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## **UNIT 9 MEASURING AND MANAGING TRANSLATION AND ECONOMIC EXPOSURES**

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### **9.0 OBJECTIVES**

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After studying this unit you should be able to :

- explain the concepts of translation and economic exposures
- discuss their impact on corporates
- discuss various ways of hedging these exposures
- compare and contrast various hedging techniques.

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### **9.1 INTRODUCTION**

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In unit 8 you learnt about the concept, measurement and techniques of managing transaction exposure. In this unit you will learn about two other forms of exposure facing international business firms, namely translation (or accounting) and economic exposure. You will also learn about their concepts and various hedging techniques and the impact of these exposures on corporates.

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### **9.2 TRANSLATION EXPOSURE DEFINED**

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Translation exposure refers to the amount of risk facing the firm as a result of the need to translate financial statements prepared in one currency into statements in another currency. This is particularly true for multinational firms which must consolidate their financial results at the end of the year. The accounting framework is the legally required form in which companies must report operating results and financial condition to shareholders. The financial statements contain information of interest to various other parties viz lenders, debtors, regulators. Thus, the translation of subsidiary accounts for consolidation into parent accounts faces translation exposure and may pose serious implications for the parent company.

## 9.2.1 Distinction between Transaction and Translation Exposure

The addition of the word 'risk' after 'transaction' or 'translation' tends to convey that transaction risk and translation risk are two different risks, i.e., different external threats. Indeed, they may be more appropriately viewed as different ways of looking at and managing the same (or at least largely overlapping) external threats. An accounting model of receipts and payments is implicit when reference is made to translation risk, and a cash flow model of receipts and payments is implicit when reference is made to transaction risk.

Translation risks are commonly restricted by experts to contractually committed receipts and payments. Uncommitted ones may never appear on financial statements at all. Clearly, this category of contractually committed receipts and payments overlaps with a considerable proportion of those included in transaction risks. In fact, some writers would treat transaction and translation risks as co-terminus, whereas others would wish to extend transaction risk to include a number of uncommitted future transactions. What is common to all of them, however, is that the distinction is not between different external threats, i.e., different mismatches. Transaction and translation mismatches arise largely from the same transactions: both threats are from the effect of adverse movements in the same nominal exchange rates on the outcomes of largely the same transactions. The distinction is effectively between two models of the business used by managers, the accounting model and the future cash flows model. The contrast concerns the values (current market or balance sheet values) and the time horizon which the currency manager has in mind when managing the risks. The distinction is subjective in that it turns on manager's perceptions: if he is concerned with accounting values and with losses or gains arising in financial reporting periods, then he is managing the translation or accounting risk; if he is concerned with the amount of the future cash receipt or payment on its expected date, then he is managing transaction risk. The distinction between translation and transaction risk is, therefore, between management perceptions, not between external threats or risks. This is, however, important to recognise and provide for.

Translation (position) risk can be measured either aggressively for gain or defensively to avoid loss. Some companies prefer the objective of leaving the impact of currency movements unchanged between successive reporting periods. They prefer to smooth rather than optimise or minimise the effect of currency movements. Defensive management approach involves adjustment of each position to zero. Aggressive management of freely floating currencies is for those who either have reason to know they can beat market expectations of future exchange rates, or have special tax position which load the dice in their favour after tax. Aggressive management is more likely to be successful with controlled or managed currencies or over very short periods. Aggressive position risk management is difficult, but not wrong in principle, as long as it is a calculated and adequately controlled and the relevant policy disclosed to and understood by investors.

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## 9.3 CURRENCY TRANSLATION METHODS

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Companies with international operations will have foreign currency denominated assets and liabilities, revenues and expenses. However, because home country investors would be interested in home currency values, the foreign currency balance sheet accounts and income statements must be assigned home currency values. In particular, the financial statements of an MNC's overseas subsidiaries must be translated from local currency to home currency prior to consolidation with the parent's financial statements. If currency values change, foreign exchange translation gains or losses may result. Assets and liabilities that are translated at the current (post change) exchange rate are considered to be exposed; those translated at a historical (pre change) exchange rate will maintain their historic home currency values and hence, are regarded as not exposed. Translation exposure is simply the difference between exposed assets and exposed liabilities. The difference of opinion among accountants centre around (1) which assets and liabilities are exposed and (2) when accounting-derived foreign exchange gains and losses should be recognised (reported on the income statement). A crucial point to see these

differences of opinion in perspective is that such gains and losses are of an accounting nature - that is, no corresponding cash flows are involved. The four most common methods of translation are, the current/non-current method, the monetary/non-monetary method, the temporal method, and the current rate method. Let us briefly discuss these in the following:

### **Current/Non-Current Method**

At one time, the current/non-current method, whose underlying theoretical basis is maturity, was used by almost all US multinationals. Under this method, all the foreign subsidiary's current assets and liabilities are translated into home currency at the current exchange rate. Each non-current asset or liability is translated at its historical exchange rate; that is, at the rate in effect at the time the asset was acquired or the liability incurred. Hence, a foreign subsidiary with positive local currency working capital will give rise to a translation loss (gain) from a devaluation (revaluation) with the current/non-current method, and vice versa if working capital is negative. The income statement is translated at the average exchange rate of the period, except for those revenue and expense items associated with noncurrent assets or liabilities. The latter items, such as depreciation expense, are translated at the same rates as the corresponding balance sheet items. Thus, it is possible to see different revenue and expense items with similar maturities being translated at different rates.

### **Monetary/Non-monetary Method**

The monetary/non-monetary method differentiates between monetary assets and liabilities - that is, those items that represent a claim to receive, or an obligation to pay a fixed amount of foreign currency units and non-monetary or physical assets and liabilities. Monetary items (for example, cash, accounts payables and receivables and long-term debt) are translated at the current rate; non-monetary items (for example, inventory, fixed assets and long-term investments) are translated at historical rates. Income statement items are translated at the average exchange rate during the period, except for revenue and expense items related to nonmonetary assets and liabilities. The latter items, primarily depreciation expense and cost of goods sold, are translated at the same rate as the corresponding balance-sheet items. As a result, the cost of goods sold may be translated at a rate different from that used to translate sales.

