# PREFACE

In the curricular structure introduced by this University for students of Post Graduate Diploma Programme, the opportunity to pursue a Post Graduate Diploma course in any subject introduced by this University is equally available to all learners. Instead of being guided by any presumption about ability level, it would perhaps stand to reason if receptivity of a learner is judged in the course of the learning process. That would be entirely in keeping with the objectives of open education which does not believe in artificial differentiation.

Keeping this in view, study materials of the Post Graduate Diploma level in different subjects are being prepared on the basis of a well laid-out syllabus. The course structure combines the best elements in the approved syllabi of Central and State Universities in respective subjects. It has been so designed as to be upgradable with the addition of new information as well as results of fresh thinking and analysis.

The accepted methodology of distance education has been followed in the preparation of these study materials. Co-operation in every form of experienced scholars is indispensable for a work of this kind. We, therefore, owe an enormous debt of gratitude to everyone whose tireless efforts went into the writing, editing and devising of proper lay-out of the materials. Practically speaking, their role amounts to an involvement in 'invisible teaching'. For, whoever makes use of these study materials would virtually derive the benefit of learning under their collective care without each being seen by the other.

The more a learner will seriously pursue these study materials, the easier it will be for him or her to reach out to larger horizons of a subject. Care has also been taken to make the language lucid and presentation attractive so that they may be rated as quality self-learning materials. If anything remains still obscure or difficult to follow, arrangements are there to come to terms with them through the counselling sessions regularly available at the network of study centres set up by the University.

Needless to add, a great deal of these efforts is still experimental–in fact, pioneering in certain areas. Naturally, there is every possibility of some lapse or deficiency here and there. However, these do admit of rectification and further improvement in due course. On the whole, therefore, these study materials are expected to evoke wider appreciation the more they receive serious attention of all concerned.

**Professor (Dr.) Subha Sankar Sarkar**
Vice-Chancellor

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Advanced **Diploma in Export-Import Management**

**PAPER - 3**

**MODULES : I - VI**

# International Trade Finance and Risk Management


**Course Writing**

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## Notification



**Professor (Dr.) Debesh Roy**
Registrar

**Netaji Subhas Open University**

Advanced Diploma in **Export-Import Management**
**Paper-3**

# Unit 301 ❐ Understanding Working Capital

## Structure



## 301.0 ❐ Objective

The objective of this unit is to understand the concept of working capital and its efficient management by streamlining the various factors which affect the quantum of working capital.

## 301.1 Definition of working capital

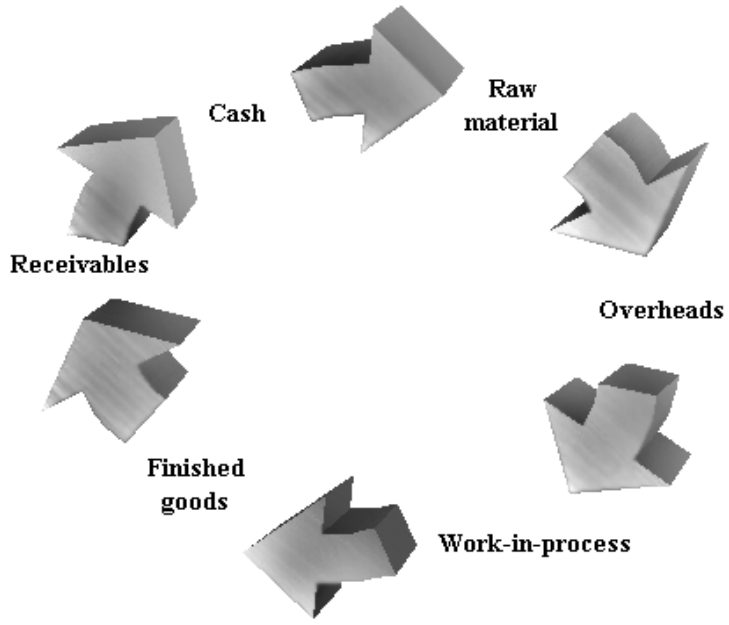
The standard definition of working capital is quantum of funds required to finance the normal operating cycle of a firm. However, we propose to look at working capital in the context of bank lending in India. From that point of view, we may define working capital as the level of current assets required to be held by a firm to sustain a specific level of production/sales. Current assets include:

**a)** Raw material, consumables and packing material.
**b)** Work-in-process.
**c)** Finished goods.
**d)** Receivables.
**e)** Cash & bank balance required for operation.

## 301.2. Working Capital Cycle

Working capital cycle is also known as operating cycle or cash to cash cycle of a firm.

To understand this let us take a look at an industry as it commences production. After installation of plant and machinery, the firm buys raw material, spends on labour and other overheads, converts raw material to finished goods. The finished goods are sold to buyers and thus converted to receivables. Eventually, receivables are paid off by buyers either immediately or after an interval based on the credit terms. This cash-to-cash cycle is described in the diagram below:




In a profit making firm, the amount of cash generated from receivables will be more than the cash originally brought in. If the profit earned is ploughed back in the operating cycle, it will not only sustain itself but expand further generating higher level of sales. If on the other hand the company is making losses or funds meant for working capital is diverted for other purposes, the above cycle will not be able to support itself resulting in fall of sales, higher losses and eventual collapse of the firm.

It can thus be seen that the total funds blocked at each stage of the above cycle constitutes the working capital of the firm which must always be maintained at the required level to sustain a particular level of production.

## 301.3. ❐ Factors affecting working capital

Working capital requirement of firms vary from one another. The factors which govern working capital requirement are:

### 301.3.1. Level of operation

Between two firms manufacturing the same product, the one having a higher level of operation will require higher working capital, other conditions remaining the same. However, the increase will not be proportional since at higher level economy of scale will set in and the bigger firm will be able to sustain higher level of operation with less than proportionate increase in working capital, thus saving on interest cost.

### 301.3.2. Production Process

The longer the production process, the more is the inventory blocked as process stock, requiring higher working capital. Through proper time and work study, the production process can be streamlined thus reducing pipeline inventory.

### 301.3.3. Level of inventory

If larger level of inventory is to be maintained due to scarcity of raw material or longer lead time for procurement, the working capital required will be more. Similarly, if high finished goods build-up is required due to large order quantity to be dispatched in one lot, working capital requirement will go up.

### 301.3.4. Terms of sale

The receivable build-up will depend on the credit terms offered by the seller to the buyer. The longer the credit period, the more is the requirement of working capital. On the other hand a firm selling its entire produce on cash basis will not need any working capital for its receivables.

### 301.3.5. Terms of purchase

If a firm receives long credit from its suppliers of raw material, finance required for working capital will be less. If on the other hand, the entire purchase is on cash basis, the requirement of finance will go up.

## 301.4. ❒ Conclusion

Ideally, a firm would not like to hold any current asset, reducing his working capital requirement to nil. In reality, that is not possible. However, through an efficient inventory management system, production planning and control and receivables management, firms can reduce their working capital requirement to optimum level.

## 301.5 ❐ Exercise

**a)** Define working capital. Why does a firm need working capital?

**b)** Is it better to sale on cash basis offering discount or on credit basis at a higher price?

**c)** If a firm buys machinery from working capital, what are the consequences?

## 301.6 ❐ Reference

**a)** Working Capital Management – Strategies and techniques - by Hrishikes Bhattacharya.

**b)** Working Capital Management – By A. Vijay Kumar.

# Unit 302 ❐ Assessment of working capital requirement

## Structure



## 302.0 Objective

The objective of this unit is to understand the methodology used to arrive at the working capital requirement of a firm by assessing the projected requirement of each component of current asset to sustain a particular level of production/sales.

## 302.1. Introduction

As we have seen in the foregoing chapter, the working capital requirement of a firm is determined by level of currents assets required to sustain a particular level of production/ sales. Once the firm is able to project a realistic sales level based on past trend, orders on hand and future expectations, it needs to assess the requirement of inventory, receivables and other current assets to arrive at the working capital requirement.

## 302.2. Requirement of raw material

The level of raw material, which includes consumables and packing material, required to be held by a firm depends on

**a)** The lead time, that is, the time interval between the placement of order and receipt of material at the factory.

**b)** The minimum order quantity stipulated by the suppliers or the economic order quantity governed by the inventory control system.

**c)** The level of buffer stock to be maintained.

**d)** The level of consumption, governed by the level of production.

**e)** Constraints of storage space, if any.

Higher the level of holding, higher will be the cost incurred by way of interest, insurance and warehouse rent. On the other hand, too fine holding may result in a stock-out and consequent stoppage in production. Based on an ABC analysis of various items of raw material (gradation in terms of consumption value), an inventory system is devised for the A class items. For B and C class items whose consumption value is low, a stocking level based on minimum order quantity and consumption pattern is decided upon.

Typically, the level of holding is described in terms of "So many months' consumption". The earlier holding pattern may be accepted as the guiding factor in this regard. For new firms, holding pattern of the industry can be used as a basis.

## 302.3. Requirement of Work-in-process

The work-in-process stock represents the amount of semi-finished parts, sub – assemblies etc.which have to be maintained to ensure continuous production. The quantum of funds locked up under this head depends on the following factors:

a) Process time required to convert raw material to finished goods.

b) The average quantity of each product processed at a time, i.e., the batch quantity.

It is obvious that the value of semi-finished or finished products is more than the raw material content because of the value addition at each stage. Accurate computation of this amount is a fairly involved process governed by production planning and control. Since, process stock constitutes a minor part of working capital; it is valued at the cost of production. To arrive at this value, either the past holding pattern or the industry trend may be used as a basis.

## 302.4. Requirement of finished goods

Quantum of finished goods to be held by a firm is dependent upon the following:

### 302.4.1. Nature of market

If the product is facing a buyer's market, accumulation of finished goods will be high due to low demand. In a seller's market, however, where the demand is high, stock of finished goods will be low.

### 302.4.2. Seasonality

Items, for which sales is seasonal like woollen goods, fertilizer etc, will have to be stocked by the manufacturer during off-season so as to meet the demand during peak season. This will create crest and trough pattern in finished goods holding.

### 302.4.3. Volume of order

If orders are for bulk quantity, finished goods will have to be stored until the entire quantity is ready, which is often the case with export orders.

### 302.4.4. Other delays

Delays due to inspection by the buyer or their representative, preparation of dispatch documents etc can also contribute towards accumulation of finished goods.

As can be seen from above, level of stock of finished goods will vary from industry to industry and even within the same industry, from one firm to another. Keeping this in mind, the requirement of stocking level of finished goods should be computed. The earlier holding pattern could be an indicator in this regard. The valuation of finished goods is done on the basis of cost of sales.

## 302.5. Requirement of Receivables

The quantum of receivables to be held by a firm is decided by the terms of payment agreed upon by the buyers. The terms of payment could be one of the following or a combination of them.

### 302.5.1. Against Advanced Received

If the buyer pays in advance, in part or in full, there will not be any funds requirement under receivables to that extent. On the other hand, the amount so received will partly finance the working capital requirement of the firm.

### 302.5.2. Against Cash Payment

Here again, since payment is made immediately, on receipt of goods, there will not be any funds requirement on this account. However, there could be a delay due to transport time and processing of invoice, and to that extent receivables will have to be funded.

### 302.5.3. Against credit given to buyer

The receivables held under this category will depend on the period of credit given to the buyer and to that extent funding requirements will arise.

In reality, the terms of sale will often be a combination of all the three above depending on demand-supply gap and relationship with the client. In such an event, the level of receivables holding will be decided by the weighted average collection period which is given by:

$$C_w = \frac{a_1 x c_1 + a_2 x c_2 + a_3 x c_3 + \ldots}{a_1 + a_2 + a_3 + \ldots\ldots\ldots}$$

Where $c_w$ is the weighted average collection period and $a_1$, $a_2$, $a_3$….. are the amounts sold against collection periods $c_1$, $c_2$, $c_3$ …..respectively. The denominator represents the total sales of the firm.

Receivable outstanding is expressed as "so many months' sales". Unless a firm changes its payment terms offered to the buyers drastically, previous year's position can be a guiding factor. For a new firm, the prevailing industry level figure can be taken as a yardstick.

## 302.6. Requirement of Other Current Assets

While the above four components, namely raw material, semi-finished goods, finished goods and receivables constitute major part of current assets, any operating firm will have to hold some funds as cash and current bank balance for meeting daily expenses, salaries & wages, overheads and other contingencies. Besides, at times, advance payment may have to be made to raw material suppliers, necessitated by market conditions. The requirements under these heads should be accurately estimated keeping in view the past trend and prevailing conditions.

## 302.7. Exercise

**a)** How will you assess the inventory requirement of a manufacturing company?

**b)** What is weighted average collection period of receivables? Calculate it for a

firm whose sales are 20% on cash basis, 30% on 30days credit and balance on 60 days credit.

**c)** In a small firm, a lean raw material holding is circumscribed by the MOQ restrictions from suppliers — Explain.

## 302.8. Reference


**a)** Working Capital Management and Control — By Satish B. Mathur.

**b)** Working Capital Management — By John J Hampton and Celilia.L.Wagner.

# Unit 303 ❐ Computation of Permissible Bank Finance

## Structure



## 303.0. Objective

The objective of this unit is to identify the funding sources of working capital, understanding the methodology of computing permissible bank finance and structuring the loan limits within the overall funds eligibility.

## 303.1. Source of funds for working capital

The working capital requirement of a firm is met from the following sources:

### 303.1.1. Own funds – equity

A part of the current assets is always expected to be met from equity to ensure safety margin to the lenders. The net working capital in a business defined as the difference between current assets and current liabilities represents the extent of equity funding the current assets and is a measure of liquidity of the firm. In general, a minimum 20-25% of the current assets is expected to be funded by equity.

### 303.1.2. Trade credit for purchase

Credit given by suppliers of material is an important source of fund for working capital. The longer the credit, the less is the funding requirement. If this period is longer than cash-to-cash cycle of the firm, it does not need any funding for working capital. But often this credit comes with a cost by way of interest or denial of cash discount.

### 303.1.3. Advance received from buyers

Advance from buyers is another source of funds available for financing current assets. This is often available for custom made products or such products which are high on demand but short on supply. For example, a new and popular brand of car may be able to fund a substantial part of its working capital from the advance received from a large number of buyers.

### 303.1.4. Other short term credits

Any other short term borrowing, unpaid expenses and taxes, deposits and term loan installments due and payable within a year constitute funding source for working capital.

### 303.1.5. Bank borrowing for working capital

It is the most important source of financing current assets. This finance is need based and normative, the quantum being determined by the firm's projection of production/ sales and consequent build-up of current assets and current liabilities.

## 303.2. Computation of permissible bank finance

To arrive at uniformity in the method of assessment of working capital and fixation of loan limits by banks in India, Reserve Bank of India had constituted a committee under the chairmanship of Mr. P.L.Tandon in 1974. The recommendation of Tandon Committee was subsequently modified by another working group constituted by RBI under the chairmanship of Mr. K.B.Chore in 1979. The recommendations of this group were accepted and implemented by all banks uniformly. Although in recent times RBI has permitted the banks to use alternative models of financing based on cash flow and cash budgeting, most of the banks still continue to follow the Tandon – Chore method of assessment because of its time-tested efficacy and precision. The step by step approach towards assessing the level of bank borrowing under this method is given below:

**a)** Estimate the sales level the firm is likely to achieve in the current year based on past trend, orders on hand and sales forecast.

**b)** Estimate the level of current assets required to be built up to achieve the sales projection. This will entail assessing the requirement of raw materials, consumables, packing material, work-in-process, finished goods, receivables and other current assets like cash and bank balance, advance to raw material suppliers etc. using the methodology described earlier.

**c)** Estimate funds available from various sources other than bank to finance the estimated level of current assets. This would include trade credit for purchase of inventory, advance received from buyers and other short term loans and liabilities.

**d)** The difference between b & c (b-c) is known as workings capital gap. If this difference is positive, it needs to be financed by a combination of equity and bank borrowing.

**e)** Under first method of lending recommended by Tandon – Chore, applicable for working capital loan of Rs. 50 lacs and below, at least 25% of the working capital gap is to be financed from equity and the balance from bank borrowing which should not exceed 75% of the working capital gap.

**f)** Under second method of lending applicable for loan limits of above Rs. 50 lacs, at least 25% of the current assets (and not working capital gap) should be financed from equity and balance from bank borrowing which should not exceed 75% of the current assets.

To further illustrate, if current assets is x and current liabilities other than bank borrowing is y then

| | **1st Method** | **2nd Method** |
|---|---|---|
| Current assets | x | x |
| Less: Current liabilities other than bank borrowing | y | y |
| Working capital gap | x-y | x-y |
| Less: minimum stipulated equity contribution (net working capital) | 0.25(x-y) | 0.25x |
| Maximum permissible bank Finance | 0.25(x-y) | 0.25x - y |

It may be seen that bank loan available under 2nd method is less than that available under 1st method.

### 303.2.1. Example

A firm anticipates the following levels of sales and current assets holding for the current year:

(Rs. in 000's)

**a)** Sales — 1200, **b)** Raw material purchase – 960, **c)** Raw material consumption – 900, **d)** Cost of production – 1020, **e)** Cost of sales – 1080, **f)** Raw material holding – 1/2 month's consumption, **g)** work-in-process holding – ½ month's cost of production, **h)** Finished goods holding – ½ month's cost of sales, **i)** Receivables – 2 month's sales, **j)** Trade creditors – one month's purchase, **k)** Other current assets – 100, **l)** other current liabilities – 50.

Calculate maximum permissible bank finance under 1st & 2nd method of lending.

