As business becomes increasingly global more and more firms find it necessary to pay careful attention to foreign exchange exposure and to design and implement appropriate hedging strategies. Exchange rate risk is the unexpected exchange rate changes creating variability in the domestic currency value of current and future cash flows of a company

Foreign exchange risk management begins by identifying what items and amounts a firm has exposed to risk associated with changes in exchange rates. An asset, liability, profit or expected future cash flow stream is said to be exposed to exchange risk when a currency movement would change, for better or for worse, its home currency value. The term exposure used in the context of foreign exchange means that a firm has assets, liabilities, profits or expected future cash flow streams such that the home currency value of assets, liabilities, profits or the present value in home currency terms of expected future cash flows changes as exchange rates change. Exchange rate risk thus depends upon:

- 1. How "volatile" exchange rates are
- 2. The size of the "exposure" to exchange rate changes (the amount of cash flows whose domestic currency value is sensitive to exchange rate changes.

# Categories of exchange rate risk:

Foreign exchange exposure is usually categorized according to whether it falls into one or more of the following categories:

- 1. Transaction exposure
- 2. Economic exposure
- 3. Translation exposure

### Transaction exposure

Transaction exposure is concerned with how changes in exchange rates affect the value of anticipated foreign currency denominated cash flows relating to transactions already entered into. By failing to cover transaction exposure, a firm may incur a vast loss on a single very large receivable or payable denominated in a foreign currency. This may result in an overall loss for the firm in a particular financial period which could in its turn, lead to financial distress.

There is little consolation in the company being all right in the long run if it is dead in the short run. The prudent finance director will argue that covering forward reduces potential variability in home currency cash flows as well as in profits. Thus covering forward reduces some of the threat of short-term financial problems. In the longer run the cost of such insurance against foreign exchange risk is small since it in effect amounts to the dealer's spread on forward transactions less the spread on spot deals. It may not be the case that this policy maximizes profits in the long run, but from the standpoint of a risk-averse manager it has clear appeal.

It is understandable that the firm, which enters into few currency denominated transactions, may cover all of them. It is also understandable that risk-averse

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little value to the owners of such companies.

managers in companies with a vast number of foreign currency denominated transactions would make a habit covering them.

However, many treasures in such firms adopt policies of selective covering. The same kind of argument, but with some essential differences, a lies with respect to lending and borrowing denominate in foreign currencies. According to the international Fisher effect, the penalty for borrowing in a hard currency will be exactly offset by the benefit of a low interest rate.

The problem that treasures of international companies have is when they undertake a foreign currency denominated borrowing the exchange rates between the home currency and the foreign one.

#### **EXAMPLE OF TRANSACTION RISK**

Assume that a British manufacturer of washing machines has sold a washing machine to a French customer. The manufacturer normally sells these washing machines at £ 200. In this case, the British manufacturer invoices the customer in French Francs.

On the date on which the sale took place, the exchange rate between British Pounds and French Francs was £ 1.00 = FFr 9.50. The manufacturer, thus, invoices the French customer for FFr 1,900.

Assume that the French customer pays one month later but, by that time, the value of the French Franc has fallen. The exchange rate is now £ 1.00 = FFr 10.00.

The French customer pays his debt of FFr 1,900, but the British manufacturer can now only exchange this amount for £ 190. The British manufacturer has, thus, £ 10 less than he had expected.

The British manufacturer will have incurred most (if not all) of his costs in British Pounds and, thus, his profit has fallen by £ 10.

# Economic exposure

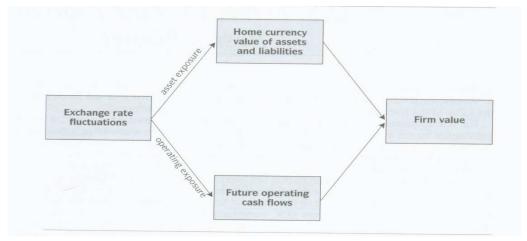
Economic exposure refers to the possibility that the present value of future operating cash flows of a business, expressed in home currency, may be affected by a change in foreign exchange rates. According to purchasing power parity theory, exchange rate changes are associated with different relative rates of inflation.

Devaluation of the home currency tends to favour companies competing in export markets. It also has a favourable impact in import-competing areas, as well as creating advantages for firms that are domestically sourced and domestically financed. A relatively high domestic inflation rate, if not accompanied by devaluation, has an adverse affect on companies competing in export markets and those competing domestically with imported goods. It adversely affects firms, which are domestically sourced and domestically financed. Devaluation creates advantages, which correct disadvantages flowing from high relative inflation rates. The benefits created for some firms by devaluation should offset earlier adverse effects created by inflation. Devaluation would then be exactly offsetting movements in the firm's specific costs. In these circumstances economic exposure would not matter to the firm.

Critically discuss the view that the efforts by companies to hedge currency risks are of little value to the owners of such companies.

Exposure to risk thus can be properly measured by the *sensitivities* of (1) the future home currency values of the firm's assets (and liabilities) and (2) the firm's operating cash flows to random change's in exchange rates. Fig: 1. Assets include the tangible assets (property, plant and equipment, inventory) as well as financial assets.