### **Temporal Method**

This method appears to be a modified version of the monetary/non-monetary method. The only difference is that under the monetary/non-monetary method, inventory is always translated at the historical rate. Under the temporal method, inventory is normally translated at the historical rate, but it can be translated at the current rate if the inventory is shown on the balance sheet at market values. Despite the similarities, however, the theoretical basis of these two methods is different. The choice of exchange rate for translation is based on the type of asset or liability in the monetary/non-monetary method; in the temporal method, it is based on the underlying approach to valuation viz historical cost versus market value. Income statement items are normally translated at an average rate for the reporting period. However, cost of goods sold and depreciation and amortisation charges related to balance sheet items carried at past prices are translated at historical rates.

### **Current Rate Method**

The current rate method is the simplest. Under this method, all balance-sheet and income items are translated at the current rate. Thus, if a firm's foreign currency denominated assets exceed its foreign currency denominated liabilities, a devaluation must result in a loss and a revaluation in a gain. One variation of this method is to translate all assets and liabilities except net fixed assets at the current rate.

## 9.4 FINANCIAL ACCOUNTING STANDARDS NO. 8 AND 52

### FASB-8

From our discussion above of various methods of translation available, you may easily expect wide variation in the results reported under different methods of translation. This precisely led the Financial Accounting Standards Board (FASB) of the US to issue accounting standard number 8 to establish uniform standard of translating foreign currency denominated financial statements. FASB 8, which was based on the temporal method, became effective on January 1, 1976. Its principal virtue was its consistency with generally accepted accounting practice that requires balance sheet items to be valued (translated) according to their underlying measurement basis (that is, current or historical). Almost immediately upon its adoption, controversy ensued over FASB 8. A major source of corporate dissatisfaction with FASB 8 was the ruling that all reserves for foreign currency losses be disallowed. Before FASB 8, many companies established a reserve and were able to defer unrealised gains and losses by adding them to, or charging them against the reserve. In that way, corporations generally were able to cushion the impact of sharp changes in currency values on reported earnings. With FASB 8, however, fluctuating values of foreign currencies often had more impact on profit and loss statements than did the sales and profit margins of multinational manufacturers' product lines.

### FASB-52

In 1981, widespread dissatisfaction by corporate executives over FASB 8 led to a new translation standard - FASB 52. According to FASB 52, firms must use the current rate method to translate foreign currency denominated assets and liabilities into home currency. All foreign currency revenue and expense items on the income statement must be translated at either the exchange rate in effect on the date these items are recognised or at an appropriately weighted average exchange rate for the period. The most important aspect of the new standard was that unlike the case with FASB 8, most FASB 52 translation gains and losses bypass the income statement and are accumulated in a separate equity account on the parent's balance sheet. FASB 52 also, for the first time, differentiated between the functional currency and the reporting currency. An affiliate's functional currency is the currency of the primary economic environment in which the affiliate generates and expends cash. If the enterprise's operations are relatively self-contained and integrated within a particular country, the functional currency would generally be the currency of that country. It is also possible that the functional currency is neither the local currency nor the home currency, but rather is a third currency. This especially happens in high inflation countries. The reporting currency, on the other hand, is the currency in which the parent firm prepares its own financial statements. FASB 52 requires that the financial statements of a foreign unit first be stated in the functional currency, using generally accepted accounting principles. At each balance sheet date, any assets and liabilities denominated in a currency other than the functional currency, or from settling such items, generally must appear on the foreign unit's income statement. That is, if the functional currency is identical to the local currency, translation gains and losses must appear in the balance sheet as a separate item called cumulative translation adjustment under the shareholder's equity account. If the functional currency is other than the local currency, then all financial statements prepared in local currency must first be translated into the functional currency. This translation is done according to the temporal method previously required by FASB 8, and therefore, the resulting translation gains and losses must be reported in the income statement.

In India, Institute of Chartered Accountant of India has issued AS-11, which is based on IAS-21 prescribed by International Accounting Association in this regard.

## 9.5 DESIGNING A HEDGING STRATEGY

As you can see, translation exposures are serious enough to merit specially designed hedging strategies. Firms have three available methods for managing their translation exposure: (1) adjusting fund flows; (2) entering into forward contracts; and (3) exposure netting. The general rule followed is as follows:

### Basic Strategy for Hedging Translation Exposure

	<u>Assets</u>	<u>Liabilities</u>
Hard Currencies (likely to appreciate)	Increase	Decrease
Weak Currencies (likely to depreciate)	Decrease	Increase

The strategy shown above essentially involves increasing hard currency (likely to appreciate) and decreasing weak currency (likely to depreciate) assets, while simultaneously decreasing hard currency liabilities and increasing weak currency liabilities. For example, if a devaluation appears likely, the basic hedging strategy would be executed as follows: reduce the level of cash, tighten credit terms to decrease accounts receivables, increase local currency borrowing, delay accounts payable, and sell the weak currency forward. Despite their prevalence among firms, however, these hedging activities are not automatically valuable. If the market already recognises the likelihood of currency appreciation or depreciation, this recognition will be reflected in the costs of the various hedging techniques. Only if the firm's anticipation differs from the market and is also superior to the market, can hedging lead to reduced costs. Otherwise, the principal value of hedging would be to protect a firm from unforeseen currency fluctuations.

### 9.5.1 Funds Flow Adjustment

Most techniques for hedging an impending local currency devaluation reduce local currency assets or increase local currency liabilities, thereby generating local currency cash. If accounting exposure is to be reduced, these funds must be converted into hard currency assets. For example, a company will reduce its translation loss if, before local currency devaluation, it converts some of its local currency cash holdings to the home currency. This conversion can be accomplished, either directly or indirectly, by means of various funds adjustment techniques.