**Solution**

| | | | |
|---|---|---|---|
| Current assets holding | | | |
| Raw material – 2 months consumption | = $^{2}/_{12}$ × 900 = | 150 | |
| Work in process – ½ month's cost of production | = $^{1}/_{24}$ × 1020 = | 43 | |
| Finished goods – ½ month's cost of sales | = $^{1}/_{24}$ × 1080 = | 45 | |
| Receivables – 2 month's sales | = $^{2}/_{12}$ × 1200 = | 200 | |
| Other current assets | = | 100 | |
| Total Current Assets | | **538** | **... A** |
| Current Liabilities | | | |
| Trade creditors – one month's purchase | = $^{1}/_{12}$ X 960 = | 80 | |
| Other current liabilities | = | 50 | |
| Current liabilities excluding bank loan | | **130** | **... B** |
| **Working Capital Gap** | **= A – B =** | **408** | |
| 1st method of lending | | | |
| Working Capital Gap | | 408 | |
| Less: min. stipulated contribution from equity – 25% of WCG (net working capital) | | 102 | |
| **Maximum permissible bank finance** | | **306** | |
| 2nd method of lending | | | |
| Working Capital Gap | | 408 | |
| Less: min. stipulated contribution from equity – 25% of current assets (net working capital) | | 135 | |
| **Maximum permissible Bank Finance** | | **273** | |

## 303.3 Structuring of loan limits

Once the quantum of permissible bank finance has been arrived at, the limits under various categories will have to be structured. Generally two types of working capital limits are sanctioned by the banks:

**a)** Loan against inventory — This is given by way of cash credit or packing credit loan with inventory as security.

**b)** Loan against receivables — This is given by way of bill discounting or export bill discounting limit.

The banks normally finance 60 – 75% of the inventory. However for receivables 100% finance is given against sales to customers who are credit worthy.

In the above example given in Unit 3.2, the borrower may be sanctioned the following limits under second method of lending:

| | | |
|---|---|---|
| Bill discounting | — | 200 |
| Packing credit Or cash credit | — | 73 |
| | | **273** |

## 303.4. Exercise

a) What are the various sources of financing working capital?
Which one, in your opinion, is the most economic option?

b) Explain the methodology of computing bank finance under second method of lending.
Is it an improvement over the first method?

c) For a trading firm, are the methods of lending recommended by Tandon – Chore committee appropriate?

## 303.5. Reference


a) Banking strategy, credit appraisal and lending decisions. — By Hrishikes Bhattacharya.

b) Working Capital Management —By Krish Rangarajan and Anil Misra.

# Unit 304 ❐ Important Financial Ratios

## Structure



## 304.0. Objective

The objective of this unit is to study and analyse the performance of a firm through financial ratios derived from quarterly, half-yearly or annual financial statements of the firm for use by the management as well as the other stake-holders like share holders, creditors etc.

## 304.1. Introduction

Ratio analysis is the process of determining and interpreting numerical relationships among various financial parameters based on financial statements. Financial ratio is a statistical yardstick that provides a measure of the performance of the company.

The persons interested in the analysis of financial statements can be grouped under three heads – owners or investors, creditors and management of the company. Although all these three groups are interested in the financial conditions and operating results of an enterprise, the primary information that each seeks to obtain from these statements differ, reflecting the purpose the statement is to serve. Investors desire primarily a basis for earning capacity. Creditors (trade and financial) are concerned primarily with financial strength, liquidity and ability to pay interest and redeem the loan within a specified period. Management is interested in evolving analytical tools that will measure operating efficiency, liquidity and profitability with a view to making appropriate operational decisions.

There is a host of financial ratios which can be computed and interpreted. We shall take a look at a few ratios which are important from the lender's point of view to

enable the borrower to have a better understanding of bank's lending decisions and conform to their requirements.

## 304.2. Financial Ratios

### 304.2.1. Leverage Ratio

This is also known as debt-equity ratio and is computed as follows:

$$\frac{\text{Total outside liabilities}}{\text{Tangible net worth}}$$

Tangible net worth is computed by deducting intangible assets (patent, goodwill, preliminary and pre operative expenses, accumulated loss etc) from the equity (capital + reserve + accumulated profit) of the company. This ratio is an important measure of the financial strength of a company. The lower the ratio, the better is the financial strength of a company. For a profit making company which ploughs back its profit in the business year after year without resorting to additional borrowing, this ratio improves over a period of time.

An offshoot of this ratio is the long term debt to equity ratio which is defined as

$$\frac{\text{Long term debt}}{\text{Tangible net worth}}$$

Long term debt includes term loans, debentures, fixed deposits from public with maturity longer than a year. For project finance, this ratio serves as a barometer for acceptable leverage level.

Whether debt equity ratio of a particular company is acceptable or not to a lender, will depend on the type of industry. For a capital intensive venture like power, public utilities etc., this ratio could be higher than, say, an electronic industry.

Normally, a debt-equity ratio of higher than 2 will not be acceptable to banks in India. However, for medium, small and micro enterprises (MSME), it may be stretched upto 2.5. This would mean that a firm can borrow upto 2.5 times of its capital by way of short and long term loans and other liabilities.

### 304.2.2. Current Ratio

This ratio, also known as liquidity ratio, is defined as

$$\frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Current assets include cash & bank balance, marketable securities, receivables, inventory, advance paid to raw material supplier etc. Current liabilities consist of trade credits, working capital loans, other short term loans, advances, liabilities and provisions payable within a year. This ratio is a measure of liquidity or the short term solvency of a company as it indicates the extent to which the claims of the short term creditors are covered by assets that are likely to be converted into cash within a period corresponding to the maturity of liabilities. This ratio should be higher than one.

While the lenders will expect this ratio to be higher than 1.20 at least, under second method of lending the minimum expected current ratio is 1.33. This indicates that 25% of current assets is financed from equity which is generally acceptable to banks.

Too high a current ratio, say 3 or above, is not considered profitable since it may reflect large amount of idle cash or bank balance or even non-moving inventory and sticky receivables.

While interpreting this ratio consideration should be given to the proportion of the various components of current assets. Keeping this in mind, analysts often take a look at the following ratio.

### 304.2.3. Acid test ratio/Quick ratio

Acid test ratio is defined as

$$\frac{\text{Quick Assets}}{\text{Current Liabilities}}$$

Quick assets include cash and bank balance, marketable securities and receivables. This ratio is a better test of liquidity than current ratio since it excludes inventory from current assets which could be slow moving. It is a supplementary measure of liquidity and places more emphasis on immediate conversion of assets into cash compared to current ratio. A quick ratio of one is considered good and acceptable.

### 304.2.4. Net profit to sales ratio

This ratio is defined as

$$\frac{\text{Net profit after tax}}{\text{Net Sales}}$$

and is expressed as percentage. This is a measure of profitability of the company. A declining ratio may be indicative of stiff competition resulting in lowering of the prices of the products. It may also be indicative of higher operating costs of the company. It

is not possible to give an indicative figure for this ratio. A year to year comparison of the company's performance and an industry level comparison will give a better indication of the profitability trend. A declining ratio or one which is lower than the industry average will call for a closer look at the company's performance.

### 304.2.5. Interest coverage ratio

The ratio is defined as

$$\frac{\text{Earning before interest and tax (EBIT)}}{\text{Interest}}$$

It is a measure of the company's ability to meet its interest payment obligations. For a profit making company, this ratio will be greater than one. In general, a ratio of less than 1.5 will indicate likelihood of a company defaulting in its interest payment obligations. This ratio is expected to go up over a period of time, as more and more the profit earned is ploughed back in the business thereby reducing borrowing and consequent interest cost.

### 304.2.6. Debt service coverage ratio

This ratio is defined as

$$\frac{\text{Net profit after tax + Non-cash expenses + interest on long term debt}}{\text{Installment of long term debt and interest there on payable in current year}}$$

Non cash expenses will include all items charged to the profit and loss account but not actually spent, examples being depreciation of fixed assets, amortization of intangible assets, provision for bad-debts etc. This ratio is a measure of the company's ability to service its long term debt obligations which includes repayment of principal as well as interest. This ratio is of great significance in project finance and must be greater than one on a year to year basis. Generally a ratio of below 1.75 over the loan amortization period is not considered acceptable since prospects of default appear to be high in the event of any adverse development.

### 304.2.7. Current assets turn-over

This is defined as

$$\frac{\text{Average (Inventory + Receivables) x 365}}{\text{Sales}}$$

and is expressed in number of days.

The numerator is calculated by taking the average of inventory and receivables for previous year and current year. This ratio measures the efficiency of use of working capital. The lower the ratio is, the quicker is the conversion of current assets to sales resulting in more efficient working capital management. A ratio of 90 days or below is considered good. A ratio of 150 days or above shows bloated working capital which may be indicative of slow moving inventory and/or delayed realization of receivables.

## 304.3.Use of financial ratios

For making a proper use of ratios it is essential to have fixed standards for comparison. A ratio, by itself, has little meaning unless it is compared to some standard. Selection of proper standards of comparison is the most important element in ratio analysis. The three most commonly used standards are — absolute, historical and external.

Absolute standards are those which become generally recognized as being desirable regardless of the type of company, the stage of business cycle or the objectives of the analyst. Various rules of thumb have been suggested in this regard. For example, a debt – equity ratio of 2 or a current ratio of 1.33. However, there can hardly be an independent absolute standard which is desirable in all cases. It is customary to specify a desired range within which the ratio is expected to be.

Historical standard, also known as internal standard involves using a company's own past performance to evaluate the present or future (projected) performance through trend analysis. A steadily improving set of ratios over a period of years will indicate a continuous improvement of the company's performance. However, this standard alone may not provide a sound basis for judgments as the historical figure may not have represented an acceptable standard.

In case of external standards, one company is compared with another or with the average of other companies of the same nature. A ratio better than the industrial average will indicate a satisfactory performance. But the problem in industry level comparison is that no two industrial companies are similar. Variations in accounting methods can lead to significant differences in ratios. Moreover, variability of product mix, geographic location, corporate objectives and other conditions under which business operates leads to a lack of comparability. In view of this, comparison with industrial average gives a better measure of the company's performance than comparison with a single industry.

While no single standard may be adequate to measure a company's performance, an intelligent use of all the three standards can reflect the true performance of a company fairly accurately. By using absolute standards, the company's performance against normative range of selective ratios is measured. Simultaneously, its current performance

is compared with the past performance of previous years as well as with the industry average. A combination of all the three results is used to judge the performance of the company in terms of financial parameters.

## 304.4. Exercise

**a)** Define current ratio. What is its significance? "A very high current ratio is not necessarily good for a company "— Explain.

**b)** What is the utility of ratio analysis? How can it be effectively used to assess the performance of a company?

**c)** Given below is the balance sheet of ABC & Co. as on 31.3.2011

(Rs. in '000s)

| **Liabilities** | | **Assets** | |
|---|---|---|---|
| Capital | 95,000 | Net fixed assets | 1, 50,000 |
| Retained earnings | 10,000 | Inventory | 30,000 |
| Term loan | 80,000 | Liquid investments | 10,000 |
| Working capital loan | 20,000 | Investment in subsidiary | 15,000 |
| Trade creditors | 16,000 | Receivables | 10,000 |
| Other current liabilities | 16,000 | Cash | 10,000 |
| | | Preoperative expenses | 12,000 |
| | **2, 37,000** | | **2, 37,000** |

The profit & loss account discloses the following:

Sales – 1, 20,000, Depreciation 15,000. Term loan interest 10,000. Preoperative expenses written off 3,000. Profit after tax 15,000. Term loan installment of Rs. 20,000 was paid during the year.

Calculate the following ratios with your comments on the performance of the company:

**a)** Debt – equity ratio, **b)** Debt – service coverage ratio, **c)** Current ratio, **d)** Quick ratio.

## 304.5. Reference


**a)** Management Accounting – By Debarshi Bhattacharya.

**b)** Balance Sheet Basics – By Ronald C. Spruga.

**c)** Financial Management – theory & practice – By Eugene F Brigham & Michael C Ehrhardt.

# Unit 305 ❐ Pre-Shipment Finance

## Structure



## 305.0. Objective

The objective of this unit is to understand the concept of pre-shipment finance and familiarization with the procedural aspects of sanction, disbursal and other aspects of packing credit.

## 305.1. Definition

Packing credit is export finance granted for procurement of raw material, processing the material and converting it to finished goods upto the stage of packing for export and inland transportation to sea-port or airport. It is also granted to cover working capital expenses for service exports. It hence covers all direct costs like raw-material, consumables, packing material, power, labour, freight inward and outward and overheads like rent of factory, warehouse and office, insurance, salaries, export promotion and marketing expenses etc. This is also known as pre-shipment finance since finance is provided till shipment takes place. It is thus a working capital finance and essentially financing of inventory.

## 305.2. Appraisal and Sanction

Prior to appraisal and sanction of packing credit loan or any other type of export finance, banks would like to first satisfy themselves that the following conditions are met :

**a)** The company should have export / import code no. allotted by Director General of Foreign Trade.

**b)** Company's name should not appear in the caution list of Reserve Bank of India.

**c)** The company is not in the specific approval list of Export Credit Guarantee Corporation.

**d)** Goods must be freely exportable. If the goods fall under the restricted category of negative list, there should be a valid license allowing the export. If the commodity falls under quota system, proper quota should have been granted.

**e)** Country with which the company wants to trade should not be under trade barrier. After satisfying the above conditions following factors will be looked into while sanctioning credit limits to an exporter:

**a)** The project should be technically feasible and commercially viable.

**b)** If exports are covered under letter of credit, standing of the credit issuing bank should be acceptable.

**c)** If exports are not covered by letter of credit, banks would like to obtain satisfactory credit report on the buyer. Besides, the exporter has to cover himself against payment default by the buyer by obtaining credit limits against the proposed buyers from Export Credit Guarantee Corporation.

In terms of RBI stipulation sanction of fresh or enhanced export credit limits should be made within 45 days from the date of receipt of application with complete information. For renewal of existing limits or sanction of adhoc limits, the time taken by the banks should not exceed 30 days & 15 days respectively. No additional interest should be charged for adhoc limits. For negotiation under LC, banks should adopt a flexible approach to meet exporter's credit requirements even if the sanctioned limits are fully utilised.

## 305.3. Disbursement

For disbursal of packing credit loan banks will follow the procedure given below:

**a)** The exporter has to furnish the original copy of the letter of credit or firm order against which disbursal is being sought.

**b)** Each packing credit will be maintained as a separate account. An exporter may have several packing credit accounts running simultaneously depending on the

number of export orders being processed by the exporter at a time. Sum total of outstandings of all the packing credit accounts should not exceed the limit sanctioned to the exporter under packing credit.

**c)** However, keeping in mind the logistic bottle-necks and exigencies of manufacture Reserve Bank Of India has permitted the banks to offer running account facility to exporters with good track record as well as to export oriented units (EOUs) in Free Trade Zones / Export Processing Zones and Special Economic Zones. Under this facility prior lodgment of letter of credit / firm order with the bank is not insisted upon prior to the disbursal. But the company will have to produce the same within a reasonable period of time. This facility is not available to sub-suppliers who obtain packing credit for supply to an export order holder, who is the eventual exporter.

**d)** Normally, banks will retain a margin of 20-25% and release 75-80% of the value of the letter of credit / firm order as loan. This amount will be released in stages depending on the needs of finance at each stage of production.

## 305.4. Period of Advance

The period for which a packing credit loan will be given depends on the length of the production cycle i.e time required for procuring, processing and shipping of goods or time left for the expiry of shipment date stipulated in the LC / order, whichever is earlier. However in no case the period of advance should exceed 360 days from the date of first drawal of the loan. This means that packing credit, originally sanctioned for a specific period, can be extended, subject to LC / order being amended suitably, upto a maximum period of 360 days from the date of disbursal.

If packing credit is not adjusted by submission of export documents within 360 days from the date of advance, the advance will cease to qualify for prescribed rate of interest for export credit to the exporter, ab initio.

If originally packing credit was approved for say, 60 days, and no extension sought supported by relevant documentation, the packing credit will be treated as overdue for the purpose of interest application.

## 305.5. Liquidation of packing credit

Packing credit granted to an exporter will have to be liquidated from the proceeds of export bills purchased / discounted by the bank, thus converting a pre-shipment finance to a post-shipment finance.

Packing credit may also be liquidated from the outstanding balance in Exchange Earner's Foreign Currency Account (EEFC A/C) as well as from rupee resources of the exporter to the extent exports have already taken place.

Normally packing credit should be liquidated by submission of export bills under the same LC / order against which the loan was granted. However, in case the exporter requests for repayment of an existing packing credit loan by submitting bills against a different LC / order covering different buyer or commodity banks may permit the same subject to their satisfaction regarding genuineness of the demand.

For exporters who have been permitted running account facility the first in first out method should be followed for determining the period of advance.

The running account facility or permission to substitute buyer / commodity as described above will not be permitted for transactions between sister, associate or group concerns.

## 305.6. Interest

With effect from July 01, 2010 banks will change interest on packing credit loan at a rate which is equal to or above the base rate of the bank for the first 270 days from the date of disbursal of the loan. Base rate is the rate below which a bank is not permitted to lend and which includes the bank's interest cost and operating costs. In other words, any bank is free to charge for packing credit loan any interest rate which is at or above its base rate for first 270 days.

If packing credit loan is not liquidated from proceeds of bill within 360 days from the date of first disbursal, the advance will cease to qualify for prescribed rate of interest ab initio.

In cases, where packing credit is not extended beyond the original period of sanction and export takes place after the expiry of the sanctioned period but within a period of 360 days from the date of advance, exporter would be eligible for concessional credit upto the sanctioned period. For the balance period, interest rate prescribed for "Export Credit Not Otherwise Specified" (ECNOS) shall be applicable. This rate is also to be fixed internally by the bank. Understandably it will be above the normal packing credit rate.

In cases where exports do not take place within 360 days form the date of disbursal of packing credit but subsequently, such credits will be termed ECNOS and banks will charge interest rate prescribed for ECNOS form the very first day of advance.

If on the other hand, after disbursal of packing credit, exports do not materialize at all, banks will charge domestic lending rate and penal interest on top for the entire period of advance.

## 305.7. Packing credit for deemed exports and Sub-suppliers.

There are certain categories of manufacturers who do not export directly but through other export houses or canalizing agencies or to projects funded by multilateral agencies. Such companies are entitled to pre-shipment finance at concessionary rate of interest. Terms for granting such loans are set out below:

### 305.7.1. Deemed Exports

Banks extend pre-shipment and post-supply rupee export credit at prescribed rate of interest to firms against order for supplies in respect of projects financed by bilateral or multilateral agencies like World Bank, IDA etc. as notified from time to time by Department of Economic Affairs, Ministry of Finance under the chapter "deemed exports" in foreign trade policy, which are eligible for grant of normal export benefits by Government of India.

Export finance to deemed exporters may be granted as a pre-shipment credit as well as post-supply credit for a maximum period of thirty days. Such loans have to be liquidated from the payments received in free foreign exchanges for the supplies made by these firms. It can also be repaid out of balances in EEFC A/C or from rupee resources of the exporter to the extent supplies have been made.

