set of agreements set by the Basel Committee on Bank Supervision (BCBS), which provides recommendations on banking regulations in regards to capital risk, market risk and operational risk
3. Board for Financial Supervision (BFS) and Department of Banking Supervision (DBS)
4. Capacity, Capital, Collateral, Conditions, and Character

10.11 REVIEW QUESTIONS

1. Explain the various provisions of Basle I Accord and how far it defer from Basle II Accord
2. Descripe the various methodology adopted in the Banking Supervision process
3. Explan the general Credit Process adopted by the financial insititutions
4. Liat down the Operational Practices and Credit Environment
5. How the Transaction Risk Exposure is measures?

10.12 FURTHER READINGS

1. Buckley, Adrian: Multinational Finance, Prentice Hall of India, New Delhi
2. Henning, C.N., Piggot, W. and Scott, W.H: International Financial Management, Mc Graw Hill, Int. Ed., New Yori..
3. Maurice, Levi: International Finance, McGraw Hill, Int. Ed., New York.
4. Rodriqufe, R.M and E.E Carter: International Financial Management, Prentice Hall of India, Delhi.
5. Shaprio, A.C: Multinational Financial Management, Prentice Hall of India, New Delhi.