Funds adjustment involves altering either the amounts or the currencies (or both) of the planned cash flows of the parent and/or its subsidiaries to reduce the firm's local currency accounting exposure. If a local currency devaluation is anticipated, direct funds-adjustment methods include pricing exports in hard currencies and imports in the local currency, investing in hard currency securities, and replacing hard currency borrowings with local currency loans. The indirect methods include adjusting transfer prices on the sale of goods between affiliates, speeding up the payment of dividends, fees and royalties, and adjusting the leads and lags of inter subsidiary accounts. The latter method, which is the one most frequently used by multinationals, involves speeding up the payment of inter subsidiary accounts payables and delaying the collection of inter subsidiary accounts receivables. These hedging procedures would be reversed for an appreciation of the local currency. Some of these techniques or tools may require considerable lead time and - as is the case with a transfer price - once they are introduced, they cannot be easily changed. In addition, techniques such as transfer price, fee and royalty, and dividend flow adjustments fall into the realm of corporate policy and are not usually under the treasurer's control. It is, therefore, incumbent on the treasurer to educate other decision makers about the impact of these tools on the costs and management of corporate exposure. For those countries in which a formal

market in local currency forward contracts does not exist, leading and lagging and local currency borrowing are the most important techniques. The bulk of international business, however, is conducted in those few currencies for which forward markets do exist. A summary of the fund flow adjustment hedging actions under currency depreciation / appreciation scenarios may be given as follows:

#### Currency Depreciation

Sell local currency forward

Reduce levels of local currency cash and marketable securities

Tighten credit (reduce local currency receivables)

Delay collection of hard currency receivables

Increase imports of hard currency goods

Borrow locally

Delay payment of accounts payables

Speed up dividend and fee remittances to parent and other subsidiaries

Speed up payment of inter subsidiary accounts payables

Delay collection of inter subsidiary accounts receivables

Invoice exports in foreign currency and imports in local currency

#### Currency Appreciation

Buy local currency forward

Increase levels of local currency cash and marketable securities

Relax local currency credit terms

Speed up collection of weak currency receivables

Reduce imports of soft currency goods

Reduce local borrowings

Speed up payment of accounts payables

Delay dividend and fee remittances to parent and other subsidiaries

Delay payment of inter subsidiary accounts payables

Speed up collection of inter subsidiary accounts receivables

Invoice exports in local currency and imports in foreign currency

### 9.5.2 Forward Contracts

You have already studied in unit 8, how forward contracts can reduce a firm's transaction exposure. Forward contract can also be used to hedge translation exposure by creating an offsetting asset or liability in a foreign currency. For example, suppose that IBM U.K has translation exposure of 40 million pounds (that is, sterling assets exceed sterling liabilities by that amount). IBM U.K can eliminate its entire translation exposure by selling 40 million pounds forward. Any loss (gain) on its translation exposure will then be offset by a corresponding gain (loss) on its forward contract. However, it is to be noted that the gain (or loss) on the forward contract is of a cash flow nature and is netted against an unrealised translation loss (or gain).

### 9.5.3 Exposure Netting

Exposure netting is another hedging technique that can be used by a multinational firms with positions in more than one foreign currency or with offsetting positions in the same currency. As explained in unit 8, this technique involves offsetting exposures in one currency with exposures in the same or another currency such that gains and losses on the two currency positions will offset each other.

Selecting convenient (less risky) currencies for invoicing exports and imports and adjusting transfer prices are the two techniques that are used, albeit, less frequently; perhaps because of the rigidities involved in the use of those techniques, as noted above.

## 9.6 CENTRALISATION VS. DECENTRALISATION OF EXCHANGE RISK MANAGEMENT

Centralisation or decentralisation is a particularly important issue in exchange risk management. The choice depends not only on the company's management style, but also on the nature of its business. In any case, the logistics of management influence the handling of currency risk in a variety of ways. In the area of foreign exchange risk management, there are good arguments both for and against centralisation. Favouring centralisation is the reasonable assumption that local treasurers want to optimise their own financial and exposure positions regardless of the overall corporate situation. Many companies take the view that their group's commercial success requires strong local control. Local here refers to any profit centre, be it geographical, product or a market segment. It is hard for such a structure to be effective if there are any unnecessary restrictions on the local manager's power to take decisions which influence profit centre's commercial success. Many currency risk decisions are highly germane to commercial success. Secondly, the local currency manager is closer to the transactions of the local unit, and also to the local banking system and foreign exchange market. This is especially important if the local currency market is insulated by controls from the world banking market in which the parent deals.

There is much diversity in the extent to which companies centralise currency dealing, currency invoicing decisions, and risk management and hedging decisions. Practice in multinational groups can vary from total centralisation, where all dealing is done by the parent, to a high degree of freedom for every world-wide profit centre to manage its own currency risks by its own criteria. The variety of practice is likely to owe much to differences between the products, market positions and international spread of each group of companies. Few companies stand at the extreme ends of the spectrum. Most international companies, as a minimum:

- issue guidelines stating the corporate objectives in managing currency risks;
- require prompt and accurate information about currency positions, so that the corporate can then at the centre adjust the consolidated position of the group to the desired level; and
- monitor and take central action to manage the group position.

On the other hand, very few groups centralise:

- currency dealing for all their foreign subsidiaries, or
- decisions about the currencies in which units sell, or
- decisions about the exchange rates used to calculate export selling prices.

Many give guidance and advice, but few directly interfere in the affairs of overseas subsidiaries. Domestic subsidiaries are another matter, for the prevailing practice is to have only one currency dealing centre per country.

Total centralisation of currency dealing may be appropriate in a very monolithic single product group. However, there are diseconomies of dealing from a distance besides possibility of demotivation of local managers. A decentralised group that wishes to manage currency risk for gain may, therefore, ask its overseas subsidiaries to adopt a defensive, hedge only policy, leaving the corporate centre to deal aggressively for gain. It might seem as the way to get the best of both worlds. However, there are some other ways also. A devolved structure may be adopted which permits all profit centres to make their own currency risk management decisions, but requires them to deal exclusively with the group centre as their in-house banker. The group centre then, at their request, gives the profit centre spot or forward deals, swaps, or options, quoting the best market prices that they could have obtained by dealing direct. It then makes its own decisions about dealings with the outside world. The group centre is then in complete control of the group position, free to pursue its own policies; yet, the operating units are equally free to run their affairs as they choose.

Where currency expertise is for one reason or another centralised as an exception to an otherwise decentralised management structure, there are two implications. First, the need for team work is paramount. Secondly, the central currency management function should, as far as possible, play a detached part, relying as much as possible on guidelines, routine advice on exchange rates and currencies, and as little as possible on an imposed right to be consulted on day-to-day decisions. This helps to reinforce the motivation of line managers to run their businesses successfully. The corporate centre needs a clear view of what exposures are too small and fragmented to be worth managing, and to issue carefully defined authority limits. Units are free to manage exposures below those limits as they think fit. All currency positions must, however, be reported to the centre so that the group exposure can be monitored. The ultimate constraints on delegation are:

- the integral nature of the group's standing in its financial markets; and
- the threshold of tolerable risk.