Export finance granted to deemed exporters will attract concessionary interest rate for a period of upto 180 days in the pre-supply and 30 days after the post-supply period. Beyond this, interest prescribed for the category "ECNOS" shall be applicable.

### 305.7.2. Export credit to sub-suppliers

Sub suppliers are those firms who supply raw materials, components, packing materials etc. which are used in goods exported by an Export Order Holder (EOH).

Packing credit can be shared between an EOH and a sub-supplier subject to the following conditions:

**a)** This scheme is available to exporters with good track record. It will cover LC's or export orders received by export Houses / Trading Houses etc or manufacturer exporters only. Running account facility under this scheme is not permitted.

**b)** Bankers to an EOH will open inland LC specifying the goods to be supplied by the sub-supplier to the EOH against the export order or LC received by him as a part of the export transaction. On the basis of such an LC, the sub-supplier's banker will sanction packing credit as working capital to enable the sub-supplier to manufacture the components required for the goods to be exported. On receipt of credit-conforming documents covering the goods supplied, the LC opening bank will pay the sub-supplier's banker, who, in turn, will adjust the PC with the proceeds.

**c)** Once supply has been made by the sub-supplier the EOH will be responsible for exporting the goods as per export order or LC. The sub-supplier will have no further obligation in this regard.

### 305.7.3. Export through canalizing agencies.

Banks sanction packing credit to manufacturer suppliers who do not have LC's or export orders in their own name and goods are exported through State Trading Corporation, Minerals & Metal Trading Corporation or other export houses. Such loans are subject to the following stipulations:

**a)** The Export House who has received the LC / export order should furnish a letter setting out the details of the export order and the portion thereof to be executed by the supplier and undertake not to obtain any packing credit for this portion.

**b)** Banks should, after taking into account the requirement of the two parties, apportion between the two, the quantum and the period of packing credit for which concessionary rate of interest is to be charged. This rate is available upto the stipulated period in respect of the export house and the supplier put together.

**c)** The export house should open inland LC's or issue purchase order in favour of the manufacturer-supplier. The latter should draw bills under LC / order in respect of the goods supplied for exports and adjust the packing credit from the proceeds of the bill.

## 305.8. Packing Credits for Service Exports

Pre-shipment and post-shipment finance is provided to exporters of all the 161 tradable services covered under the General Agreement on Trade in Services (GATS) where payment for such services is received in free foreign exchange. Such finance is available for purchase of consumables, other supplies, wages, salaries, overheads etc. and against outstanding receivables.

Given the large number of services and varied nature of business, banks will formulate their own parameters for computation of working capital gap and quantum of finance subject to the following stipulations:

**a)** The exporter should be registered with the Electronic and Software Export Promotion Council or Services Export Promotion Council or with Federation of Indian Export Organisations.

**b)** The item of service export is covered under appendix 10 of the Foreign Trade Policy.

**c)** There is an export contract or LC for export of services.

**d)** Periodic invoices may be raised on the buyer at different stages of fulfillment of contract and the proceeds received in free foreign exchanges should be used to liquidate the PC.

## 305.9. Exercise

**a)** Explain the essential features of a packing credit loan.

**b)** What are deemed exports? What are the conditions imposed for financing such exports?

**c)** What are the stipulations made by the banks for appraisal and sanction of export finance?

## 305.10. Reference

**a)** Foreign Exchange and Rupee Finance for Industry — By K.V. Iyer and L. R. Kunar.

**b)** Export Financing in India — By Narinder Kumar.

**c)** RBI circular on Rupee / Foreign currency Export Credit.

# Unit 306 Post Shipment Finance

## Structure





## 306.0. Objective

The objective of this unit is to understand the nature of post-shipment finance, familiarization with various types of such finance and their relative applicability under different circumstances.

## 306.1. Definition

Post-shipment credit means any loan or advance granted by a bank to an exporter of goods or services subsequent to shipment of goods or rendering of services till the export proceeds are realized. It also includes advance granted against claims of duty-draw back allowed by the govt. from time to time.

Post-shipment finance is thus, essentially, financing of receivables. Proceeds of post – shipment finance is used to liquidate packing credit loan granted, if any, thus converting a pre-shipment finance to a post-shipment finance. In case no packing credit has been

availed; the proceeds are credited to the exporter's account which acts as a source of working capital funds for next production cycle.

## 306.2. Types of post-shipment credit

Depending on the terms of credit offered by the exporter to the buyer, availability of letters of credit and other factors, post-shipment credit can take different forms. The lending bank's approach also will vary from case to case because of the essential nature of the transaction. The types of post-shipment loan and their qualitative aspects are described below:

### 306.2.1. Export bills purchased / discounted

Under this category there can be two types of bills – Demand bills, also known as sight bills or documents against payment (DP) bills where no credit is offered to the buyer by the exporter and usance bills, also known as Documents against Acceptance (DA) bills, where credit terms are offered. These exports are against firm orders and the bill contains a set of commercial documents like Bill of Exchange, Invoice, Bill of lading or Airway bill, Packing list, Certificate of origin, Insurance certificate and Customs declaration forms (GR/ PP/ SOFTEX etc.). These bills are sent by the exporter's bank to the buyer's bank. For demand bills, the buyer makes full payment to his bank before he can take delivery of documents and gain access to goods. In usance bills the buyer undertakes to honour the bill at a later date as per agreed terms by signing his acceptance on the bill of exchange, takes delivery of documents and possession of goods. On due date, he makes payment to his bank. Buyer's bank, on receipt of payment from the buyer for demand/usance bills, sends it to the exporter's bank.

Bills under this category, which are not backed by Letters of Credit, contain higher risk of default by buyer, especially under usance bills where the buyer gets possession of goods earlier and makes payment later. In view of this, exporter's bank often imposes restrictive conditions for purchase / discount of such bills. Exporters are asked to obtain insurance cover under "buyer's credit limit" offered by Export Credit Guarantee Corporation which covers the risk of default by the buyer.

Normally banks purchase / discount such bills for its full value at the ruling bill buying rate of the bank. But at times, depending on the risk perception, banks may impose a margine of 10-15% and finance 85-90% of the bill value, especially for usance bills drawn on countries which have externalization problems.

### 306.2.2. Export bills negotiated under letter of credit

These bills are similar to the ones described above except that the payment is covered under Letter of Credit opened by the buyer's bank. Operations under LC's are governed by Uniform Customs and Practices for Documentary Credits (2007 revision) of the International Chamber of Commerce, brochure no 600.

Export documents submitted under LC must strictly conform to the terms and conditions of the credit. If the documents are credit-conforming the LC opening bank is solely and absolutely responsible to make payment without recourse to the exporter or his bank (negotiating bank). If the bank is a reputed bank, say, one of the top 100 global banks, the risk of default is very low and banks are quite happy to negotiate such documents and give full value to the exporter for demand as well as usance bill without retaining any margin. In such cases, insurance cover from ECGC is not insisted upon.

However, in case the documents tendered by the exporter do not conform to the terms set in the LC, the opening bank is not bound to honour the documents. In such an event, exporter's bank may refuse to negotiate the documents and send the same on collection basis, unless the discrepancies are explicitly accepted by the opening bank. Alternatively, they may treat it as a non-LC bill as in Unit 6.2.1 and purchase/discount the same under similar terms and conditions.

### 306.2.3. Advance against bills for collection

At times banks may decline to purchase/discount/negotiate a bill because of its discrepancies or the credit limits having been exceeded and decide to send the bill on collection. Sometimes, the exporter himself may request the bank to send the bill on collection in anticipation of a depreciation of Rupee vis-à-vis the currency of the bill, or to avoid crystallization (see Unit 6.6) arising out of delayed payment by the buyer. In such an event banks may on the same date or at a later date grant an advance by way of overdraft against the bill under collection as security. Such loans enjoy concessionary rate of interest and ECGC cover as in other categories. The quantum of loan is restricted to 85-90% of the bill value.

When the bill is eventually paid by the buyer, banks convert the bill amount at the ruling T.T buying rate and adjust the advance so granted and credit the balance to the exporter's account.

### 6.2.4. Advance against goods sent on consignment basis

Here goods are sent by the exporter to the buyer, normally his branch office or his

agent, as a consignment sale. The Buyer clears the goods without making payment, warehouses the goods and as and when sales are made, remittances are sent to the exporter. Banks grant advance against such bills treating them on collection basis, as in Unit 6.2.3. The documents are sent to the bank's correspondent abroad, who releases the same to the buyer against trust receipt executed by the latter. The buyer makes payment to the correspondent periodically as and when sales are made who in turn sends it to the exporter's bank.

Since these payments, by the very nature of the transaction, are fairly delayed, the exporters will not be in a position to liquidate their packing credit advance within the maximum stipulated period of 360 days. In view of this, for consignment exports, banks adjust the packing credit advance, as soon as the export takes place, by transferring the outstanding balance to a special post-shipment account, which in turn is adjusted as and when relative proceeds are received from abroad but not later than 365 days from the date of shipment. In the case of consignment export through approved Indian warehouses set up abroad, this time period is extended to 15 months.

### 306.2.5. Advance against undrawn balances

in respect of export of certain commodities where exporters are required to draw the bill on the overseas buyer upto 90-98 percent of the FOB value of the contract, the residual amount being the undrawn balance is payable by the overseas buyer after satisfying himself about the quality and volume of the goods.

Banks grant advance against such undrawn balances to the extent of 70-80 percent of the amount. Such advances are eligible for concessionary rate of interest upto 90 days.

### 306.2.6. Advance against retention money

In the case of turn-key projects / construction contracts, progressive payments are made by the overseas buyer in respect of the supplies and / or services segment of the contract retaining a small percentage of upto 10% of the contract which is payable after expiry of a stipulated period from the date of completion of contract.

Banks grant advance to the extent of 70-80% of such retention amount against the supplies portion of the contract and not against the services portion. Such advances are eligible for concessionary rate of interest upto 90 days if the amount is payable within one year. If the period extends beyond one year, it is treated as deferred receivables (see Unit 6.2.7.) and interest charged accordingly.

### 306.2.7. Financing deferred receivables

Maximum period permitted for realization of export proceeds is 365 days from the date of shipment. However, for export of capital goods and execution of turn-key projects and civil construction contracts abroad the exporter has to offer longer credit terms because of the long term nature of the projects. Such receivables where the credit terms offered are longer than one year are known as deferred receivables.

Any offer of export on deferred credit terms require prior approval of the working group consisting of the Reserve Bank of India, Exim Bank and Export Credit Guarantee Corporation of India. Once such approval has been given, banks can grant discounting facilities for deferred receivables subject to proper credit appraisal. Such receivables can also be "forfaited" (see Unit 6.9.) through Exim Bank.

It nay be noted here that contracts covering export of goods where 90% payment is received within the prescribed period of one year from the date of shipment and balance within two years are not treated as deferred receivables.

### 306.2.8. Advance against duty drawback receivables

To promote exports, Government of India offers several incentives to exporters. One of them is refund of excise or custom duty paid by the exporter while purchasing raw material or other inputs. Such entitlements are provisionally certified by customs authorities after shipment has taken place. The eventual payment of such entitlement by the customs department takes 3-4 months.

Banks sanction post-shipment finance against duty draw back entitlements against export promotion copy of the shipping bill for a period of 90 days at concessionary rate of interest. These advances are eventually liquidated from the payment made by the customs authorities after processing the claim documents submitted by the exporter.

## 306.3. Period of Advance

For demand bills, the period of advance shall be the normal transit period stipulated by the Foreign Exchange Dealers Association of India (FEDAI). This period is expected to cover the time interval between the submission of export documents at the counters of banks in India and their payment abroad evidenced by the credit in the foreign currency account (NOSTRO A/c) maintained abroad by the exporter's bank.

As of now, the normal transit period has been specified by FEDAI as follows:

**a)** For foreign currency bills. — 25 days.

**b)** Rupee bills under LC where reimbursement is provided at the centre of negotiation. — 3 days.

**c)** Rupee bills under LC where reimbursement is provided at the centre of negotiation to the debit of VOSTRO account of LC opening bank with negotiating bank. — 0 days.

**d)** Rupee bills under LC where reimbursement is provided in India at a place other than the centre of negotiation. — 7 days.

**e)** Rupee bills under LC where reimbursement is provided from outside India/Non- LC bills/ export to Russia under State Credit. — 20 days.

In case of usance bills, advance can be granted for a maximum period of 365 days from date of shipment inclusive of normal transit period and grace period, if any.

For consignment exports through approved Indian Warehouses abroad, the maximum period of advance is 15 months.

At the request of exporter, banks can permit change of tenor of bills subject to the maximum permissible period of 365 days from date of shipment. This means demand bills can be converted to usance bills and vice-versa. Similarly, usance bills of shorter duration can be changed to longer duration and vice-versa. However, ECGC should be notified about any change in tenor to ensure continuation of insurance cover.

## 306.4. Liquidation of post-shipment finance

Post-shipment credit is to be liquidated by the proceeds of export bills received from abroad. It may also be liquidated, subject to agreement between the exporter and the bank from the balance in EEFC Account or from the proceeds of any other unfinanced collection bill. In such an event, however, the exporter will continue to remain responsible for repatriation of export proceeds of the unpaid bill from abroad.

## 306.5. Interest

With effect from 1st July, 2010, for export bills purchased /discounted/negotiated by banks, interest, which is charged upfront at the time of the transaction will at a rate

which is equal to or above the base rate of the bank for the normal transit period in case of demand bills and normal transit period + usance period + grace period, if any, for usance bills for the first 180 days. This period is extended upto 365 days for gold card holders. For advance against undrawn balance, retention money or duty drawback entitlements, this period is reduced to 90 days.

For export credit beyond this period, banks are free to decide their own rate.

Wherever interest has been collected upfront, if the bills are paid earlier than the notional due date upto which interest has been collected, proportionate amount should be refunded to the exporter.

For the purpose of computation of interest amount, the date of credit of the bill amount in the NOSTRO a/c of the exporter's bank should be treated as the date of realization of the bill.

In the case of overdue bills which are paid after the notional due date, that is after the normal transit for demand bills or normal transit period + usance period + grace period, if any, for usance bills, concessionary rate of interest should be charged upto 180 days from the date of advance.

When export bills are adjusted from rupee resources either through settlement of claim by ECGC or from the exporter's own resources, interest rate under "export credit not otherwise specified" (ECNOS) should be applicable.

## 306.6. Crystallisation of export bills

Whenever a bank purchases an export bill, the exchange rate for conversion known as the bill buying rate is quoted based on the apparent tenor of the bill. If such bills remain unpaid beyond the notional/actual date, that is, beyond normal transit period for demand bills and normal transit period + usance period + grace period, if applicable, for usance bills, the financing banks may have to incur additional charges by way of swap cost and interest on outlay of funds. In view of this, the Reserve Bank of India has permitted the banks to convert the exporter's foreign currency liability into rupee liability for purchased overdue bills which remain unpaid beyond their notional/actual due date. This process is known as crystallization.

Earlier the date of crystallization was stipulated as the 30$^{th}$ day from the notional/ actual due date. Now the RBI has permitted the banks to decide on their own the date of crystallization depending on the volatility of the currency and the swap charges involved.

On the date of crystallization banks apply the ruling T.T selling rate to convert the foreign currency liability to a rupee liability. Simultaneously, interest is also applied for the overdue period and the entire amount is kept aside in a separate nominal account pending liquidation on payment from abroad. Any difference between the earlier bill buying rate and the current T.T. selling rate ruling at the time of crystallization is recovered from or passed on to the exporter as the case may be. The effect of crystallization is to transfer the exchange risk from the bank to the exporter. When the bill is subsequently paid from abroad, the ruling T.T. buying rate is applied and the outstanding advance amount is adjusted. Any difference in exchange rate is again to the exporter's account.

It may be noted that crystallization is applicable only for purchased bills and not for collection bills.

In a steadily depreciating home currency, an exporter may gain on account of crystallization and vice-versa. But the gain may be off-set by additional interest cost due to delayed realization.

### 306.6.1. Example

The following example does not take into account the interest cost. It illustrates the gain/loss to the exporter on account of exchange rate movement of the underlying foreign currency.

On 1.7.2011, a bank purchases a demand bill for US $ 1,000 from an exporter at the ruling bill buying rate of Rs. 45.00 per US $. The exporter now has a liability US $ 1,000 to the bank which should be paid on or before the notional due date which is 25.07.2011.

If the bill remains unpaid and the bank decides to crystallize it on the 30$^{th}$ day from the notional due date, the date of crystallization will be 24.8.2011. If the ruling T.T. selling rate due to depreciation of rupee is Rs. 46, the bank will apply the same and the exporter's new liability will be Rs. 46,000 and not US $ 1,000. It may be noted that if rupee appreciated to Rs. 44, the exporter's new liability will be Rs. 44,000 and not Rs. 45,000 which he received at the time of purchase of bill.

If the bill is subsequently paid on, say, 15.9.2011 and due to further depreciation of rupee, the ruling T.T. buying rate of the bank was Rs. 47, the exporter will receive Rs. 47,000 and after adjusting the liability of Rs. 46,000 will be left with an additional amount of Rs. 1,000 which represents his gain from exchange. The total amount received by him will be Rs. 46,000, the effective exchange rate being Rs. 46 per US $.

## 306.7. Exchange Earner's Foreign Currency account (EEFC)

Although it is not a post-shipment advance, it is a facility granted to an exporter after completion of shipment and hence deserves mention here.

Exchange Earner's Foreign Currency Account (EEFC) is a foreign currency current account maintained with banks in India. Exporters, who send their export bills on collection, can deposit upto 100% of their bill amount in this account after payment from abroad. They may also choose to discount part of a bill, say 80%, and treat the balance 20% on collection basis which can be deposited in the EEFC a/c on realization.

This account is beneficial for exporters who have substantial import component in their operation. The import bills can be paid directly in foreign currency to the debit of EEFC a/c. This obviates the necessity of converting export proceeds to rupee and recovering rupee to foreign currency for payment of import bill, thus insulating the exporter from exchange rate fluctuation.

No interest is paid on outstanding balance in EEFC a/c. However, cheque facility is available for operations of the a/c. This account can be used for all payments in foreign currency on current a/c or capital a/c transactions as approved under FEMA. The outstanding balance can also be covered under forward exchange contract thereby hedging exchange risk.

## 306.8. Factoring

Factoring is an alternative source of post-shipment finance for exporters. Factoring involves outright sale of receivables by the seller/exporter to the factor. The factor buys all the outstanding invoices of the exporter and takes over all the dealings with the importer / buyer. Factor deals with short term debts, the tenor not exceeding one year.