Fig 1: Channels of Economic Exposure



#### *Translation exposure*

Translation or accounting exposure arises as a result of the process of consolidation of foreign currency items into group financial statements denominated in the currency of the home company. Some items frequently viewed, as being solely translation exposure are essentially transaction exposure items.

"Translation exposure is a function of the system of accounting for consolidating foreign assets and liabilities a company uses. Economic exposure is a far better measure of true exposure" [Buckley]

#### **EXAMPLE OF TRANSLATION RISK**

Assume that a British manufacturer of washing machines has been so successful with selling to the French market, that he decides to purchase a warehouse and office block in France to support his future operations.

He proceeds to purchase the building for FFr 9,500,000 at a time when the exchange rate between British Pounds and French Francs is £ 1.00 = FFr 9.50.

Naturally, the British manufacturer will show this building on his Balance Sheet at a value of £ 1,000,000.

Let us now assume that the value of the French Franc falls to £ 1.00 = FFr 10.00.

The building may still be worth FFr 9,500,000 (i.e. the local value may not have changed). However, the company must now include the asset on its Balance Sheet at a value of £ 950,000. It has suffered a translation loss of £ 50,000 on this asset.

It may be thought that the loss is only a "paper" loss, i.e. that no real loss is experienced. If, however, the purchase of the asset was financed by raising a loan in British Pounds, the £ 50,000 loss is real enough - the company now only has an asset worth £ 950,000 to support a loan of £ 1,000,000.

### **Alternative currency Translation Methods**

- 1. Current/noncurrent method Current assets and current liabilities are translated at the current rate. Noncurrent assets and liabilities are translated at the historical rate. Income statement items are translated at the average exchange rate of the period.
- 2. Monetary/nonmonetary method Monetary balance sheet accounts (cash, accounts receivables and payables, long-term debt) are translated at the current rate. Nonmonetary accounts (inventory, fixed assets, long-term Investments) are translated at the historical rate. The Income statement is translated at the average exchange rate during the period.
- 3. Temporal method Similar to the monetary/non monetary method with inventory translated at the current rate if valued at market.
- 4. Current rate method All balance sheet and income statement accounts are translated at the current rate.

## Why hedge exchange rate risk?

Hedging exchange rate risk would involve the company taking actions to reduce the variability in domestic currency cash flows created by unexpected exchange rate changes.

There are some reasons why managers or investors spend considerable resources to manage the risks. These reasons have to do with convex tax schedules faced by many corporations or investors, costs of financial distress, and what is known as agency cost associated with corporate management.

A convex tax schedule means that the marginal tax rate is increasing. When corporations face convex tax schedules, they can reduce their total tax burden by smoothing their income with hedging. Consider a company whose income can fluctuate between two points over a region in which the tax rate increases with the level of income. Income smoothing will allow the corporation to pay taxes at a halfway level between the t extremes. Given the rising tax schedule, the increase in the tax burden in the period, which would have had a lower income without hedging, would be less than the decrease in the tax burden during the period, which would see a smaller income due to hedging.

Firms may also indulge in hedging costs when there is a chance that losses may cause a firm to enter bankruptcy and the reorganization costs that will be incurred in the case of a bankruptcy are very high. Then costs are borne by the stockholders and they have an incentive to avoid bankruptcy. Without hedging, the firm can expect that it

little value to the owners of such companies.

will lose money in some years and gain in others. To avoid this it is in the firm's interest to hedge the returns and prevent the consequences of the possibility of a long streak of losses.

The third reason for undertaking hedging is complex and offers a more sophisticated explanation for the firm's behaviour. It is based on the potential of a conflict between the interests of stockholders and bondholders. Under some situations, stockholders have incentives to take actions that may cause the firm's bondholders to lose money. Bondholders would anticipate such actions and would therefore charge the firm a price for taking that risk. Since the firm does not really want to pay that price, it will find ways to demonstrate to bondholders that it will not take actions in the future, which could hurt bondholders. One such action is hedging: hedging smooths the earnings of the firm and obviates the situations, in which actions that hurt bondholders become desirable.

# Off-set capital market imperfections

In most countries most company investment is financed by internally generated/retained earnings. One reason for this is "capital market imperfection" that raises the cost of borrowed funds relative to retained earnings.

Thus a "smooth/predictable" cash flow is helpful to generate required funds to meet investment plans.

Unstable cash flows would mean that desirable / profitable investments might not take place or be postponed.

#### **Taxation effects**

Due to peculiarities of most countries taxation systems / codes more stable cash flows may reduce expected taxes, thus increasing after tax cash flows.

Examples of these effects include:

- Progressive tax rates
- Restricted / limited "loss off-set"

For these and other reasons more stable cash flows may reduce lower taxes and higher after tax expected cash flows.

#### To sum up

Firstly, we started with the categories of exchange rate risk, which are the transaction exposure, economic exposure and translation exposure. Then we saw the alternative translation methods, and finally, we saw why we should hedge exchange rate risk. Moreover we found that exchange rate variability makes the cash flows of company highly variable and this variability is undesirable, these shows us that companies should not devote much time / resources to hedging exchange rate risk.

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