The process of delegation needs so much care because currency exposures have a way of being correlated and of being cumulative, both in time and across the spectrum of a group's sub-units. However, few groups' inflows and outflows are so naturally balanced that a policy of laissez-faire is safe. Small individual exposures, instead of cancelling out, have a way of accumulating to major gains or losses for the group. The most effective place for the head office to manage this is in the parent company, leaving the profit centres to watch their own solvency criteria. An effective decentralised structure should be impeded as little as possible. Currency risk management should achieve its central objectives as unobtrusively as possible.

The dimensions in which currency risk management can be either centralised or decentralised are:

1. where and by whom currency dealing is done;
2. where and by whom exposures can be authorised and hedging decisions taken;
3. where and by whom it is decided in what currencies to quote prices; and
4. in what currencies intragroup sales are invoiced.

The extreme form of centralisation is where the group centre does all dealing and takes all decisions. However, a complete absence of central guidelines and authority limits is rare. The first reason for it is that a group of companies cannot decentralise its credit rating and investment status in its financial markets. If the parent is listed, it will have its stock market quotation on a stock exchange. The stock market treats such a group as a single financial entity with an integral investment and credit status. Similarly, banks tend to regard subsidiaries as extensions of the parent, even if the parent will not formally guarantee them. The parent alone, therefore, has the critical interface with the financial markets. Partly owned subsidiaries may be an exception to this rule. It follows that only the corporate centre is sensitive to the effect of currency exposures on the group's financial standing and cost of capital. Managers outside the corporate centre may take decisions which are either imperfectly targeted or convey unhelpful signals to the financial markets.

Secondly, because only the centre has the key interface with the financial markets, wholly owned subsidiaries tend to need less experts for dealing with those markets than the parent. They may, therefore, lack some of the technical sophistication and experience needed to handle currency risk in volatile markets. Currency risk is not easy to handle; few groups can afford expertise in all their subsidiaries or other sub-units. Where the skills are concentrated at the centre, there is a strong case for letting the central experts take the critical decisions.

Thirdly, it is often contended that there are economies, particularly in dealing costs, if transactions are minimised, netted and then centrally handled. On the whole, centralised exchange risk management seems better option.



## Check Your Progress A

1. Define translation exposure.

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2. What was the rationale behind introduction of FASB-8 and FASB-52?

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## 9.7 ECONOMIC EXPOSURE DEFINED

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Economic exposure relates to 'cash flow' risks. The term cash flow has been defined in different ways. Cash flow means (1) the total net dividends and liquidation proceeds available to the owners over future years, (2) the free cash flow, that is earnings before depreciation minus capital expenditure minus increases in working capital, (3) the future earnings of the company defined in such a way as to reflect cash earnings rather than earnings computed on the accrual concept of accounting. The following distinguishing features apply to cash flow risk:

**One**, the threat is to the competitiveness of costs; it affects the ability of the business to compete, to obtain sales at a remunerative margin of profit over cost.

**Two**, the threat is from movements of the real, not the nominal exchange rate. A rise in the real rate of exchange erodes either margins or sales volume or a mixture of both. Rise and fall in the real exchange rate of selling currencies tend to affect all competitors, and are part of the wider phenomenon of macroeconomic uncertainty which every business must manage. It is thus not primarily a currency risk. This is a trading risk. All businesses have to watch the forces which affect demand and supply of what they are offering. This is a wider macroeconomic risk and not just a currency risk. Currencies are an important part, but not the whole of the relevant economic environment. Consequently, if there are only two competing suppliers, one with French and one with German costs, and if the bulk of sales are in the USA or in US dollars, a fall in the real exchange rate of the dollar would not cause economic or competitiveness risk. What could cause it is a change in the real FF/DM exchange rate.

**Three**, the risk concerns future sales for which prices have not yet been quoted. All sales for which prices have been quoted are subject to financial risks, not competitiveness risk. In these cases, management task is concerned with nominal, not real exchange rates. Competitiveness risk, thus, excludes all potential sales for which the business has quoted prices, as well as actual sales, regardless of whether they have reached the balance sheet as receivables or payables.

**Four**, the threat is to the competitive position of a business. Strictly, it is to a business in one or more of its commercial markets, where it incurs appreciable costs in a currency which may become less competitive.

In sum, economic (competitiveness) risk is concerned with threats from changes in real exchange rates to the competitiveness of costs. The seriousness of the risk depends on how hard it is to shift costs between currencies. For example, the value added by the contractor for a petrochemical process plant is largely design and management, the hardware is all procured from manufacturers. The largest item, the compressor, can be ordered from manufacturers in a number of countries, and if a high real exchange rate makes the British compressor maker uncompetitive, then the contractor has little difficulty in switching this major cost item to a supplier with costs in a more competitive currency. Procurement costs are seldom locked into a particular currency,

whereas labour and capital costs are not easily or rapidly switched. So, contractors are better placed than manufacturers to switch costs by switching subcontracts. If the main contractor had been a British compressor manufacturer, it would have found it much harder to purchase the compressor from its Swiss competitor, leaving its own British workforce to face redundancies.

The sensitivity of a business to competitiveness risk depends on its elasticity of demand. A competitive strategy of differentiation aims precisely at a more steeply sloping demand curve. The less price-sensitive customers are, the less damaging is a deterioration in cost competitiveness.

Competitiveness risk is a long term problem. Trends in real exchange rates can sometimes be assessed for a few years ahead. Companies can profit from this either by switching costs to currencies likely to become more competitive or by competitive strategies which modify sensitivity to cost differentials. The essence of this risk is its effect on the competitive position, and responses should concentrate on commercial rather than financial action.