Factoring can be with recourse or without recourse to the exporter. In a "with recourse" factoring the factor claims back the money advanced to the exporter, in case the buyer defaults. This resembles banks' financing of export receivables which is also with recourse to the exporter. In a "without recourse" factoring, the factor bears the risk of default by the buyer which amounts to an outright sale by the exporter to the factor.

A factor thus provides three types of support to the exporter:

**a)** It takes over the maintenance of receivable accounts from the exporter. The factor monitors each and every invoice for payment, maintains necessary records and keeps the exporter informed. This service is especially important for new entrants who have little experience of the markets.

**b)** The factor provides risk coverage for buyer's default. With his extensive experience, the export factor, often in collaboration with the import factor in the buyer's country, will examine the credit worthiness of the existing or prospective buyers. If a factor approves the credit risk on a buyer, he will establish a credit line which will assure payment to the exporter in the event of buyer's default. However, quality disputes are not covered. This resembles the insurance cover given by Export credit Guarantee Corporation against buyer's default.

**c)** Once the factor assumes risk, he is also prepared to finance usually upto 80-90% of the invoice value at a fairly competitive interest rate. Should the buyer default, the factor will bear the risk in a "without recourse" factoring and pay the balance to the exporter.

The factor will charge a commission for accounts administration and premium for risk coverage, besides charging interest, if finance is granted.

A without recourse factoring amounts to a cash sale and the exporter can remove the item from his balance sheet thereby improving its health.

Factoring is quite popular in Western Europe and about 75% of all post-shipment finance is availed from Factor. In India, however, it is not very popular due to non-availability of factoring companies. A few public sector banks like State Bank of India, Canara Bank etc. have established factoring subsidiaries and have captured about 4% of the volume of post shipment finance in India.

## 306.9. Forfaiting

Forfaiting is non-recourse discounting of export receivables of medium to long term maturities, generally ranging from one year to five years. In a forfaiting transaction the exporter surrenders, without recourse to him, his right to claim for payment of goods delivered to an importer, in return for immediate cash payment from a forfaiter. As a result, an exporter can convert his long term credit sale into cash sale without recourse to himself. Export of capital goods and any other goods made on medium to long term credit are eligible to be financed through forfaiting.

One of the essential features of forfaiting is the co-acceptance or avalisation of bills of exchange drawn by the exporter on the importer by a bank acceptable to the forfaiter. By joining the importer in accepting the bill of exchange, the bank guarantees payment of the same at maturity.

In India, forfaiting is done through EXIM Bank, which acts as a conduit between the exporter and the overseas forfaiter.

There are four elements of cost in a forfaiting transaction – commitment fee, discount fee, documentation fee and EXIM bank's fee.

Commitment fee is payable by the exporter to the forfaiter for the latter's commitment to execute a specific forfaiting transaction. This fee generally ranges between 0.5 to 1.5 percent per annum of the unutilized amount to be forfaited from the date of commitment till the date of discount.

Discount fee is the interest cost payable by the exporter for the entire period of credit involved and is deducted by the forfaiter from the amount paid to the exporter against avalised promissory note or bill of exchange. The rate of discount is based on the prevailing LIBOR (London Inter Bank Offer rate) for the relative credit period enhanced by a risk premium.

In case extensive documentation and legal work is involved in the forfaiting transaction, a documentation fee based on actual expenses may be levied.

Besides EXIM Bank will charge a service fee for facilitating the forfaiting transaction which is payable in Indian Rupees.

In terms of the instructions from the Reserve Bank of India, all the above fees except the fees of EXIM Bank is to be passed on to the foreign buyer.

Forfaiting is extremely beneficial to the exporters of capital goods and turn-key projects who offer long term credit to buyers. The benefits are manifold.

**a)** It converts a deferred payment export into a cash transaction since forfaiting is without recourse, thus improving cash flow and liquidity.
**b)** The exporter's borrowing limits are not affected. The item is taken off from the balance sheet thereby improving its quality.
**c)** Frees the exporter form cross-border political or commercial risks associated with export receivables, especially, of long term maturity.
**d)** Exporter saves on insurance cost as forfaiting obviates the need for export credit insurance.
**e)** Exporter is freed from credit administration and collection problems.

## 306.10. Export Guarantee

Guarantee is a commitment to pay a sum of money in consideration of the non-fulfillment of contractual terms by the contracting party at whose instance the guarantee is being issued. For export of capital goods, project exports and execution of service or construction contracts overseas, various types of bank guarantee have to be issued by the exporter in favour of the importer at different stages of production. To facilitate

such exports banks in India execute such guarantees for which insurance cover from the Export Credit Guarantee Corporation is also available. Some of these guarantees are discussed below:

### 306.10.1. Bid Bonds

Bid-bonds are necessary to be tendered while bidding for a global tender. The purpose of bid bond is to ensure that the party to whom the contract is awarded will indeed accept the award and proceed with the execution of construction, supply or delivery obligation falling under the terms of the awarded contract. The bid bond can be invoked by the buyer when the exporter fails to accept the contract award and consequently the buyer has to initiate the process of tender once again causing delays and additional costs. The purpose of bid bond is also to keep out frivolous bidders.

Normally, the amount of bid-bond is restricted to 1-2% of the contract value and duration of 3-6 months. The risk for a bank issuing a bid bond is not very high. In case the bid is not accepted the bond is returned and bank's liability ceases. If, however, the bid is accepted, the exporter will have to sign a contract with the buyer and, in most cases, execute a performance bond in return for the bid-bond.

Generally, banks in India will not issue bid bond for a stray client. The exporter should be an existing customer whose line of activity is in conformity with the business for which he is bidding. While issuing bid bonds, the financial status and the antecedents of the company is verified through scrutiny of audited financial statements of the company and its associates and past performance of the company in executing contracts of similar nature. Care is taken to ensure that bonds are not issued on behalf of dummy companies who indulge in shadow bidding along with parent company. A cash margin of 10-20% is taken by the bank for issuing bid bonds.

### 306.10.2. Performance Bond

In case the exporter's bid for the tender is accepted by the buyer, a contract will be awarded and the exporter will have to furnish a performance bond guaranteeing performance in accordance with the terms of contract for the entire duration of the project. Thus the performance bond will have a longer tenor extending to five years or beyond and the amount could be about 10% of the value of the contract. Failure to submit performance bond triggers invocation of the bid bond.

Since the risk for the bank issuing performance bond is considerably more than that in the bid bond, banks take a close look into the technical and financial capabilities of the company and its competence to execute the contract awarded. Although preliminary

verification would already have been done while issuing the bid bond, banks will conduct a detailed scrutiny of the cash flow for the entire duration of the project and ascertain whether the requirement of funds have been tied up. Normally such facilities are granted as part of overall facilities sanctioned to finance the project which may include term loan and working capital loan. But if sought as a stand-alone facility, banks may insist on additional collateral security besides a minimum of 10% cash margin for issuing a performance bond.

### 306.10.3. Advance payment bond

In most major contracts which are executed over a period of several years, the buyer, subject to the terms agreed upon, may make advance payment to enable the exporter to cover part of his working capital requirement and proceed with the execution of contract. The advance payment is intended to be utilized for purchase of material and funding of labour cost and overheads.

The buyer releases such advance payment only against an advance payment bond executed by the exporter's banker guaranteeing payment to the buyer in case funds are misused and project is not completed. Banks may issue such bonds as part of the overall package of export finance sanctioned to the exporter. Since the amount received by the exporter in advance serves as a source of working capital, banks make suitable reduction in the working capital facilities to reflect this.

### 306.10.4. Retention Bond

In most project and turn-key exports, the buyer withholds payment of a certain amount of invoice to cover unforeseeable future expenses arising from mistakes or faults in the completed construction work or in the delivered goods or equipment. This is known as retention money and withholding of such funds which may go upto 10% of the project cost severely affects the exporter's liquidity.

The exporter may seek release of retention money by submitting a retention bond executed by his bank in favour of the buyer guaranteeing payment in the event of a claim by the beneficiary. The duration of such bonds may extend beyond one year after completion of contract. While agreeing to issue such bonds banks may hold on to the securities offered for project finance till the liability is extinguished.

### 306.10.5. Conclusion

The Reserve Bank of India has permitted all banks (Authorized Dealer) to issue all the guarantees discussed above and make payment, if invoked, without prior approval,

subject to the bank having done due diligence regarding the exporter's ability, technical and financial, to execute the project. They have also advised the banks not to insist on cash margins, in case cover under Export Performance Guarantee of ECGC is available. They have also permitted the banks to issue "Minor Guarantees" to cover defects in documents, missing documents etc. in an export transaction.

## 306.11. Exercise

**a)** Discuss and distinguish between various types of post-shipment finance sanctioned by banks.

**b)** What is crystallisation? Is it beneficial to the exporter? What can be done to avoid it?

**c)** Discuss the essential features of factoring and forfaiting and distinguish between the two.

**d)** What is a bid bond? Why is it issued? How does it differ from a performance bond?

## 306.12. Reference


**a)** Factoring: The law and practice of invoice finance.
— By Freddy Salinger.

**b)** Forfaiting: An alternative approach to export trade finance.
— By Ian Guild and Rhodri Harris.

**c)** Export Financing in India.
— By Narinder Kumar.

**d)** RBI circular on Rupee / foreign currency export credit.

# Unit 307 : Export Finance in foreign currency



## 307.0. Objective

The objective of this unit is to understand the procedure relating to foreign currency finance of export and critically examine the merits and demerits of foreign currency finance against Rupee finance of exports.

## 307.1. Appraisal and sanction

The method of appraisal and the sanction formalities of foreign currency export finance is similar to that for Rupee finance as described in Unit 5.2. While structuring the limits, permissible limits are computed in Rupee only with the provision that the exporter has a right to utilize the limits in equivalent amount of foreign currency converted at a rate ruling at the time of drawal of the loan. Some banks sanction the limits in foreign currency (mostly in US dollars) quantum of which is periodically adjusted to bring them in line with the prevailing exchange rate. The exporters are also given option to draw the limits, in part or in full, either in Rupee or in foreign currency depending on the requirement of the exporter.

## 307.2. Pre-Shipment finance in foreign currency (PCFC)

### 307.2.1. The Scheme

With a view to making credit available to exporters at internationally competitive rates, the Reserve Bank of India has permitted the banks to extend pre-shipment credit

in foreign currency (PCFC) to exporters for domestic and imported inputs of exported goods. It is an additional window for export finance alongside Rupee Credit. By & large, the rules applicable for Rupee packing credit will apply to PCFC as well.
The exporter will have the following options to avail of export finance.

**a)** To avail of pre-shipment credit in rupees and post-shipment credit either in rupee or in foreign currency.

**b)** To avail of both pre-shipment credit and post-shipment credit in foreign currency.

**c)** To avail pre-shipment credit in rupee and convert the outstanding amount to PCFC at a later date.

PCFC is available in any one of the major convertible currencies which have liquidity and depth in the money market, e.g., US dollar, Euro, Pound sterling, Yen etc. Besides, the exporter is permitted to draw PCFC in a currency which is different from the currency of invoice. For example, PCFC may be granted in US dollar when the currency of invoice is Euro. The cross currency exchange risk arising out of this transaction is to be borne by the exporter.

### 307.2.2 Disbursement

PCFC can be availed against submission of LC or order covering the export. But "Running Account Facility" can be permitted to exporters who have satisfactory track record, in all commodities. However, exporters must produce the LC/order within a reasonable time, in any case before the shipment. Such loans will be marked off at the time of liquidation on a "first-in first-out" basis. It can also be marked off with proceeds of export documents against which no PCFC has been drawn by the exporter.

When PCFC is disbursed to finance domestic inputs, the disbursal should be in rupees. For this, the loan amount should be converted at ruling T.T. buying rate. If, however, the loan is meant to be utilised for imported inputs, the loan can be disbursed in the currency of import, if necessary through cross currency conversion.

### 307.2.3. Period of advance

PCFC can be sanctioned for a maximum period of 360 days. Any extension of credit within the maximum permissible limit will be subject to the same terms and conditions as in rupee credit. The interest rate for the extended period should be 2% more than that charged for the initial 180 days, prevailing at the time of extension. For further extension within 360 days banks may stipulate their own terms and conditions.

If no export takes place within 360 days from the date of first disbursal the exporter will have to repay from rupee resources. In such an event the loan amount will be converted to rupee at TT selling rate ruling on the date of payment.

### 307.2.4. Liquidation of PCFC

PCFC has to be liquidated out of the proceeds of post-shipment credit in foreign currency, thus converting a pre-shipment finance to a post-shipment finance.

PCFC can also be liquidated from the balance outstanding in the Exchange Earner's Foreign Currency Account (EEFC) as well as from rupee resources arising out of export proceeds for which no PC was availed. In the latter event, the rupee will be converted at ruling TT selling rate.

Normally PCFC should be liquidated by submission of export bills under the same LC/order against which loan was granted. However, in case exporter requests for repayment of existing PCFC by submitting bills against a different LC/order covering different buyer or commodity, banks may permit the same.

The "running account facility" or substitution of buyer or commodity as described above will not be permitted for transactions between sister, associate or group concerns.

In case of cancellation of export order or inability of the exporter to execute the contract, PCFC will have to be liquidated from the rupee resources of the exporter. Such repayment will be effected at the ruling TT selling rate of the bank. A penal rate of interest over and above the ECNOS rate for rupee credit will be charged for the entire duration of the loan.

### 307.2.5. Interest

Interest rates for foreign currencies are normally based on LIBOR or EURIBOR. LIBOR, an acronym for London inter-bank offer rate is the rate at which banks lend to each other in London at any given time on a particular day in various currencies. For benchmarking interest rates of loans against LIBOR, the rate announced by British Bank's Association which is the average of LIBOR of sixteen large banks is accepted. Similarly EURIBOR is the inter bank offer rate in European Union and represents the rate at which banks lend to each other in European Union. Foreign currency loans all over the world is benchmarked against these rates and depending on the perception of risk associated with the borrower or the project, an interest rate above this benchmark is fixed by the lender.

**The rate of interest for PCFC will be as under:**

| | | | |
|---|---|---|---|
| **a)** | Upto 180days | — | Not exceeding 200 basis points above LIBOR / EURIBOR. |
| **b)** | Between 181 – 360 days | — | 200 basis points above the earlier rate as in "a". |
| **c)** | Beyond 360 days | — | Deregulated. Rupee interest rate at ECNOS + penal rate applicable. |

Other than interest and out-of-pocket expenses, no other charges like service charge, management charge, commitment fee etc. will be applicable

### 307.2.6. Sharing of PCFC

Similar to Rupee Packing Credit, PCFC can also be shared between the export order holder (EOH) and the manufacturer of goods who supplies to the EOH. PCFC granted to the manufacturer will be repaid by transfer of foreign currency funds by EOH by availing PCFC or by discounting of bills under post shipment credit in foreign currency.

### 307.2.7. Deemed Exports

PCFC can be allowed for deemed export of supplies only (not service) to projects financed by multilateral / bilateral agencies. PCFC released for deemed exports should be liquidated by grant of foreign currency loan at post-supply stage for a maximum period of 30 days or upto the date of payment by the project authorities, whichever is earlier. PCFC may also be repaid out of balances in EEFC A/C as also from rupee resources of the exporter to the extent supplies have actually been made.

## 307.3. Post Shipment Finance in Foreign Currency (PSFC)

### The scheme

Exporters can avail of the facility of discounting their export bills, whether demand or usance and whether covered under LC or not, under this scheme, from their bank.

Exporters can also, on their own, arrange for themselves a line of credit with an overseas bank or a factoring agency for discounting their export bills. However, such

transactions must be routed through the bank from whom PC or PCFC has been availed.

The facility can be availed in any convertible currency, not necessarily the same currency of invoice or the currency in which PCFC is availed. The resultant cross currency risk arising out of such transactions will be to the exporter's a/c.

For example, if an export is invoiced in US dollar and PCFC is also availed in US dollar, the exporter may decide to avail PSCFC in, say, Euro. In such an event, the exporter will have cross currency exposure both at the time of availing the loan, when the loan proceeds have to be converted to US dollar to repay PCFC, as well as on maturity of the loan when US dollar paid by the buyer will have to be converted to Euro to repay the PSCFC loan. Exporter will need to manage this risk.

## End-use of PSCFC

Proceeds of PSCFC should be first applied to Rupee PC or PCFC, if availed, and balance paid to the exporter.

If PC is availed in rupee, PSCFC proceeds should be converted to rupee at ruling TT buying rate and amount utilised to adjust PC, the balance being paid to the exporter. If, however, the exporter has availed PCFC, the proceeds should be directly credited to PCFC account and balance will be converted at ruling TT buying rate and credited to the exporter's account.

## Crystallisation

Crystallisation of discounted export bills on the 30th day from the notional / actual due date or any other date, as described in unit 6.6. is applicable under PSCFC as well. On crystallization, exporter's foreign currency liability will be converted to rupee liability by converting the bill amount at ruling TT selling rate. Thereafter, the exchange risk is born by the exporter and when the bill is eventually paid, the proceeds will be paid to the exporter by converting at ruling TT buying rate after adjusting the liability on this account.

## Interest

The rate of interest for PSCFC will be as under:

| | | |
|---|---|---|
| **a)** On demand bills for transit period as specified by FEDAI (25 days). | ... | Not exceeding 200 basis points over LIBOR / EURIBOR. |

| | | | |
|---|---|---|---|
| **b)** | Against usance bills upto 180days including transit, usance and grace period. | — | Not exceeding 200 basis points over LIBOR / EURIBOR. |
| **c)** | Export bills realized after due date but upto date of crystallisation. | — | Rate as above plus 200 basis points. |
| **d)** | Export bills returned unpaid | — | Rupee rate for ECNOS + penal rate for the entire period. |

## 307.4. Choice of currency – decision parameters

Since the exporter is permitted to draw export finance in rupee as well as in foreign currency, an element of decision making is involved in the choice of currency. In order to maximise his yield through right choice, let us first take a look at the interest rates in various currencies.