Economic or competitiveness risk is not restricted to businesses which trade with other countries. If, for example, the business is a single hotel, and the home currency becomes uncompetitive, less tourists will come and the hotel will lose business. Some authors like Adler and Dumas (1984) and Wihlborg (1987) treat currency risk as one element of the wider concept of macroeconomic threats to real (inflation-adjusted) cash flows. One difficulty with this is that it ignores the difference between threats caused by nominal, as opposed to real exchange rate movements. At a more fundamental level, however, exchange rates are themselves correlated with, and caused by macroeconomic phenomena which affect business profitability directly, as well as indirectly via currency movements. It is thus suggested that a sharp distinction should be made between external influences on (a) costs; and (b) selling prices. Real exchange rates tend to have a much more dramatic impact on the competitive costs of a given competitor than on the market price of what he is offering. This is because only in conditions of absolute or near monopoly, will the individual competitor set market prices.

### 9.7.1 Measuring Economic Exposure

Determining a firm's true economic exposure is a daunting task, requiring a singular ability to forecast the amounts and exchange rate sensitivities of future cash flows. Most firms that follow the economic approach to managing exposure, therefore, must settle for a measure of economic exposure and their resulting exchange risk which is nothing more than intuition. A workable approach may be to use historical data from the firm's actual operations or, in the case of a new venture, data from a comparable business. This approach is based on definition of the exchange risk faced by a parent or one of its foreign affiliates as follows:

A company faces an exchange risk to the extent that variations in the dollar value of the unit's cash flows are correlated with variations in the nominal exchange rate. This correlation is precisely what a regression analysis seeks to establish. Specifically, this involves running the following regression equation:

$$CF_t = a + bEXCH_t + u_t$$

where

$CF_t$  = the dollar value of total affiliate (parent) cash flows in period  $t$

$EXCH_t$  = the average exchange rate during period  $t$

$u$  = a random error term with mean 0

The output from such a regression analysis includes three key parameters: (1) the foreign exchange beta 'b' coefficient, which measures the change in cash flow corresponding to one unit change in exchange rate; (2) the 't' statistic which measures

the statistical significance of the beta coefficient, and (3) the R square [ $R^2$ ] which measures the fraction of cash flow variability explained by variation in the exchange rate. The higher the beta coefficient, the greater the impact of a given exchange rate change on the home currency value of cash flows. Conversely, the lower the beta coefficient, the less exposed the firm is to exchange rate changes. A larger 't' statistic means a higher level of confidence in the value of the beta coefficient. However, even if a firm has a large and statistically significant beta coefficient and, thus, faces real exchange risk, this situation does not necessarily mean that currency fluctuations are an important determinant of the overall firm risk. What really matters is the percentage of total corporate cash flow variability that is due to these currency fluctuations. Thus, the most important parameter in terms of its impact on the firm's exposure management policy is the regression's  $R^2$ . For example, if exchange rate changes explain only 1% of total cash flow variability, the firm should not devote much in the way of resources to foreign exchange risk management, even if the beta coefficient is large and statistically significant. The validity of this method is clearly dependent on the sensitivity of future cash flows to exchange rate changes being similar to their historical sensitivity. In the absence of additional information, this assumption seems to be reasonable. But the firm may have reason to modify the implementation of this method. For example, the nominal foreign currency tax shield provided by a foreign affiliate's depreciation is fully exposed to the effects of currency fluctuations. If the amount of depreciation in the future is expected to differ significantly from its historical values, then the depreciation tax shield should be removed from the cash flows used in the regression analysis and treated separately. Similarly, if the firm has recently entered into a large purchase or sales contract fixed in terms of the foreign currency, it might decide to consider the resulting transaction exposure apart from its economic exposure.

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## 9.8 MANAGING ECONOMIC EXPOSURE

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A manager whose costs become uncompetitive must either get out of that particular product in its present form, or seek to make his costs competitive. He can only use a hedge against his costs becoming uncompetitive if he treats the effect of that hedge as part of the cost structure. In other words, if the hedge does its job, i.e., provides a financial gain which offsets his costs, he must look at his costs as reduced by the gain from the hedge. Conversely, however, if his own currency of cost falls in real terms, he must treat the loss from the hedge as an extra cost which denies him the benefit of the improvement in the competitiveness of his own currency. It is not easy to see many managers readily accepting that. It would obviously be dangerous commercial policy where the company has a local competitor in its own country. With a falling real exchange rate, it would lose market share to that competitor unless that competitor had adopted an identical hedging policy. Otherwise, the competitor would be free to reduce prices or collect higher margins. Generally speaking, no manager will handicap his company when its economic environment is favourable.

Practical opportunities to manage competitiveness risk occur in two types of circumstances. The first is whenever plans are made. A business can seek to improve its competitive position by arranging, as far as practicable, to incur its costs in currencies expected to be relatively competitive during the critical period. Competitiveness risk and the real exchange rate should be taken into account in all investment and other planning decisions. How decisive a role this consideration will play will depend on the circumstances of each case. Often, it will play only a minor role. In any event, the planning process will be better informed if trends in the real exchange rate and its effect on costs over the planning period are taken into account. The second set of circumstances is whenever a deterioration in trading performance is being analysed, or where other evidence comes to hand that the currency of major costs is becoming less competitive. Where trading performance has deteriorated, a rising real exchange rate is, of course, only one of many possible explanations. However, whenever other explanations have been eliminated and yet market share is being lost to foreign competitors, there must be a strong chance that the real exchange rate has done the damage. Again, the opportunity to manage such situation will depend on whether some of the following courses of action are available to the management:

One, shift costs into a more competitive currency, or

Two, increase the degree of differentiation of the company's competitive offering, so as to make it less price-sensitive.

The first can be used aggressively, the second is defensive in the context of the real exchange rate. It can, of course, be used as an aggressive competitive strategy. However, neither of these remedies is always promptly available. Competitiveness risk has to be managed opportunistically. Where there are opportunities, they must be seized. Where they do not exist, they can sometimes be created. In any case, it is difficult to believe in effective countermeasures outside the commercial markets.

Financial hedges can at best be a temporary palliative, at worst a millstone around the company's own neck.

A cost portfolio may also be considered. The more balanced the production is among different currencies of cost, the less the risk of the total portfolio. Two-pronged benefits result from this approach. The portfolio may by itself bring reduction of risk; and a portfolio of underutilised capacity could be exploited to switch production from less to more competitive currencies when real exchange rates move. However, this concept can be contemplated only by multinationals. The deliberate creation of spare capacity may not be economic. Labour relations might be difficult if work is shifted as an explicit act of policy rather than as a last resort after a site has become manifestly uneconomic. Besides, a commercial response to a rise in the real exchange rate requires strong evidence of the rise in the real exchange rate. Any minor change in the real exchange rate is unlikely to justify action.