The prevailing rate of rupee export credit as well as the LIBOR rates of some of the major currencies as on 26.04.2011 are indicated below:

| | | | |
|---|---|---|---|
| Rupee PC rate (indicative) | | — | 9% |
| US dollar | 6 M LIBOR | — | 0.45% |
| Euro | 6 M LIBOR | — | 1.70% |
| Yen | 6 M LIBOR | — | 0.35% |

The applicable rate for PCFC, which could be 200 basis points above LIBOR will be

| | | |
|---|---|---|
| US dollar | — | 2.45% |
| Euro | — | 3.70% |
| Yen | — | 2.35% |

Hence, if the exporter chooses US dollar as the currency of finance, he stands to gain 6.55% by way of interest rate against rupee finance. Apparently the choice is clearly in favour of US dollar finance.

However, it may be noted that in foreign currency export finance, conversion from foreign currency to rupee takes place when PCFC is granted, that is, at the beginning of the production cycle. If rupee depreciates subsequently, the exporter is unable to capture the gain. In rupee finance, this gain is available to the exporter.

**Let us illustrate this through an example :**

An exporter approaches a bank for export finance against an order for US $ 100,000. The bank sanctions PC for 75% of the order value and PSC for 100% of the export bill value. The exporter avails PC and submits export bill after 30 days for discounting. The discounted bill is paid after 30 days.

**a) Rupee Finance**

| | | | |
|---|---|---|---|
| Order Value | US $ | 1,00,000 | |
| Rupee equivalent @ Rs 45 / $ (ruling rate) | Rs. | 45, 00,000 | |
| PC granted (75%) | Rs. | 33, 75,000 | |
| Int. @ 9% for 30 days | Rs. | 24,966 | |
| Total PC liability | Rs. | 33, 99,966 | |
| Export bill amount | US $ | 1,00,000 | |
| Converted at ruling US $ rate of 46. | Rs | 46,00,000 | |
| Less: discount for 30 days @ 9% | Rs | 34,027 | |
| Less: PC liability adjusted | Rs. | 33, 99,966 | |
| Net credit to exporter | Rs. | 11, 66,007 | **(A)** |

**b) US $ Finance**

| | | | |
|---|---|---|---|
| Order Value | US $ | 1,00,000 | |
| PC granted (75%) | US $ | 75,000 | |
| Loan proceeds credited to party at ruling rate of Rs. 45 / $ | Rs. 3 | 3, 75,000 | |
| Int. on PC @ 2.45% for 30 days | US $ | 153 | |
| Total PC liability | US $ | 75,153 | |
| Export bill amount | US $ | 1,00,000 | |
| Less: discount for 30 days @ 2.45% (Year = 360 days) | US $ | 204 | |
| Less: PC liability adjusted | US $ | 75,153 | |
| Net credit to exporter | US $ | 24,643 | |
| Converted at ruling $ rate of 46 | Rs. | 11, 33,578 | **(B)** |

It may be seen that the exporter stands to gain an amount of Rs. 32,429 (A-B), by avoiding export finance in Rupee instead of US dollar despite an adverse interest rate different of 6.55%. This is because depreciation of rupee from Rs 45 to Rs 46 per dollar more than compensates for the interest differential. If, however, rupee depreciated less, say to Rs 45.25, or appreciated, $ financing will be beneficial.

Exporters hence should look at the prevailing interest rate as well as the trend of exchange rate and forward premium / discount etc. to arrive at the correct choice of currency of finance.

## 307.5. Exercise

**a)** Explain the terms and conditions under which PCFC and PSCFC are granted to an exporter.

**b)** Is it necessary to crystallize export bills discounted under PSCFC? Give reasons.
**c)** Foreign currency finance is not necessarily beneficial to an exporter — Explain.

## 307.6. Reference

**a)** Export Financing in India – By Narinder Kumar.
**b)** RBI circular on Rupee / Foreign Currency export credit.

# Unit 308 : Export Finance by EXIM Bank



## 308.1. Objective

The objective of this unit is to explain various functions of the EXIM bank, its lending programmes and the procedure relating to sanction of loans.

## 308.2. Introduction

The Export Import Bank of India (EXIM Bank) is a wholly government financial institution set up for the purpose of financing, facilitating and promoting India's foreign trade. The bank commenced its operations on March 1, 1982.

In order to make Indian exports competitive, EXIM bank provides finance and marketing support under various schemes. It is the nodal agency for forfaiting deferred export receivables and financing project exports.

## 308.3. Lending Programmes

EXIM Bank offers direct financial assistance to exporters of capital goods, construction projects and other turn-key projects as well as indirect assistance by financing commercial banks in India and Overseas buyers and financial institutions to enable them to support exports from India.

### 308.3.1. Direct Loans to Exporters

**a) Pre-shipment credit**

Where the manufacturing cycle of the export contract exceeds six months, EXIM Bank offers pre-shipment facility for purchase of raw materials and other inputs.

**b) Supplier's credit**

EXIM Bank offers medium to long term credit (1-5 years) at the post shipment stage to enable the exporter to offer deferred credit term to the overseas buyers.

**c) Project Finance to EOU's**

EXIM Bank provides term loans for setting up of export oriented units in export processing zones as well as units in domestic tariff area exporting minimum 25% of annual sales.

**d) Import Finance**

EXIM Bank finances import from third countries which is required for executing projects overseas by Indian exporters.

EXIM Bank also finances import into India which are export related. This include imports by export oriented units, import of plant, machinery and technology for upgradation / expansion of production capacity.

**e) Consultancy and Technology Services**

Indian consultants who are corporates and have secured contract for export of services under deferred payment terms can avail of this assistance. These services may include preparation of project report, transfer of technology, providing personnel for technical and managerial services for operations and maintenance.

**f) Overseas Investment Finance**

EXIM Bank provides equity finance to Indian promoters of overseas joint ventures. Assistance is extended in the form of term export credit directly to Indian company or by way of refinance to commercial banks upto 80% of the equity contribution. Equity contribution should ordinarily be by way of export of plant and machinery. In exceptional circumstances, cash remittance is also financed.

**g) Guarantees**

EXIM Bank also participates with commercial banks in India in issue of guarantees such as advance payment, bid-bond, performance guarantee, retention money guarantee and guarantees for borrowing abroad for execution of export contracts.

### 308.3.2. Loans to Commercial Banks in India

The following facilities are extended by EXIM Bank to commercial banks in India to enable them to extend lines of credit to exporters:

**a) Export Bills Rediscounting**

Banks who are authorized to deal in foreign exchange can rediscount their short term export bills discounted on behalf of small scale industries and others with a usance period not exceeding 180 days.

**b) Refinance of Export Credit**

Commercial banks can obtain from EXIM Bank 100% refinance of deferred payment loans extended for export of eligible Indian goods.

**c) Refinance of term loans**

Term loans to eligible export oriented units (EOU's) and computer software exporters granted by commercial banks can be refinanced in full with EXIM Bank.

### 308.3.3. Loans to Overseas Buyers and Financial Institutions

The following facilities are extended to importers abroad and foreign financial institutions to facilitate export of Indian goods and services.

**a) Overseas Buyer's Credit**

Credit is offered directly to foreign companies for import of eligible Indian goods and services on deferred payment terms.

**b) Lines of credit**

EXIM Bank extends lines of credit to overseas financial institutions and foreign governments and their agencies enabling them to onlend term loans to finance import of eligible goods from India.

## 308.4. Project Exports Finance

Export of engineering goods on deferred payment terms and execution of turn-key projects and civil constructions abroad are known as project exports.

Turn-key projects are those which involve supply of equipment along with related services like design, detailed engineering, civil construction, erection and commissioning of plants for manufacture of cement, sugar, textile, chemicals etc.

Construction projects involve civil works, structural works as well as associated supply of construction materials and equipments. Typical projects include civil work for roads, railway lines, ports, airports, dams etc. and consultancy service contracts involving provision of personnel, furnishing of know-how skills, operation and maintenance services etc.

All loans for project exports are to be routed through banks or consortium of banks who in turn will send the proposal to EXIM Bank. Proposals upto Rs. 50 crores can be cleared by the banks themselves, subject to conformity with the guidelines laid down by RBI. Other proposals upto Rs 200 crores are referred to EXIM Bank for in principle approval at the bid-stage and final approval before release of facilities. Proposals beyond Rs 200 crores are approved by inter institutional working group comprising of RBI, EXIM Bank, ECGC and commercial banks.

Following facilities are extended to project exporters:

### 308.4.1. Funded facilities

Pre shipment rupee credit is extended to finance purchase of raw materials and other inputs. Exporters could also avail pre shipment credit in foreign currencies to finance cost of imported inputs for manufacture of export products to be supplied under the projects.

Post shipment rupee credit is provided on deferred payment terms covering export of eligible Indian capital and engineering goods and services.

Foreign currency loan can be availed of from EXIM Bank at competitive rates to purchase third country materials, equipments and construction machinery.

### 308.4.2. Non Funded Facilities

EXIM Bank participates with commercial banks in India for issuing guarantees such as bid bonds, performance guarantee, advance payment bonds and retention bonds. A detailed discussion on these guarantees is given in Unit 6.10.

Guarantees are also issued to enable the project exporters to avail of bridge finance from overseas lenders. Besides guarantees in lieu of security deposit, custom duty etc. are issued by EXIM Bank.

## 308.5. Other Programmes.

Besides financial assistance, EXIM Bank also offers various other support to enhance the business competitiveness of Indian exporters some of which are enumerated below:

### 308.5.1. International Merchant Banking

For Indian companies submitting bids for overseas contracts, International Merchant Banking (IMB) performs two functions – arranging foreign currency finance and advisory

services for evolving optimum financial packages to be offered by the Indian Company to the overseas buyer.

At the bidding stage the advisory desk scrutinizes the project and suggests the most cost efficient financial package which can be offered by the bidder. Once the bid is accepted IMB desk raises foreign currency loan for the company to meet the foreign currency component of the cost of the project.

### 308.5.2. Export Marketing Fund

Government of India has designated EXIM Bank as the agency to manage the Export Marketing Fund (EMF). This fund was part of World Bank loan sanctioned to Government of India. Subsequently EXIM Bank has been using its own resources to fund it.

Private sector and joint sector companies, who have the resources, capability and export strategy to penetrate the markets of developed countries, are eligible for EMF support. Export of manufactured items and computer software are covered under EMF support.

The activities of the company which are eligible for EMF support include desk research, overseas field market research, product adaptation, product inspection, training and overseas travel.

For establishing overseas operation, the fund will offer support for research and development, front-end promotional expenditure, plant modernization, capacity augmentation, development of tools, jigs and fixtures, procuring testing and quality control equipment and travel to India by overseas buyers.

### 308.5.3. Product Liability Insurance

In developed countries, general consciousness of public is very high regarding liability of manufacturers / service providers for defective products and deficient services. This gives rise to large number of litigations often resulting in heavy judicial awards favouring the litigant. This forces exporters to indemnify themselves against risk of incidence of products and deficient services. This gives rise to large number of litigations often resulting in heavy judicial awards favouring the litigant. This forces exporters to indemnify themselves against risk of incidence of product liability through product liability insurance offered by insurance companies. High cost of PLI premium acts as a deterrent to market entry efforts of Indian exporters.

EXIM Bank's PLI programme envisages supporting the market entry efforts of Indian exporters by sharing the initial costs of PLI premium. Indian exporters exporting to OECD (Organization for Economic Co-operation and Development) countries are eligible for support under this programme. The extent of support is linked to projected exports to OECD countries and is upto a maximum of 50% of PLI premium.

### 308.5.4. Export Vendor Development Finance

Manufacturers, traders and export trading houses source goods from vendors to export on a regular basis. Products purchased from vendors may be finished, semi-finished or intermediate products with the exporter adding value to the product in the form of further processing or marketing them. Such exports constitute a significant portion of the country's total exports.

The Export Vendor Development Finance (EVDF) aims to support vendor development by exporters. Rupee term finance is available on competitive terms to exporters for implementing strategic vendor development plan to create and strengthen backward integration. The activities eligible for finance are:

**a)** Acquisition of machinery.

**b)** Purchase of tools, moulds, jigs and ancillary equipment.

**c)** Working capital assistance extended by exporters to vendors.

**d)** Expenditure on vendor training, technical assistance etc.

EVDF is exporter specific and is aimed at enhancing the exporter's capabilities to export large volumes by sourcing products from vendors.

## 308.6. Conclusion

EXIM Bank, which was set up to translate national foreign trade policy into concrete action point and provide alternative financing solution to the Indian exporter, is engaged in promoting exports through a variety of lending and service programmes. These programmes are tailored to meet the needs of the Indian exporter through direct finance as well as indirect finance by offering financial assistance to the commercial banks and overseas entities to enable them to support the export endeavour of Indian exporter.

## 308.7. Exercise

**a)** What are the schemes of EXIM Bank for direct finance to exporters?
**b)** What is project finance? Describe EXIM Bank's role in facilitating project finance.
**c)** What is Export Vendor Development Finance? How does this scheme help the exporter?

## 308.8. Reference

**a)** Financial markets, institutions and financial services — By Gomez.
**b)** Publications of EXIM Bank.

# Unit 309 ❐ Import Finance – Long Term

## Structure





## 309.1. Objective

The objective of this unit is to understand the features of various types of loans available on a long term basis for import of capital goods or new projects and how to choose the best option at a given point of time.

## 309.2. Introduction

Long term loans are available for financing import of new projects, diversification / expansion of existing projects and capital goods approved by the Director General of Foreign Trade (DGFT). The maturities of such loans may extend, normally for 3 to 5 years and could go upto 10 years for financing of infrastructure projects. The finance is required at two stages – at the pre-import stage when the importer needs a letter of credit opened by a bank to facilitate import into India and at the post-import stage where fund based facilities need to be extended to finance the asset over a long period of time depending on the company's ability to generate surplus and repay the loan.

## 309.3. Appraisal and Sanction

At the time of appraising an import finance proposal, banks will need to ensure that the following conditions have been fulfilled:

**a)** The company should possess an Import / Export code no. (IEC) issued by DGFT.

**b)** The company's name should not appear in the Caution List of Reserve Bank of India.

**c)** The item is permitted to be imported under Import Trade Policy.

**d)** Credit report on the supplier of capital goods should be satisfactory.

The appraisal process involves a critical evaluation of the company's ability to generate surplus and repay the loan over the stipulated amortization period. For this, the company is asked to prepare a detailed project report covering all aspects of the industry namely production, marketing , personnel, finance and other related matters like infrastructure, pollution control etc. The company has to submit financial projections for the entire period of amortization of loan on a year to year basis showing the anticipated sales, cost of production and generation of profit and surplus.

While evaluating the proposal, emphasis is given on the following aspects of financial projection:

**a)** Is the leverage satisfactory? A debt-equity ratio of not more than 2:1 is considered acceptable.

**b)** Is the company's debt service coverage ratio (DSCR) acceptable? A DSCR of 1.75 and above is considered satisfactory.

Once the proposal is found to be technically feasible and financially viable, banks will look into the security aspects of the loan and may insist on collateral security keeping in view the risks associated with long term finance. Loan limits are then suitably structured.

A detailed discussion on project report preparation and evaluation appears in Module 4.

## 309.4. Import Letter of Credit

To facilitate import of capital goods into India, the importer's bank may have to open an import letter of credit favouring the seller to guarantee payment to him. Even if the importer is not in need of funds and prepared to finance the import with his own capital, he may need LC facility to ensure that the supplier dispatches the goods without

insisting on advance payment.

An LC is thus a non-fund based facility extended to the importer by his bank. For import of capital goods, it is extended as a one time facility tailor made to import the specific items of capital goods and not as a running limit as in the case of import of raw material. However, such an LC limit may have to be backed by a fund based facility like term loan if the importer is in need of funds as well.

For opening LC's for import of capital goods, banks may require satisfactory credit report on the supplier. The LC will be opened for the invoice value, whether on FOB (Free on Board), C&F (Cost and Freight) or CIF (Cost, insurance and freight) basis. A 10-20 % cash margin may have to be provided to the bank for opening the LC. Besides, banks would like to satisfy themselves that funds required for honouring the LC commitment has been suitably tied up either form the importer's own resources or by availing term loan from the LC opening bank or any other bank.

### 309.4.1. Crystallisation of Import Bills

The LC opening bank is obliged to honour its commitments on receipt of credit conforming documents under sight LC and due dates under usance LC. This payment has to be made irrespective of the importer's ability or willingness to pay the opening bank. In view of this, the Reserve Bank of India has advised the banks to make payment to the beneficiary on the tenth day after the date of receipt of credit conforming documents under sight LC, unless paid earlier by the importer, and on due date for usance LC's by crystallizing the foreign currency liability into rupee liability at the ruling bill selling rate or forward contract rate, as applicable. Interest will be charged from the date of debit in NOSTRO Account at the foreign centre till the date of crystallization at normal domestic finance rate and at penal rate for the period beyond.

## 309.5. Supplier's Credit

In supplier's credit, the importer gets credit terms directly from the supplier and payment is made over a period in instalments as agreed in the terms of the contract of sale. For capital goods, such credits are extended for 5 to 10 years. The supplier, who is the exporter of capital goods, may be able to arrange finance for himself at a subsidized rate in his country and hence offer back-to-back credit terms to the Indian importer at a very competitive rate to make the deal attractive. The interest cost, inherent in such transactions will be reflected in the price. Normally, an upfront payment of 10-20% of the invoice value has to be made by the importer. Balance payment, which will include

the interest component, will have to be made in suitable quarterly or half-yearly instalments over the period of credit.

In India, supplier's credit comes under "External Commercial Borrowing" as defined by the Reserve Bank of India and is subject to regulatory stipulations, which are more fully described in Unit 11.

Supplier's credit is a foreign currency loan extended by the overseas exporter to the Indian importer. The interest rate implicit in such transactions could be less than that for a foreign currency loan taken from a financial institution. However, since Indian regulations do not permit such loans to be secured by a guarantee or a stand-by LC issued by an Indian bank, only very large and highly rated corporates are able to organize such loans.

## 309.6. Buyer's Credit

In buyer's credit, arrangements, initiated usually but not necessarily by the supplier, are made to enable a bank in the supplier's country to extend credit directly to the buyer against the dispatch made by the supplier. In this case, the supplier receives payment immediately and the buyer, the Indian importer, makes payment to the bank in supplier's country over a period, ranging from 3 to 7 years depending on the conditions set in the loan agreement.

Buyer's credit is hence a foreign currency loan received by the Indian importer from a foreign bank and is considered as an "External Commercial Borrowing" which is subject to the regulations of the Reserve Bank of India, more fully described in Unit 11.

Since buyer's credit is a normal commercial loan granted by a bank to an overseas client, the interest rate could be higher than that in the supplier's credit. Besides, other terms of the loan relating to margin, security etc. could be harsher.

## 309.7. Foreign Currency Term Loan

Besides supplier's and buyer's credit, importers can also avail foreign currency term loan from banks in India for financing import of capital goods. This loan is disbursed from the foreign currency resources that the banks in India possess arising out of their own foreign currency deposit accounts known as FCNR a/c and Exchange Earner's Foreign Currency Account (EEFC). Since these funds are already with the banks, loans against this do not come under the purview of regulations for External Commercial Borrowings. However, bank's ability to disburse loans under this category is limited to the quantum of foreign currency deposits held with them.

For sanctioning foreign currency term loans, banks will conduct "due diligence" of the company's activities and critically evaluate the project submitted by the importer in terms of its ability to generate surplus and repay the loan within a specific time frame.

Quantum of loan is normally limited to 75-80% of the invoice value of imported machinery. The repayment period is spread over 3 to 5 years. The interest rate may range from 200-300 basis points above LIBOR.

Since quantum of foreign currency resources of Indian banks is limited, such loans are hard to come-by. Banks generally prefer to give such loans to their prime borrowers whose accounts are quite remunerative for the bank.

## 309.8. Rupee Term Loan

Apart from foreign currency loans by way of supplier's credit, buyer's credit and term loan an Indian importer can also finance import of capital goods by rupee term loans from banks in India. For such loans, the landed cost of the capital goods inclusive of custom duty, insurance, freight inwards, erection and installation charges are considered.

Normally an LC is opened for import of capital goods with 20-25% cash margin. When documents are received under LC, the liability is met from the term loan a/c and margin fund.

The process for sanctioning such loans has been described in Unit 9.3 and will be further explained in detail in Module 4. The company's ability to generate surplus and repay the term loan is critically examined by evaluating the project submitted by the importer.

Unlike the ones described above, this is a rupee term loan and the interest rate is based on the base rate as well as the long term prime rate of the bank. Repayment is normally spread over 3-5 years with a moratorium of 6-9 months for a new company. Loan installments are payable in Quarterly / half-yearly intervals.

## 309.9. Choice of Loan Type – Decision Parameters

An importer has four choices in front of him for financing import of capital goods – foreign currency loans by way of supplier's credit, buyer's credit or term loan from Indian banks, or rupee term loan from banks in India.

To decide as to which loan will be most beneficial, the importer has to, among other things, look at the following factors:

**a)** Margin, that is, amount payable upfront.

**b)** Rate of Interest.

**c)** Exchange Rate.

The margin in all the four types of loan will vary from 20-25% and the importer may not have much to choose one from the other.

Rate of interest on foreign currency loans will, however, be substantially lower than that on rupee loan. At present 6 months' LIBOR for US dollar will be about 0.5% and consequently interest on foreign currency loans could be around 2.5 to 3.5% upto five year maturity and 4.5 to 5.5% for maturity beyond. Of the three types of foreign currency loans on offer, the rate for supplier's credit could be the lowest because of the supplier's need to sale his goods and availability of export assistance in his own country.

The rupee term loan rate which is based on base rate and long term prime rate will be much higher at about 10-11% for a prime-borrower.

There is thus a clear interest rate differential of 7-8% between US dollar and rupee loan for maturities upto five years, making US dollar loan more attractive. However, since interest rates for foreign currency loan is reset every 6 months based on prevailing 6 months' LIBOR rate, the interest rate may increase or decrease during the amortization period. Besides the installments of foreign currency loan has to be paid in foreign currency over a long period whose exchange rate may fluctuate. If rupee depreciates against US dollar, the loss arising out of such depreciation may offset the gain arising out of interest partially or fully depending on the rate movement.

The foreign currency borrower may decide to hedge his currency position by taking roll-over forward contract. In such contracts, the entire loan amount is covered by means of a forward contract for the initial period of, say, six months. On expiry of six months, the first half yearly installment is paid at the contracted rate and the balance amount is rolled over for another period of six months. The roll-over charges, also known as swap charges, are nothing but the six-month forward-premium of the currency against rupee which has to be paid by the borrower at the time of each roll-over. His gain in interest will thus get off-set by the roll-over charges to be paid over the entire period of loan.

The forward premium of US dollar against rupee is ruling at about 6.5 - 7%, annualised, at present. Hence if an importer decides to take a US dollar term loan for 5 years at the prevailing interest rate of about 3%, his total cost of borrowing including roll-over cost will be about 9.5 – 10%, thus saving him 1-1.5% against rupee loan taken at 10-11%.

It may thus be seen that the importer has to take the interest rate as well as the exchange rate and the cost of hedging into consideration before deciding on the type of finance to be availed. He may, of course, decide not to hedge the exposure, or opt for partial hedge in anticipation of appreciation of rupee. Should his view materialize, he may stand to gain substantially by availing a foreign currency loan. On the other hand if the depreciation of rupee is sharp it could off-set the entire interest gain and may even result in net loss.

To sum up, the importer, if he is risk averse may opt for a rupee term loan which firms up his borrowing cost and removes any uncertainty arising out of movements in interest rate, exchange rate or swap cost. A slightly more aggressive borrower may opt for a foreign currency loan, take a view on exchange rate movement and opt for partial hedge to be stepped up progressively in the event of an adverse movement in exchange rate.

## 309.10. Exercise

**a)** Describe the method of appraisal and sanction of term loan for import of capital goods.

**b)** What is supplier's credit? How does it differ from buyer's credit.

**c)** Is a foreign currency loan more beneficial than rupee term loan? Explain giving reasons.

## 309.11. Reference

**a)** Import Financing in India – By K.K. Upadhyaya.

**b)** Import Finance – By Allan. J. Siposs.

**c)** The law and Business of International Project Finance.— By Scott. L. Hoffman.

# Unit 310 ❐ Import Finance – Short Term

## Structure



## 310.1. Objective

Objective of this unit is to explain the features of different type of credit facilities available to finance imports into India. These are short term loans meant to finance import of inventory and constitute part of working capital finance.

## 310.2. Introduction

Apart from capital goods, a manufacturer may need to import raw material or consumables which are required in the process of manufacture. A trader may need to import finished goods for stocking and selling locally in the Indian market. Such importers may need credit facilities – fund based as well as non-fund based to finance its operations. Banks in India offer such facilities to importers subject to their evaluation of the technical feasibility and commercial viability of such projects.

## 310.3. Appraisal and Sanction

Short term loan for import is essentially meant for financing inventory and constitutes a component of working capital loan. A need based assessment of such a loan is based on the Tandon and Chore committees' recommendations and have been described in

detail in Units 2&3. The letter of credit limit is fixed based on the quantum of import, the stocking pattern and the credit period if any, offered by the supplier. The fund based limits, which will include the non-import component as well, are fixed based on the inventory system and availability of trade credit.

The overall assessed limit under 1st or 2nd method of lending is then suitably structured under various facilities like letters of credit, cash credit or trust receipt loan depending on the operational requirement.

## 310.4. Import Letter of Credit

For import of capital goods discussed in Unit 9.4., import LC facility is a one time limit meant to finance the import of particular item or items. Once the import is completed, LC limits are no longer required. However, LC limits for import of raw material or finished goods are revolving in nature since inventory is continuously needed for maintaining the operating cycle of the industry or trade. This ensures that once the LC liability is met by the importers either from his own resources or from a funded loan facility, the original limit is reinstated permitting further imports on an ongoing basis.

Two types of LC limits are sanctioned by banks – sight LC where no credit is offered by the supplier and usance LC where credit is extended by the supplier to the importer.

The quantum of limit under sight LC is determined by the time taken by the supplier to ship the material and dispatch the documents after receipt of LC. For example, if a supplier needs one month's time after receipt of LC to dispatch the export documents and another 15 days for the documents to be presented to and paid by the importer, the import LC limit will be equivalent to 1.5 months' import of the company.

If in the above example, the supplier offered two months' credit, the LC limit will be equivalent to 3.5 month's import.

If supplier's credit is available for import of inventory, the fund – based limit by the company is reduced to that extent. If the credit period offered is longer than the length of cash to cash cycle (see Unit 1.2), the company will not need any fund-based limits and its entire working capital requirement can be financed by trade credit backed by usance import LC. Importers, especially traders, can negotiate for suitable credit terms with the supplier thus obviating the need for any fund based facility like cash credit, trust receipt etc.

Banks normally insist on a cash margin of 20-25% for opening LC's which is similar to the margin retained for fund based financing of inventory.

Charges for opening LC consist of commitment charge which relates to the validity period of the LC and usance charge which relates to the tenor of the LC. Normally, about 0.125 % of the LC value per quarter is taken as commitment charges and 0.08% per month towards usance charge.

Unless paid earlier, import bill liability is crystallized into rupee liability on the tenth day after receipt of credit conforming documents at the opening bank's counter for sight LC's and on the due date for usance LC's. The rate applied is the ruling bill selling rate or forward contract rate as the case may be. Interest is charged from the date of debit in NOSTRO account of the LC opening bank till the date of crystallization at normal domestic finance rate and at penal rate for the period beyond.

## 310.5. Cash Credit Loan

Unlike letter of credit, cash credit is a fund based facility extended to the importer to finance imported inventory. This facility is also extended for financing inventory acquired locally. It is one of the most extensively used loan facility for financing working capital requirement of industry and trade.

When an import LC falls due for payment, an importer has to arrange for funds to meet his commitments to the bank. This is true for non-LC imports as well where at sight import bills are to be paid on demand. In case the importer does not have adequate resources, the bank extends assistance by way of cash credit loan to enable him to meet his commitments.

Cash credit loans are extended for a period of one year and is payable on demand. It is a revolving facility which can be utilized for payment of raw material – imported or indigenous and other expenses related to the business, namely, salaries and wages, power, rent, utilities and other overheads. The sale proceeds are credited to this account to bring down the liability and available limit is drawn once again to finance further purchases. This loan thus becomes a perennial source of short term funds for financing working capital requirements of a company. The drawings from the account are monitored by the financing bank through periodic stock statements submitted by the borrower and field inspection. The loan limits are renewed every year based on the company's performance evidenced by the audited financial statements of the company.

The rate of interest on cash credit loan is based on base rate and prime lending rate of the bank and keeps changing with changes in bank rate, repo rate or reverse repo rate announced by the Reserve Bank of India from time to time. At present, the cash credit interest rate may range from 12-15% depending on the risk assessments and the value of business from the client.

Banks extend cash credit facility to a borrower as a part of comprehensive credit facilities required by him which may include term loan, Letter of credit and bill discounting facilities. To avail this, all the fixed assets and current assets of the company need to be pledged / hypothecated to the bank. Besides, collateral security by way of equitable mortgage of property and pledge of marketable securities like shares, National Saving Certificates, life insurance policies etc. may be required.

## 310.6. Trust Receipt Loan

Trust receipt facility is a short term fund based loan extended to enable the importer to meet its import commitment on due date, whether under sight LC or under collection demand bills. These facilities are transaction specific unlike cash credit which is revolving in nature and are liquidated from the proceeds of sale of imported material. Such facilities are commonly extended in import trade transaction.

For example, an importer of iron scrap may want to import scrap worth Rs. 1.0 crore and brings his own capital of Rs. 25 lacs for this purpose. The bank may accept this amount as a cash margin and open an import sight LC for Rs. 1.0 crore. When the documents arrive, the bank extends a trust receipt loan of Rs. 75 lacs for a period of, say, three months and permits him to honour his commitments under LC and take possession of goods. These goods are held in trust by the importer on behalf of the financing bank. However, the importer is permitted to sale these goods and repay the trust receipt loan within the stipulated period. The same procedure is followed for an import demand bill sent on collection where no LC needs to be opened. However, for a usance LC or a usance import bill on collection, a trust receipt loan is not necessary since credit is extended by the supplier.

It may be seen that trust receipt loan is related to a particular transaction and the loan account is closed when the outstandings are liquidated, unlike in cash credit loan which is perennial and reflects all transactions of the company – import or otherwise throughout the year.

In a trust receipt loan a margin of 20-25% is retained on the value of imported goods by the financing bank. This represents the owner's contribution towards the transaction. Interest rate is similar to that in cash credit loan.

A company may be granted both cash credit and trust receipt loan for financing its working capital requirement. Cash credit account may be used for both domestic and import operations while trust receipt may be used for import transactions only.

## 310.7. Trade Credit in Foreign Currency

Trade credits refer to credit facilities extended directly to the importer by the overseas supplier or foreign banks and institutions for maturity of less than three years. Depending on the source of finance, such trade credits will include supplier's credit or buyer's credit. If the maturity of such loans exceeds three years, it will come under the purview of External Commercial Borrowings which are governed by separate guidelines.

### 310.7.1. Amount and Maturity

Banks in India can approve trade credit for import upto US $ 20 million equivalent per import transaction for import of non- capital goods with a maturity period upto one year from the date of shipment. For import of capital goods as approved by DGFT, banks will permit trade credits upto US $ 20 million per import transaction with a maturity period of more than one year but less than three years from the date of shipment. No roll over or extension of this period is permitted. The ceiling of US $ 20 million also cannot be exceeded.

### 310.7.2. All-in-cost ceiling

The all-in-cost ceiling for trade credit is 200 basis points above six month's LIBOR for the currency of credit. The all-in-cost ceiling will include, apart from interest, any upfront fee, arranger's fee, management fee, handling / processing charges, out-of-pocket and legal expenses, if any.

### 310.7.3. Guarantee

Banks in India can issue Letters of Credit / Guarantees / Letters of undertakings or Letters of comfort in favour of overseas suppliers, banks and financial institutions upto US $ 20 million per import transaction for a period upto one year for import of all non-capital goods and upto three years for import of capital goods approved by DGFT. The period of such LC's, guarantees etc. has to be co-terminus with the period of credit reckoned from the date of shipment.

### 310.7.4. Conclusion

Short term trade credits in foreign currency for imports into India can be quite cost-effective option vis-à-vis rupee loans. For example, a US $ loan has a clear advantage of 7-8% in interest over rupee loans. The likely depreciation of rupee which may off-

set this gain can be effectively managed over short- term by partially hedging through forward contracts. Please refer to Unit 9.9 for a detailed discussion in this regard.

## 310.8. Exercise

**a)** An import LC facility can be used to substitute fund based facilities for working capital – discuss.
**b)** What is a trust receipt loan? How does it differ from a cash credit loan?
**c)** Can imports be financed through short term foreign currency loans? Under what terms? Are such loans beneficial to the importer?

## 310.9. Reference

**a)** Import Financing in India – By K.K.Upadhyaya.
**b)** International Money & Finance – By P. Melvin.
**c)** RBI circular on External Commercial Borrowing & Trade Credit.

# Unit 311 ❐ External Commercial Borrowings (ECB)

## Structure



## 311.1. Objective

Objective of this unit is to familiarize the reader with the features of different schemes of External Commercial Borrowing under which corporates can borrow in foreign currency to finance their imports and other business requirements.

## 311.2. Definition

External Commercial Borrowings (ECB) refer to commercial loans in foreign currency by way of bank loans, buyers' credit, suppliers' credit, securitized instruments like floating rate notes and fixed rate bonds, non-convertible, optionally convertible or partially convertible preference shares, foreign currency convertible bonds and foreign currency exchangeable bonds availed of from non-resident lenders with a minimum average maturity of three years.

The ECB guidelines formulated by the Reserve Bank of India are applicable to all the instruments described above. However, for the purpose of understanding instruments of import finance, we shall keep our discussions focused on bank loans, suppliers' credit and buyers' credit.

It may be seen that foreign currency loans granted by banks in India from their own resources like FCNR deposits, EEFC deposits etc. do not constitute ECB and the following guidelines do not apply to such loans.

ECB's can be accessed under two routes — Automatic Route and Approval Route. Details of these schemes are given below:

## 311.3. ECB's under Automatic Route

All applications for ECB need to be routed through commercial banks in India who are category I Authorised dealers (AD). However, ECB's under automatic route do not require approval from the Reserve Bank of India or the Government of India. Banks can convey their "no objection" to the borrowers who seek loans under automatic route.

### 311.3.1. Eligible Borrowers

Corporates including those in the hotel, hospital and software sectors and infrastructure finance companies are eligible to borrow under this scheme. Banks, financial institutions, housing finance companies, non banking finance companies, individuals, trusts and non profit making organizations are not eligible to raise ECB. However, non-government organizations (NGO's) engaged in micro-finance activities and having satisfactory borrowing relationship of at least three years with AD category I banks are eligible to borrow under ECB.

### 311.3.2. Eligible Lenders

Borrowers can raise ECB from internationally recognized sources such as international banks, multilateral financial institutions like IFC, ADB etc., regional financial institutions and govt. owned development financial institutions, export credit agencies, suppliers of equipments and foreign collaborators.

### 311.3.3. Amount and Maturity

The maximum amount of ECB which can be raised by a corporate other than those in the hotel, hospital and software sector is US $ 500 million or equivalent during a financial year. For hotel, hospital and software sector, this amount is restricted to US $ 100 million or equivalent in a financial year.

Out of the above ECB's upto US $ 20 million or its equivalent in a financial year is permitted with a minimum average maturity of three years. For amounts above this and upto US $ 500 million, the stipulated minimum average maturity is five years.

### 311.3.4. All in Cost Ceilings

All-in-cost includes rate of interest, other fees and expenses in foreign currency except commitment fee, pre-payment fee and fees payable in Indian Rupees. Payment of withholding tax in India Rupees is excluded.

The all-in-cost ceiling for ECB's of average maturity between 3 and 5 years is 300 basis points above six months' LIBOR and for that beyond 5 years, it is 500 basis points above six months' LIBOR for the currency of borrowing.

### 311.3.5. End-use of ECB

ECB's can be raised for import of capital goods, investment in new projects, modernization and expansion of existing units in industrial sector, infrastructure sector and specific service sectors namely hotel, hospital and software. Besides infrastructure finance companies can also avail of ECB for on lending to infrastructure sector.

However, ECB's can not be availed for on-lending or investment in capital market, for acquiring a company, for real estate sector or for working capital, general corporate purpose and repayment of existing rupee loans.

### 311.3.6. Guarantees

Issuance of guarantee, stand by letter of credit, letter of undertaking or letter of comfort by banks, financial institutions and non-banking finance companies from India relating to ECB's is not permitted.