The focus on the real (economic) effects of currency changes and how to cope with the associated risks suggests that a sensible strategy for exchange risk management is one that is designed to protect the home currency earning power of the company as a whole. But whereas firms can easily hedge exposures based on projected foreign currency cash flows, competitive exposures - those arising from competition with firms based in other currencies - are longer-term, harder to quantify, and cannot be dealt with solely through financial hedging techniques. Rather, they require making longer-term operating adjustments such as the following:

### 9.8.1 Marketing Initiatives

To the extent that exchange rate changes do bring about relative price changes, the firm's competitive situation will be altered. As a result, management may wish to adjust its marketing mix or its production process to accommodate the new set of relative prices. Market selection, market segmentation, product strategy, pricing strategy and promotional strategy may all form part of marketing initiatives.

#### Market Selection and Segmentation

Major strategic considerations for an exporter are the markets in which to sell - that is, market selection - and the relative marketing support to devote to each market. It is also necessary to consider the issue of market segmentation within individual countries. A firm that sells differentiated products to more affluent customers may not be harmed as much by a foreign currency devaluation as will a mass marketer. On the other hand, following a depreciation of the home currency, a firm that sells primarily to upper income groups may find it is now able to penetrate mass markets abroad. Market selection and segmentation provide the basic parameters within which a company may adjust its marketing mix over time. In the short term, however, neither of these two basic strategic choices can be altered in reaction to actual or anticipated currency changes. Instead, the firm must select certain tactical responses such as adjustments of pricing, promotional and credit policies. In the long run, if the real exchange rate change persists, the firm will have to revise its marketing strategy.

#### Pricing Strategy

Two key issues that must be addressed when developing a pricing strategy in the face of currency volatility are whether to emphasise market share or profit margin and how

frequently to adjust prices. To begin the analysis, a firm selling overseas should follow the standard economic proposition of setting the price that maximises profits in home currency. In making this determination, however, profits should be translated using the forward exchange rate that reflects the true expected home currency value of the receipts upon collection. Following appreciation of the home currency, which is equivalent to a foreign currency depreciation, a firm selling overseas should consider opportunities to increase the foreign currency prices of its products. The problem, of course, is that local producers will now have a competitive advantage, limiting an exporter's ability to recoup home currency profits by raising foreign currency selling prices. At best, therefore, an exporter will be able to raise its product prices by the extent of the foreign currency devaluation. In the most likely case, foreign currency prices can be raised somewhat, and the exporter will make up the difference through a lower profit margin on its foreign sales.

Under conditions of home currency depreciation, it follows that exporters will gain a competitive advantage on the world markets. An exporter now has the option of increasing unit profitability - that is, by price skimming or expanding its market share by penetration pricing. The decision is influenced by such factors as (1) whether this change is likely to persist, (2) economies of scale, (3) the cost structure of expanding output, (4) consumer price sensitivity, and (5) the likelihood of attracting competition if high unit profitability is obvious. The greater the price elasticity of demand - the change in demand for a given change in price - the greater the incentive to hold down price and thereby expand sales and revenues. Similarly, if significant economies of scale exist, it will generally be worthwhile to hold down price, expand demand, and thereby, lower unit production costs. The reverse is true if economies of scale are nonexistent or if price elasticity is low.

As regards frequency of price adjustments, firms in international competition differ in their ability and willingness to adjust prices in response to exchange rate changes. Some firms constantly adjust their prices for exchange rate changes. However, other companies feel that stable prices are a key ingredient in maintaining their customer base. It is also important not to neglect the effect of frequent price changes on the exporters' distributors who must constantly adjust their margins to conform to the prices they pay. A number of firms now have different list prices for domestic and foreign customers in order to shield their foreign customers - especially those who sell through catalogues - from continual revisions of overseas prices.

In respect of domestic price after devaluation, a domestic firm facing strong import competition may have much greater latitude in pricing. It then has the choice of potentially raising prices consistent with import price increases or of holding prices constant in order to improve market share. Again, the strategy depends on such variables as economies of scale and consumer price sensitivity.

### **Promotional Strategy**

Promotional strategy should similarly take into account anticipated exchange rate changes. A key issue in any marketing programme is the size of the promotional budget for advertising, personal selling and merchandising. Promotional decisions should explicitly build-in exchange rates, especially in allocating budgets among countries. A firm exporting its products after a domestic devaluation may well find that the return per rupee expenditure on advertising or selling is increased because of the product's improved price positioning. Foreign currency devaluation, on the other hand, is likely to reduce the return on marketing expenditures and may require a more fundamental shift in the firm's product policy.

### **Product Strategy**

Companies often respond to exchange risk by altering their product strategy which deals with such areas as new product introduction, product line decisions and product innovation. One way to cope with exchange rate fluctuations is to change the timing of the introduction of new products. For example, the period after a home currency depreciation, because of the competitive price advantage, may be the ideal time to develop a brand franchise. Exchange rate fluctuations also affect product line decisions.

Following home currency devaluation, a firm will potentially be able to expand its product line and cover a wider spectrum of consumers both at home and abroad. Conversely, following appreciation of the home currency, a firm may have to reorient its product line and target it to a higher-income, more quality conscious, less price sensitive constituency. The equivalent strategy for firms selling to the industrial rather than the consumer market and confronting a strong home currency is product innovation financed by an expanded research and development budget.

## **9.8.2 Production Initiatives**

The adjustments discussed above involve attempts to alter the home currency value of foreign currency revenues. But, sometimes exchange rates move so much that pricing or other marketing strategies cannot save the product. Product sourcing and plant location are the principal variables that companies manipulate to manage competitive risks that cannot be dealt with through marketing changes alone. Consider, for example, the possible responses of Indian firms to a strong rupee. The basic strategy would involve shifting the firm's manufacturing base overseas which can be accomplished in more than one way as discussed below:

### **Input Mix**

Outright additions to facilities overseas naturally accomplish a manufacturing shift. A more flexible solution is to purchase more components overseas. For a firm already manufacturing overseas, the cost savings associated with using a higher proportion of domestically produced goods and services, following local currency depreciation, will depend on subsequent price behaviour. Goods and services used in international trade, or with a high import content, will exhibit greater home currency price increases than those with a low import content or with little involvement in international trade. For the longer term, while increasing production capacity, the firm should consider the option of designing new facilities that provide added flexibility in making substitutions among various sources of goods. The advantages of being able to respond to relative price differences among domestic and imported inputs must be weighed, of course, against the extra design and construction costs.