### 311.3.7. Security

The choice of security to be provided to the lender / supplier is left to the borrower. However, creation of charge over immovable assets or financial securities in favour of overseas lender is subject to clearance under FEMA. AD category I banks have the authority to give such clearance provided the borrower has obtained loan registration no. (LRN) from the Reserve Bank of India.

### 311.3.8. Parking of ECB proceeds

Borrowers are permitted to either keep ECB proceeds abroad or to remit these funds to India pending utilization for permissible end-uses.

ECB proceeds parked overseas can be invested with banks or in treasury bills and other monetary instruments maturing within a year.

### 311.3.9. Prepayment

Prepayment of ECB upto US $ 500 million may be allowed by banks in India without prior approval of the Reserve Bank subject to compliance with the stipulated minimum average maturity period as applicable to the loan.

### 3 11.3.10 Refinance

An existing ECB may be refinanced by raising a fresh ECB subject to the condition that the fresh ECB is raised at a lower all-in-cost and the outstanding maturity of the original ECB is maintained.

### 311.3.11. Procedure

Eligible borrowers can enter into loan agreement complying with ECB guidelines with recognized lenders for raising ECB under automatic route without prior approval of the Reserve Bank. However, the borrower has to obtain a loan registration number (LRN) from the Reserve Bank before drawing down the ECB.

The borrower can also make payment of principal, interest and other charges related to ECB through the designated AD bank from time to time without prior approval of the Reserve Bank of India.

## 311.4. ECB's Under Approval Route

Raising ECB's over and above the limit of US $ 500 million or equivalent permitted under automatic route require prior approval of the Reserve Bank of India.

### 311.4.1. Eligible Borrowers

The following types of proposals are covered under the approval route:

**a)** All cases falling outside the purview of automatic route limits and maturity periods as indicated in Unit 11.3.3.

**b)** Corporates who have violated the extant ECB policy and are under investigation by the Reserve Bank or Directorate of Enforcement are allowed to avail ECB only under the approval route irrespective of the amount.

**c)** ECB's beyond 50% of the owned funds by Infrastructure Finance Companies.

**d)** Banks and financial institutions who have participated in the approved textile or steel sector restructure package.

**e)** ECB's with minimum average maturity of five years by Non Banking Financial Companies (NBFC) to finance import of infrastructure equipment for leasing to infrastructure projects.

**d)** SEZ developers for providing infrastructure facilities within SEZ.

### 311.4.2. Eligible Lenders

Borrowers can raise ECB form internationally recognized sources such as international banks, multilateral financial institutions like IFC, ADB etc., export credit agencies, suppliers of equipment and foreign collaborators.

### 311.4.3. Amount and Maturity

Corporates can avail of ECB of an additional amount of US $ 250 million with average maturity of more than 10 years under the approval route, over and above the existing limit of US$ 500 million under the automatic route in a financial year.

### 311.4.4. All-in-cost Ceilings

All-in-cost includes rate of interest, other fees and expenses in foreign currency except commitment fee, pre-payment fee and fees payable in Indian Rupees. The payment of withholding Tax in Indian Rupees is excluded in calculating the all-in-cost.

The all-in-cost ceiling for ECB's of average maturity between three and five years is 300 basis points above six months LIBOR and for that beyond five years, it is 500 basis points above six months LIBOR for the currency of borrowing.

### 311.4.5. End - use

ECB's can be raised for import of capital goods, investment in new projects, modernization and expansion of existing units in industrial sector and infrastructure sector. ECB's can also be raised for development of integrated township as defined by Ministry of Commerce and Industry.

However, ECB's cannot be raised for on-lending or investment in capital market or acquiring a company in India except Infrastructure Finance Companies, banks & financial institutions eligible under paragraphs d & e of Unit 11.4.1.. ECB's cannot be raised for real estate, working capital, general corporate purpose and repayment of existing rupee loan.

### 311.4.6. Guarantee

Issuance of guarantees, stand by Letter of Credit, Letter of Undertaking or Letter of comfort by banks, financial institutions and NBFC's are not normally permitted. Application for issuing such instruments will have to be submitted to the Reserve Bank which may be considered on merit.

### 311.4.7. Security

The choice of security to be provided to the lender / supplier is left to the borrower. However, creation of charge over immovable assets or financial securities in favour of overseas lender is subject to clearance under FEMA. AD category I banks have the authority to give such clearance provided the borrower has obtained loan registration no. (LRN) from the Reserve Bank.

### 311.4.8 Parking of ECB Proceeds

Borrowers are permitted to either keep ECB proceeds abroad or to remit these funds to India pending utilization for permissible end-uses.

ECB proceeds parked overseas can be invested with banks or in treasury bills and other monetary instruments maturing within a year.

### 311.4.9. Prepayment

Prepayment of ECB upto US $ 500 million can be permitted by the AD bank without prior approval of the Reserve Bank subject to compliance with the stipulated minimum average maturity period as applicable to the loans. For amounts above US $ 500 million, applications will have to be sent to the Reserve Bank for their approval.

### 311.4.10. Refinance

Existing ECB may be refinanced by raising a fresh ECB subject to the condition that the fresh ECB is raised at a lower all-in-cost and the outstanding maturity of the original ECB is maintained.

### 311.4.11. Procedure

For ECB's under approval route, applications have to be sent through designated AD bank to the Foreign Exchange Department of the Reserve Bank of India, Central office, Mumbai.

Repayment of principal, interest and other charges in conformity with ECB guidelines can be made through AD banks without prior approval of the Reserve Bank.

## 311.5. Exercise

**a)** Define External Commercial Borrowing. For what purpose can it be used?
**b)** Describe the features of ECB under automatic route.
**c)** Under what circumstances ECB's are permitted for non-import transactions? Are their any restrictions?

## 311.6. Reference

**a)** Import Financing in India — By R.K. Upadhyaya.
**b)** RBI circular on external commercial borrowing and trade credit.

# Unit 312 ❐ Components of Project Report

## Structure



## 312.1. Objective

To obtain credit facilities from financial institutions, a company has to prepare a project report giving details of the venture proposed to be undertaken. The objective of this unit is to highlight the various functional areas of a commercial venture which must be detailed in a project report.

## 312.2. Introduction

To start a new business venture, a promoter needs to raise resources to finance his activities. The resources could be by way of equity and / or loan from public and financial institutions. For this purpose, the promoter needs to prepare a project report giving the details of his business for scrutiny by prospective investors and lenders. For small and medium enterprises, banks are the primary source of funds. Depending on whether the company is an existing one looking to modernize or expand his activities or a new one proposing to start an industry or business (trade), certain information needs to be presented in a systematic manner in the project report to enable the banks to take a decision to lend to the company. Given below is a list of functional areas which must be highlighted in a project report prepared by an industrial unit or a trading unit engaged in domestic business or export - import business. The list which is

illustrative and fairly exhaustive could serve as a guide for preparation of a project report.

## 312.3. History of the Company

Here a brief account of the corporate history of the unit should be given. The name of the company, its office and factory address, the date of establishment / incorporation / commencement of commercial production should be given. For an existing company a summary of its past performance in terms of major financial parameters and current status should be indicated. The shareholding pattern with a list of shareholders holding at least 5% of equity should be appended. Besides a brief description of the manufacturing facilities and products manufactured should be indicated.
The company should also disclose the names of the associate / subsidiary concerns in which the company's director / partners are interested. A brief account of their financial position, products manufactured and current status should be indicated.

## 312.4. Promoter / Management

The ability of the promoter is one of the main factors for success of a business venture. A promoter with successful track record of having run a business or with long experience in related business activity inspires confidence in investors and lenders. Effort must be made to give complete bio-data of all the partners / directors in this segment, highlighting their qualification, track record, job experience and major achievements. There are certain businesses where the success of the venture may largely depend on some key technical or managerial personnel whose association with the company is absolutely essential. Bio-data of such persons should also be appended.
If the project involves technological collaboration or support of management consultant, bio-data of such persons and the track-record of the companies with which they are associated will have to be given in this segment.

## 312.5. Production Factors

In this segment, various factors related to production should be elaborated to give the lender a clear idea about the factory level activities of the company.

### 312.5.1. Manufacturing Process

Describe briefly the manufacturing process along with product specification and enclose a process flow chart indicating movement of material from the raw material to the finished goods stage.

If there are alternative processes for manufacturing the same product, justification should be given for selecting a particular process. If the process involves import of technology supported by technical collaboration, mention must be made of its successful use in this country or elsewhere to convince the lender about its suitability.

### 312.5.2. Land and Building

If the project involves purchase of land and construction of building, reasons must be given for the choice of location and its suitability with reference to surrounding topographical features, availability of transport facilities, nearness to rail head/ port and proximity to sources of water, power, labour, raw material and market for finished goods. Furnish details regarding the extent of land required and state whether it will be adequate for present need and future expansion. If the land covers agricultural or mining areas, mention the details and enumerate the social impact on the project.

Mention whether the land is freehold or leasehold, whether the title is clear and whether there is any restriction in transferring the land or creating mortgage in favour of the lender. Land on which mortgage cannot be created will not be financed by any bank.

While estimating the cost of land, the cost of registration, cost of levelling the land and cost of erecting the fencing / compound wall should be included with cost of land.

Construction of building will include construction of main factory building, ancillary factory buildings, office building, godowns, garages, canteens, roads, sewers and drainages, silos, wells etc. Furnish a detailed list of such constructions along with estimated costs. The reasons for choosing a particular architect and his fees are also to be indicated here.

If on the other hand the company is to be housed in a rented premises, the proposed lease agreement which should be long term of say, 5 years or more, with options of renewal to the lessee should be enclosed. It may be necessary to assign the lease in favour of the bank and suitable provisions to this effect should be incorporated in the agreement.

### 312.5.3. Plant and Machinery

A list of items of plant and machinery should be furnished classified under two heads - imported and indigenous. Names of suppliers of machinery should be given along with quotations wherever possible. A plant lay-out should be provided indicating the locations where the machines are proposed to be installed. Wherever possible, competitive quotations should be obtained from several suppliers.

While evaluating the quotations, the supply terms should be carefully assessed - for example, whether supplier's credit or buyer's credit is being offered and on what terms. If installation is to be on turn-key basis, the suppliers reputation should be verified. Arrangements should be finalized with the supplier for training of machine operators, if need be.

Price of machinery should be indicated on "landed cost" basis. For imported items, CIF price along with import duty, clearing and forwarding charges and erection and installation charges should be taken into account. For indigenous items, provision must be made for transit insurance, freight, local taxes and erection and installation charges. The total cost estimates should also include a provision for a reasonable quantum of machinery spares / stores and essential tools.

A model table for list of plant and machinery is given below:

**List of Plant & Machinery**

| Type of Machinery | Name of Machinery | Name of Supplier | Acquisition / Delivery date | Invoice Price | | Freight / duty etc. | Total Cost |
|---|---|---|---|---|---|---|---|
| | | | | Foreign Currency | Rupee | | |
| **1. Existing** | | | | | | | |
| a) Indigenous | | | | | | | |
| b) Imported | | | | | | | |
| | | | | | | | |
| **2. Proposed** | | | | | | | |
| a) Indigenous | | | | | | | |
| b) Imported | | | | | | | |

## 312.5.4. Raw Material

A list of major items of raw materials should be provided here — both imported and indigenous. For imported items, licensing requirement, if any, should be indicated along with measures taken to obtain the same. A list of suppliers should be provided for both imported and indigenous items. The arrangements made for regular supply including prices may be mentioned here. The terms of supply need to be specified, showing the availability of credit, requirement of Letters of Credit etc.

The demand-supply position of critical raw material items along with their price trend may also be mentioned. For items in short supply, indicate the arrangements made to ensure regular supply.

### 312.5.5. Utilities

In this segment, requirements of power, fuel, water etc. are to be specified indicating their source of supply. For maximum demand of power under full capacity utilization, whether contracted load is adequate must be examined. Provisions for stand by power (generators) should be made. For water, requirement of reservoirs, tanks and boilers may be indicated. Arrangements made for effluent treatment and disposal are to be specified. Requirement of pollution control device, to be installed in conformity with the guidance of the pollution control board, is to be mentioned. In case fuels like coal or oil are critical consumables in the industry, arrangements made for their uninterrupted supply and storage need to be specified.

### 312.5.6. Man-power

In this segment, total requirement of man power including managerial, technical and labour — skilled and unskilled is to be indicated showing the number of persons required under each category. Prepare an organizational chart showing the line of authority in the organization. Comment on availability of man-power, especially in technical and skilled labour category, their cost and seasonality of requirement if any. In case contract labour is to be employed, the names of the contractors and terms of arrangement may be specified.

### 312.5.7. Project Implementation Schedule

Prepare a project implementation schedule with reference to bar chart or PERT / CPM chart, if proposed to be used. Furnish details of the main stages in project implementation and mention the time schedule for construction of buildings, erection / installation of plant and machinery, trial runs and commencement of commercial production.

A table indicating the project implementation schedule as given below may be annexed with the project report.

| Project Implementation Schedule | | |
|---|---|---|
| | **Date of commencement / placement of order** | **Expected date of completion / installation** |
| **a) Acquisition of land** | | |
| **b) Development of land** | | |
| **c) Civil works for** | | |
| **1)** Factory building | | |
| **2)** Machinery foundation | | |
| **3)** Administrative building | | |
| **4)** Warehouse | | |
| **d) Plant & Machinery** | | |
| **1)** Indigenous | | |
| **2)** Imported | | |
| **e) Installation of machinery** | | |
| **f) Installation of utilities (Power / water)** | | |
| **g) Furnishing of office** | | |
| **h) Commissioning of plant** | | |
| **i) Trial run** | | |
| **j) Commercial production** | | |

## 312.6. Marketing

This is one of the most crucial aspects of any project since the basic viability of the project depends on the marketability of its products. The company needs to convince the lender about its ability to reach the targeted sales levels for the entire period of loan amortization. It is hence necessary to present this aspect of the project in greater depth.

To begin with, the demand-supply data for the domestic market should be ascertained and furnished. In case the company proposes to export, the export market should be identified geographically and existence of demand for the product should be established. Major competitors should be identified and their share of the market ascertained. In

case a market survey has been conducted either through a professional agency or with their own effort, a copy of such report should be appended.

After surveying the entire market, attention should be focussed on target market. If niche marketing is warranted, identification of such a market and demand for the product should be indicated. It is also necessary to list out the competitive advantage of the company over other manufacturers — domestic or global.

After identifying the market, a list of proposed buyers should be furnished. Any communication with the buyer relating to product enquiry, sample order, firm order or letter of credit should be appended to the report. In case any buy-back arrangement is established with a foreign or domestic collaborator, copy of such agreement should be furnished. The underlying assumptions made while preparing the sales projections which may relate to volume / price / amount should be listed out.

The pricing policy of the company should be mentioned in this segment. Whether the pricing will be based on total cost or marginal cost should be indicated. Competitive advantage in price over others, if any, should be mentioned.

Mention must be made of the distribution channels the company proposes to use to market its products. Whether the company will use its own marketing set-up or appoint outside distributors and selling agents should be mentioned. For exports, whether the company will sell directly to the overseas buyer or through international marketing agents should be indicated. Terms and conditions of the arrangements entered into with agents must be furnished.

It should be the endeavour of the company to make this segment as informative and as compellingly persuasive as possible. Subject to compliance with financial and security norms, this segment will determine whether the lenders will decide to support the project.

## 312.7. Financial Aspect

Financial viability of a project is extremely important from the promoter's as well as lender's point of view. Although a company may be able to manufacture and sell its products, the profit margin must be adequate to give an acceptable return on equity after accounting for risk premium. The lender must ensure that the project generates sufficient surplus to repay the long term loan within the stipulated repayment period and service the working capital loans.

Detailed financial projections have to be made to ascertain the project cost, the quantum of term loan and its repayment period and to assess the working capital requirement of the company at various stages of production. Such projections have to

be subjected to stress test to validate their ability to absorb adverse changes in crucial parameters and still retain viability. The basis for such projections and the formats in which the projections have to be made have been given in detail in Unit 13.

## 312.8. SWOT Analysis

While concluding the project report, a SWOT analysis of the project has to be made by assessing the strengths and weaknesses of the company and identifying the opportunities and threats faced by the company. Strengths and weaknesses are internal to the company and opportunities and threats are external to the company. Some of the possible SWOT elements are listed below:

**a) Strength**

**1)** The company management has wide experience of successful execution of projects.
**2)** The company has well established brand image.
**3)** The company has its own offices / warehouses abroad.

**b) Weakness**

**1)** The company's margin of profit is low.
**2)** The company's labour productivity is low.
**3)** The company has a poor quality control mechanism.

**c) Opportunity**

**1)** Company's products are cheaper compared to its competitors.
**2)** The company's products have additional features not matched by its competitors.
**3)** Company is located close to its raw material source.

**d) Threat**

**1)** Entry of big players in the market.
imports.
**3)** High cost of inputs due to inflation, making prices uncompetitive compared to foreign suppliers.

Evaluation of a project through SWOT analysis permits a company to take an objective look at the venture and take necessary rectificatory measures to guard against probable weaknesses and threats.

## 312.9. Check-list of Enclosures

Given below is a list of documents that have to be appended to a project report for presentation to a financial institution to enable them to take a comprehensive view of the project for extending credit support without further references causing delays and time overrun of the project. The list is fairly exhaustive. But in a specific case, further documents may have to be enclosed depending on its typicality. On the other hand, not all the documents mentioned below may be relevant for a particular project. For example, a new company cannot submit an audited financial statement for previous year's performance and hence can ignore the same. Companies may refer to the list below and pick-up only those documents relevant to his project and ensure that the same are annexed to the project report.

**List of documents**

**a)** Memorandum and article of association, certificate of incorporation and commencement of business, partnership deed.

**b)** Bio-data of proprietor / partners / directors / key technical and managerial personnel.

**c)** Copy of Trade License / Industrial License / Export - Import code (IEC Code).

**d)** Approval from SEBI / Stock Exchanges / Pollution Control Board.

**e)** Technical collaboration agreement / Technical feasibility report / market survey report.

**f)** Copy of organization chart / Flow process chart / Factory lay-out plan.

**g)** Copy of order / LC received from buyer. Copy of buy-back agreement.

**h)** Foreign currency borrowing approval from RBI.

**i)** Approval for building plan / power / water by authorities.

**j)** Copy of lease / rent / sale agreement and building plan.

**k)** Quotations from machinery / raw material supplier.

**l)** Copy of supplier's credit agreement / buyer's credit agreement.

**m)** Latest tax assessment / clearance of the company and its promoters.

**n)** Last three years' audited financial statements of the company, its associates and subsidiaries.

## 312.10. Exercise

**a)** Why is it necessary to prepare a project report? What are its various elements?
**b)** List out the production factors which are critical for a steel industry. Give reasons for your choice
**c)** What is SWOT analysis? What is its relevance? Do a SWOT analysis of yourself listing at least two attributes in each category.