### **Shifting Production among Plants**

Multinational firms with worldwide production systems can allocate production among their several plants in line with the changing costs of production; increasing production in a country whose currency has devalued, and decreasing production in a country whose currency has revalued. Multinational firms may well thus be subject to less exchange risk than an exporter, given the MNC's greater ability to adjust its production (and marketing) operations on a global basis, in line with changing relative production costs. Of course, the theoretical ability to shift production is more limited in reality. The limitations depend on many factors, not the least of which is the power of the local labour unions involved. However, the innovative nature of the typical MNC means a continued generation of new products. The sourcing of those new products from among the firm's various plants can certainly be done with an eye to the costs involved. A strategy of production shifting presupposes that the MNC has already created a portfolio of plants worldwide. Multiple sources allow a company to offer the best economies of production, given exchange rates at any moment. But multiple plants also create manufacturing redundancies and impede cost cutting. The cost of multiple sourcing is especially excessive where there are economies of scale that would ordinarily dictate the establishment of only one or two plants to service the global market. But most firms have found that in a world of uncertainty, significant benefits may be derived from production diversification. Hence, despite the higher costs associated with smaller plants, currency risk may provide one more reason for the use of multiple production facilities.

### **Plant Location**

An exporter, without foreign production facilities, may find that sourcing components abroad is not sufficient to maintain unit profitability in the face of currency devaluation of its importer. Despite its previous hesitancy, the firm may now locate new plants

abroad. Third country plant locations are also a viable alternative in many cases, depending especially on the labour intensity of production or the projections for further monetary realignments. Many Japanese firms, for example, have shifted production offshore - to Taiwan, South Korea, Singapore and other developing nations, as well as to the United States - in order to cope with the high yen. Before making such a major commitment of its resources, management should attempt to assess the length of time a particular country will retain its cost advantage. Yet, shifting production abroad when the home currency rises is not always the best approach. Production at home improves coordination between design and manufacturing and avoids problems of quality control. For firms that rely heavily on such coordination and closeness to suppliers, raising domestic productivity is preferable to producing abroad.

### **Raising Productivity**

Many companies assaulted by foreign competition make prodigious efforts to improve their productivity - closing inefficient plants, automating heavily, and negotiating wage and benefit cut-backs and work-rule concessions with unions. Many also begin programmes to heighten productivity and improve product quality through employee motivation. Others, however, seek import restrictions from the government.

The marketing and production strategies advocated thus far assume knowledge of exchange rate changes. Even if currency changes are unpredictable, however, contingency plans can be made. This planning involves developing several plausible currency scenarios, analysing the effects of each scenario on the firm's competitive position, and deciding on strategies to deal with these possibilities. When a currency change actually occurs, the firm is able to quickly adjust its marketing and production strategies in line with the plan. Given the substantial costs of gathering and processing information, a firm should focus on scenarios that have a high probability of occurrence and that would also strongly impact it. The ability to plan for volatile exchange rates has fundamental implications for exchange risk management because there is no such thing as the 'natural' or 'equilibrium' rate. Rather, there is a sequence of equilibrium rates, each of which has its own implications for corporate strategy. Success in such an environment depends on a company's ability to react to change within a shorter time horizon than ever before. To cope, companies must develop competitive options - such as outsourcing, flexible manufacturing systems, a global network of production facilities and shorter product cycles. In a volatile world, these investments in flexibility are likely to yield high returns. For example, flexible manufacturing systems permit faster production response times to shifting market demand. Similarly, foreign facilities, even if they are uneconomical at the moment, can pay off by enabling companies to shift production in response to changing exchange rates or other relative cost shocks.

The greatest boost to competitiveness comes from compressing the time it takes to bring new and improved products to market. The edge a company gets from shorter product cycles is dramatic. Not only can it charge a premium price for its exclusive products, but it can also incorporate more up-to-date technology in its goods and respond faster to emerging market niches and changes in taste.

### **9.8.3 Financial Initiatives**

The one attribute that all the strategic marketing and production adjustments have in common is that they take time to accomplish in a cost-effective manner. The role of financial management in this process is to structure the firm's liabilities in such a way that during the time the strategic operational adjustments are underway, the reduction in asset earnings is matched by a corresponding decrease in the cost of servicing these liabilities. One possibility is to finance that portion of a firm's assets used to create export profits in such a way that any shortfall in operating cash flows due to an exchange rate change is offset by a reduction in debt servicing expenses. For example, a firm that has developed a sizable export market should hold a portion of its liabilities in that country's currency. The portion to be held in the foreign currency depends on the size of the loss in profitability associated with a given currency change. No more definite recommendations are possible because the currency effects will vary from one company to another. The implementation of a hedging policy is likely to be quite difficult in practice, if only because the specific cash flow effects of a given currency

change are hard to predict. Trained personnel are required to implement and monitor an active hedging programme. Consequently, hedging should be undertaken only when the effects of anticipated exchange rate changes are expected to be significant. The approach, of course, concentrates exclusively on risk reduction rather than on cost reduction. Where financial market imperfections are significant, a firm might consider exposing itself to more exchange risk in order to lower its expected financing costs.

Currency risk affects all facets of a company's operations; therefore, it should not be the concern of financial managers alone. Operating managers, in practice, should develop marketing and production initiatives that help to ensure profitability over the long run. They should also devise anticipatory or proactive, rather than reactive strategic alternatives in order to gain competitive leverage internationally. The key to effective exposure management is to integrate currency considerations into the general management process. One approach used by a number of MNCs is to develop the necessary coordination among executives responsible for different aspects of exchange risk management by constituting committee for managing foreign exchange exposures. Besides financial executives, such committees should - and often do - include senior officers of the company such as the vice president - international, top marketing and production executives, the director of corporate planning, and the chief executive officer. This arrangement is desirable as top executives are exposed to the problems of exchange risk management and they can then incorporate currency expectations into their own decisions. In this kind of integrated exchange risk management programme, the role of the financial executive is fourfold: (1) to provide local operating management with forecasts of inflation and exchange rates, (2) to identify and highlight the risks of competitive exposure, (3) to structure evaluation criteria such that operating managers are not rewarded or penalised for the effects of unanticipated currency changes, and (4) to estimate and hedge whatever operating exposure remains after the appropriate marketing and production strategies have been put in place.

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### Check Your Progress B

1. What is economic exposure?

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2. Among three exposures which is difficult to manage and why?

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3. Distinguish between transaction and economic exposure.

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## 9.9 LET US SUM UP

Exposure is the amount at risk. Exposures to foreign exchange rate fluctuations can be defined either in accounting terms or in future cash inflow and outflow terms. While the former is generally referred to as translation exposure, the latter is more appropriately called the economic exposure. Economic exposure includes all those future sales, purchases and other transactions which are either uncommitted or commercially uncertain. Many of these like uninvoiced postnatal trading risks, will not be included in an accounting balance sheet. The position is measured in the yardstick currency in which the company monitors its performance and net worth. Economic exposure leads to competitiveness risk - the threat to the competitiveness of a company's costs from rise in real terms of the currency in which those costs are incurred. The cause of the



risk is the interaction between commercial and currency markets, in which prices move at very different speeds. Competitiveness risk is not a short term phenomenon. It cannot be managed day by day. It takes longer periods to recognise shifts in real exchange rates, and the management actions to deal with the risk are strategic rather than tactical, and can only be taken infrequently. The risk affects companies in their commercial rather than in their financial markets. The action can be on the demand side, by repositioning commercial offerings in less competitive submarkets or segments, or on the supply side by shifting costs into a more competitive currency. This last action is possible because real exchange rates are slower to move and more predictable than nominal rates. Financial market hedges are unlikely to provide suitable answers to problems in the commercial markets. Thus, although exchange risk is conceptually easy to identify, it is difficult in practice to determine what the actual economic impact of a currency change will be. For a given firm, this impact depends on a large number of variables including the location of its major markets and competitors, supply and demand elasticities, substitutability of inputs, and offsetting inflation. Regression techniques may be applied, of course with the assumption that the past is representative of the future.

The parent needs to control the group's currency gains and losses over the short and long periods for which it plans. This is important because group currency gains and losses have a direct impact on the reported group results, net worth and gearing, which are the focus of attention in financial markets. Even if the group does not wish to hedge its accounting exposure, it may still wish to watch it. For this task, the parent needs to know all non-parent currency positions. The parent can then restore zero risk by taking a mirror-image position to the rest of the group's net total in each currency. It can do this, for example, by the use of spot or forward hedges or currency swaps. The biggest problem is often to get accurate up-to-date information on the net non-parent positions. The most extreme form of centralisation is to make not only risk management, but also dealing, the sole prerogative of the corporate centre; currency management in that case simply bypasses the subsidiaries and other profit centres.

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## **9.10 KEY WORDS**

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**Accounting Exposure:** Accounting exposure arises from the need to convert the financial statements of foreign operations from foreign currencies to home currency; the restatement of assets, liabilities, revenues and expenses at prevailing exchange rates will result in exchange gains and losses.

**Economic Exposure:** Economic exposure is based on the extent to which the value of the company - as measured by the present value of its expected future cash flows - will change when exchange rates change.

**Current/Non-Current Method:** Under this method of translation of financial statements, current assets and liabilities of a foreign subsidiary are translated at the current rate and non-current assets and liabilities are translated at the historical rate. Depreciation is similarly translated at the historical rate. The other items of the income statement are translated at the average exchange rate prevailing during the given period.

**Monetary/Non-Monetary Method:** Under this method of translation of financial statements, all monetary items like cash, accounts payables/receivables, short-term/long-term debt, etc. of a foreign subsidiary are translated at the current rate and all non-monetary, i.e., physical assets are translated at the historical rate.

**Temporal Method:** This method resembles the monetary/non-monetary method in all respects, except that inventory under this method may be translated at the current rate if it is shown at market value in the balance sheet.

**Current Method:** This method is the simplest of all in the sense that all items of income statement and balance sheet are translated at the current rate.

**FASB 8:** This was an accounting standard issued by the US FASB under which all gains and losses arising as a result of foreign exchange rate fluctuations were required

to be shown in the income statement. No reserve was allowed to be maintained in the balance sheet.

**FASB 52:** This accounting standard reversed the earlier FASB 8. A reserve capturing foreign exchange gains and losses was, thereby, permitted to be maintained under this standard. This method also distinguished between functional and local currency. Foreign subsidiaries must prepare their accounting statements in functional currency if the local currency is one affected by high inflation.

**Funds Adjustment:** This method of managing translation exposure involves altering either the amounts or the currencies (or both) of the planned cash flows of the parent and/or its subsidiaries to reduce the firm's local currency accounting exposure.

**Marketing Initiatives:** The design of a firm's marketing strategy under conditions of home currency fluctuation presents considerable opportunity for gaining competitive leverage. Thus, one of the international marketing manager's tasks should be to identify the likely effects of a currency change and then act on them by selecting appropriate markets, and adjusting pricing and product policies which may involve changing the foreign currency price and/or introduction of new products.

**Production Initiatives:** Multinational firms with worldwide production systems use this method of exchange risk management effectively as they are able to allocate production among their several plants, locating new plants overseas and improving productivity through employee motivation, automation, etc.

**Financial Initiatives:** This involves managing cash flows in such a way that any shortfall in operating cash flows due to an exchange rate change is offset by a reduction in debt servicing expenses. The approach, of course, concentrates exclusively on risk reduction rather than on cost reduction.

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## 9.11 TERMINAL QUESTIONS/EXERCISES

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1. Distinguish between translation and transaction exposure?
2. Discuss various translation methods in vogue?
3. What hedging strategies would you employ in order to manage translation and economic exposures? How do these strategies differ from those usually employed to manage transaction exposures?
4. What are the factors determining centralisation/decentralisation of exchange risk management? Which policy would you advocate for Indian multinationals? Why?

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## SOME USEFUL BOOKS

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