## 312.11. Reference

**a)** How to write a business plan — By Mike Mckeever.
**b)** Business plans that Work — By Jeffry. A. Timmons.

# Unit 313 ❐ Financial Aspects of a Project

## Structure



## 313.1. Objective

Objective of this unit is to establish the economic viability of the project and assess the requirement of term loan and working capital loan to sustain projected levels of production and sale.

## 313.2. Introduction

Economic viability of a project depends on its ability to achieve anticipated levels of production and sales and generate sufficient surplus to service its long term debt within a stipulated period, generally ranging from 5 to 7 years. To establish this, capital cost of the project needs to be evaluated and means of finance tied up through a mixture of equity and debt. Thereafter, profitability of the venture needs to be projected over the entire amortization period of long term debt to indicate its ability to repay the loan installments and interest within the stipulated period. Simultaneously working capital requirement of the company needs to be assessed for the first two years to enable the lender to take a view. These projections are subjected to a stress test through sensitivity analysis to establish the company's ability to withstand adverse fluctuations in critical production / sales parameters. A break-even analysis confirms at what stage of execution

of project the company starts making profit, enabling the lender to assess the risks involved in financing the project.

## 313.3. Cost of Project and means of Finance

Accurate estimation of the total cost of the project is an important facet of any project. Any underestimation may lead to subsequent cost overrun causing difficulty in raising additional resources. Any overestimation, on the other hand, may cause the debt to go up making the project unviable.
The following items are to be included in arriving at the capital cost of the project:

### 313.3.1. Land & Building

The costs to be included will be cost of land, cost of registration, cost of leveling and cost of building compound wall. Cost of building should include main and ancillary factory, warehouse, canteen, guest house, staff accommodation, garage, sewerage, drainage, roads, silos, tanks, wells and architect's fees. Cost estimates should be supported by proper documentation.

### 313.3.2. Plant & Machinery

Cost estimates should include all items under this head — imported and indigenous. Imported items should be valued at landed cost which will include CIF price, import duty, clearing charges, erection and installation charges. For indigenous items, estimates should include cost price, transit insurance, freight, local taxes, erection and installation charges. Cost estimates should also include machinery spares, stores and additional tools. All estimates should be supported by competitive quotations from suppliers.

### 313.3.3. Technical Know-how & Consultancy Fees

Costs under this head will include fees payable in terms of the contract and any additional related expenses involving foreign technicians coming to India or Indian technicians being trained abroad for transfer of technical know-how. Cost estimates should be validated by the terms of the contract.

### 313.3.4. Miscellaneous Fixed Assets

These will include boilers, generators, electrical installations, laboratory equipments, workshop equipments, fire-fighting equipments, fixtures and fittings, office furniture and equipments, effluent disposal plant, vehicles etc. The cost estimates, wherever possible, should be supported by quotations.

### 313.3.5. Preliminary & Pre-operative Expenses

Preliminary expenses will include expenses on flotation of the company such as cost of printing memorandum and article of association, registering partnership deed, legal fees, travel expenses, cost of preparing project report, feasibility report , cost of market survey etc. It will also include capital issue expenses such as brokerage, underwriting commission, arranger's fees, legal, advertising and printing costs.

Pre operative expenses are those incurred during the period between incorporation of the company and commencement of commercial production. These will include establishment expenses, rent, rates & taxes, interest and other financial charges and miscellaneous expenses involving insurance, stationary, traveling, publicity etc.

### 313.3.6. Contingencies

The provision is to take care of the following contingencies:

**a)** Escalation in the cost of the items because of increase in prices, import duty, other taxes, fluctuations in foreign exchange rates.

**b)** Unforeseen expenses cropping up during the execution of the project

The cushion built into the cost of project by way of contingencies should range from 5-15% of the non-firm cost items.

### 313.3.7. Working Capital Margin

Working capital margin represents that portion of working capital which is funded from long term sources and needs to be built into the capital cost of the project. The requirement should be assessed at the peak level in the first year after commencement of commercial production. Additional requirement in subsequent years can be financed from internal generation.

While computing the margin, it should be ensured that Tandon-Chore committee norms under appropriate method of lending have been adhered to.

### 313.3.8. Means of Finance

Once the cost of the project has been firmed up, means of financing the cost has to be projected. This will have two components — equity and long term debt. Equity consists of share capital from promoter as well as public, internal cash accruals and govt. subsidy, if any, as notified from time to time. Debt will include debentures, term loans, deferred payment facilities like supplier's credit, buyer's credit etc. backed by deferred payment guarantees, long term unsecured loans and developmental loans from the government. The total means should be equal to the capital cost of the project, as arrived at earlier.

One of the crucial aspects of any project is to find out the ideal mix of equity and debt. A very high debt component in relation to equity will reduce the safety margin of the lenders and affect the debt servicing ability of the company. On the other hand a too low debt level compared to equity will be welcome to the lenders but cause severe strain on the promoter's ability to raise such huge resources.

Generally, a long - term debt to equity ratio upto 2 and a total debt to equity ratio upto 2.5 are acceptable to banks. A higher debt equity ratio may be considered for highly capital intensive industries.

A model table showing the cost of project and means of finance is given in Annexure - I.

## 313.4. Profitability Projection

Projection of profitability is nothing but projection of the profit & loss account of the company for the entire period of amortization of loan. For example, if a term loan is sought which will be repaid in five years, profitability also should be projected for five years to indicate whether the company generates adequate cash surplus to service its long term debts.

The process consists in projecting the revenue from sales and other income over future years and estimate the consequent cost of production, which will include cost of raw material, labour, power, rent, other manufacturing and selling expenses, interests on term loans and working capital loans and depreciation. The profit generated should be adjusted for income tax and the net profit should be added back to the depreciation to arrive at the cash surplus generated from which term loan should be repaid.

Obviously, projected generation of cash surplus should be higher than the term loan installments payable every year. To ensure adequate cushion, banks insist that the debt-service-coverage ratio (see Unit 4.2.6.) should be above 1.75.

The format in which the profitability projection should be made was recommended by Tandon - Chore committee and was accepted by all banks. For existing companies seeking additional term loan, previous two year's audited profit & loss account should be shown alongside, arranged in the recommended format.

A model format for profitability projection is given in annexure-II.

## 313.5. Assessment of Working Capital

Working capital requirement of the company should be assessed at the peak level during the first year of operation after commencement of commercial production. The

process involves assessing the build-up of current assets comprising of inventory, receivables and other current assets. Simultaneously level of current liabilities including trade creditors is estimated. The difference between the two, known as working capital gap, is then financed partly from equity and partly from banks by applying Tandon - Chore norms. The process of assessing working capital requirement and computing permissible level of bank finance has been described in detail in Units 2 & 3.

While assessing working capital needs, assumptions made for arriving at the level of inventory, receivables, trade creditors etc. should be clearly stated along with justification. Based on needs under each segment, loan limits should be suitably structured and bank's approval sought for the same.

The process of assessment consists in drawing up the balance sheet of the company for the current year's estimates and next year's projections in a format recommended by Tandon - Chore committee and adopted by all banks. For existing companies, last two years' audited balance sheet should be shown alongside. To facilitate year-to-year comparison, raw materials are expressed in terms of "so many months' consumption", stocks-in-process as "so many months' cost of production" finished goods as "so many months' cost of sales", receivables as "so many months' sales" and trade creditors as "so many months' purchase".

Model formats for analysis of balance sheet and computation of permissible bank finance are shown in Annexure III & IV.

## 313.6. Funds Flow Statement

Funds flow analysis is a technique of financial analysis designed to assist in analysing the pattern of resources deployment in a business over a period of time. Liabilities are considered sources of funds and assets represent deployment of funds. By taking the difference of assets and liabilities under their relative heads for two consecutive year's balance sheet of a company, it is possible to find out from where the funds have come during the intervening period and how they have been put to use. For this purpose, the liabilities and assets are divided into two groups — long term and short term. An ideal funds flow will indicate a surplus of long term sources over long term uses, the difference being a source for short term deployment. Any deviation will indicate short term sources funding long term uses, example being cash credit loan being used to finance purchase of land and building. This will severely constrain the company's liquidity and may force him to default in its long term debt obligations.

A model format of funds flow analysis identifying the long term and short term sources and uses is given in Annexure - V.

## 313.7. Break - even Analysis

Break-even sales level is the level of sales at which the revenue earned just covers the total cost and the company is poised to make profit. It is thus the "no-profit - no-loss" sales level of the company.

It is necessary for both the company as well as the lenders to know the break-even sales level to enable them to realize at what stage of the project in terms of time factor as well as capacity utilization, a company will start earning profit. For example, if in a project, the break-even occurs three years after commencement of commercial production or at 90% utilization of installed capacity, banks may be unwilling to lend or even the promoters may abandon the project.

Fro break-even calculation costs are divided into two groups — variable cost and fixed cost. Variable costs are those which vary directly in proportion to production — examples being raw materials, consumables, packing materials etc. Fixed costs are those which do not vary directly in proportion to production, examples being rent, depreciation, salaries, interest and other overheads. Some of the items may be semi-fixed like power & fuel, factory wages etc., whose variable component should be segregated and shown under variable cost.

Break-even sales level is defined as

$$\frac{\text{Fixed Cost}}{\text{Sales - Variable Cost}} \text{ X Sales}$$

(Sales - Variable Cost) is known as contribution because the positive surplus contributes towards meeting the fixed cost.

For example if a company's sales level is Rs. 1, 00,000, fixed cost is Rs. 50,000 and variable cost is Rs. 20,000, the break-even sales level will be

$$\frac{50{,}000}{1{,}00{,}000 - 20{,}000} \text{ X } 1{,}00{,}000 = \text{Rs. } 62{,}500.$$

Break-even point in terms of no. of units sold is given by

$$\frac{\text{Fixed Cost}}{\text{Contribution / Unit}}$$

In the above example, if each unit was priced at Rs. 2/-, the break even point will be

$$\frac{50{,}000}{2 - 0.40} = 31{,}250 \text{ units.}$$

Break-even point in terms of capacity utilization is given by

$$\frac{\text{Fixed Cost}}{\text{Contribution}} \times \frac{\text{Current Sales}}{\text{Sales at 100\% Capacity Utilization}} \times 100$$

In the above example, if sales at 100% capacity utilization is Rs. 2,00,000, the break-even point in terms of capacity utilization will be

$$\frac{50{,}000}{80{,}000} \times \frac{1{,}00{,}000}{2{,}00{,}000} \times 100 = 31.25\%$$

The company should calculate the break-even level in terms of sales & capacity utilization and indicate in which month after commencement of commercial production, the level will be reached.

## 313.8. Sensitivity Analysis

Any business plan is essentially a forecast of future happenings based on certain assumptions. If the anticipated levels are achieved or exceeded favourably, the business does not face any problem. However, if the targets are not achieved, the economic viability of the project may be jeopardized. The purpose of sensitivity analysis is to study the cushion available in the profitability of a project to withstand shortfalls in the expected result owing to uncertainties.

The uncertainties could have a threefold impact on the profitability by way of changes in the cost of production, volume of production or selling price. The sensitivity analysis will measure the span of resiliency of a project by testing the sensitivity of its profitability to a range of changes in cost, volume and price.

If a project cannot sustain 3-5% increase in the cost of raw material or a 3-5% decrease in sales volume or sales price, the project's span of resiliency will be narrow and even minor uncertainties can throw the project out of gear. Project's ability to withstand adverse changes beyond 5% is considered acceptable by lenders.

The process involves reworking profitability projections by increasing the raw material price by, say 5% and 10% or decreasing the sales volume or sales price by 5% and 10%. For a project to be viable, the cash generation after such changes should be adequate to meet the long term debt obligations.

A model format of sensitivity analysis is given in Annexure - VI.

## Annexure - I
## Cost of Project & Means of Finance

**A) Cost of Project**

| | Particulars | Total Cost | Already Incurred | To be incurred |
|---|---|---|---|---|
| a) | Land | | | |
| b) | Building | | | |
| c) | Plant & Machinery | | | |
| d) | Technical know-how & consultancy fees | | | |
| e) | Miscellaneous fixed assets | | | |
| f) | Preliminary & pre-operative expenses. | | | |
| g) | Contingencies | | | |
| | **Capital cost of the project** | | | |
| h) | Working capital margin | | | |
| | **Total cost of the project** | | | |

**B) Means of Finance**

| | Particulars | Total amount | Amount raised | Amount to be raised |
|---|---|---|---|---|
| a) | Share capital | | | |
| b) | Internal cash accrual | | | |
| c) | Govt. subsidy | | | |
| | **Debt Component** | | | |
| d) | Debentures | | | |
| e) | Term loan | | | |
| f) | Deferred payment facilities | | | |
| g) | Unsecured loans | | | |
| h) | Development loans from Govt. | | | |
| | **Total means of finance** | | | |

**Annexure - II**

| Profitability Projection | | | | |
|---|---|---|---|---|
| | **Last 2 years' actuals (as per audited accounts)** | | **First years' estimates** | **Following years' proj. etc.** |
| | **(1)** | **(2)** | **(3)** | **(4)** |
| 1. Gross Sales | | | | |
| (a) Domestic sales | | | | |
| (b) Export sales | | | | |
| **Total** | | | | |
| 2. Less Excise duty | | | | |
| 3. Net Sales (1-2) | | | | |
| 4. % rise (+) or fall (-) in net sales as compared to previous year | | | | |
| 5. Cost of sales | | | | |
| (a) Raw materials (incldg. Stores and other items used in the process of manufacture) | | | | |
| I. Imported. | | | | |
| II. Indigenous. | | | | |
| (b) Other spares | | | | |
| I. Imported. | | | | |
| II. Indigenous. | | | | |
| (c) Power & Fuel | | | | |
| (d) Direct labour (Factory wages & salaries) | | | | |
| (e) Other mfg. Expenses | | | | |
| (f) Depreciation | | | | |
| **(g) Sub - Total ( a to f )** | | | | |
| (h) Add : opening stocks-in-process | | | | |
| **Sub - Total** | | | | |
| (I) Deduct : Closing stocks-in-process | | | | |
| (j) **Cost of production** | | | | |
| (k) Add : Opening stock of finished goods | | | | |
| **Sub - Total** | | | | |
| (l) Deduct: closing stock of finished goods | | | | |
| (m) **Cost of sales** | | | | |
| 6) selling, general & administrative expenses | | | | |
| 7) Sub - Total ( 5 + 6 ) | | | | |
| 8) Operating profit before interest (3 - 7) | | | | |
| 9) Interest | | | | |
| 10) Operating profit after interest (8 - 9) | | | | |

**Annexure - II**

| | Last 2 years' actuals (as per audited accounts) | | First years' estimates | Following years' proj. etc. |
|---|---|---|---|---|
| | **(1)** | **(2)** | **(3)** | **(4)** |
| 11) (I) Add other non-operating income | | | | |
| (a) Duty Draw Back. | | | | |
| (b) Interest. | | | | |
| **(c) Sub - Total ( income )** | | | | |
| (II) Deduct other non-operating Expenses | | | | |
| (a) | | | | |
| (b) | | | | |
| **Sub - Total (expenses)** | | | | |
| (III) Net non-operating Income/Expenses [Net of 11 (I) & 11 (II)] | | | | |
| 12) Profit before tax/loss 10+11 (III) | | | | |
| 13) Provisions for taxes | | | | |
| 14) Net profit / loss ( 12 - 13 ) | | | | |
| 15) Equity dividend paid (Drawings) | | | | |
| 16) Retained profit ( 14 - 15 ) | | | | |
| 17) Retained profit/Net profit (%) | | | | |
| 18) Term Loan Repayment | | | | |
| 19) DSCR (Gross) | | | | |
| 20) DSCR (Net) | | | | |

**Annexure - III**

| **Analysis of Balance Sheet** | **Last 2 years' actuals (as per audited accounts)** | | **First years' estimates** | **Following years' proj. etc.** |
|---|---|---|---|---|
| | **(1)** | **(2)** | **(3)** | **(4)** |
| **Current Liabilities** | | | | |
| 1. Short term borrowings from banks (incl. Bills purchased, discounted & excess Borrowings placed on repayment basis) | | | | |
| (i) From application bank | | | | |
| (ii) From other banks | | | | |
| (iii) (of which BP & BD) | | | | |
| **Sub - Total (A)** | | | | |
| 2. Short term borrowings from others | | | | |
| 3. Sundry creditors (trade) | | | | |
| 4. Advance payments from customers/ deposits from dealers | | | | |
| 5. Provisions for taxation | | | | |
| 6. Dividend payable | | | | |
| 7. Other statutory liabilities | | | | |
| 8. Deposits/Installments of term loans/DPGs/ Debentures etc.(due within one year) | | | | |
| 9. Other current liabilities & provisions (due within one year) (specify major items) | | | | |
| **Sub - Total (B)** | | | | |
| 10. Total Current Liabilities (Total of 1 to 9) | | | | |

| Analysis of Balance Sheet | Last 2 years' actuals (as per audited accounts) | | First years' estimates | Following years' proj. etc. |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| 11. Debentures (not maturing within one year) | | | | |
| 12. Preference Shares (redeemable after one year) | | | | |
| 13. Term Loans (excluding installments payable within one year) | | | | |
| 14. Deferred payment Credits (excl. installment due within one year) | | | | |
| 15. Term Deposits (repayable after one year) | | | | |
| 16. Other term liabilities | | | | |
| 17. Total Term Liabilities (total of 11 to 16) | | | | |
| 18. Total Outside Liabilities | | | | |
| **Net Worth** | | | | |
| 19. Ordinary share capital | | | | |
| 20. General reserve | | | | |
| 21. Revaluation reserve | | | | |
| 22. Other reserves (excl. provisions) | | | | |
| **Annexure - III** | | | | |
| 23. Surplus (+) or deficit (-) in profit & loss account | | | | |
| 24. Net Worth | | | | |
| 25. Total Liabilities (18 + 24) | | | | |
| **Current Assets:** | | | | |
| 26. Cash & bank balances | | | | |
| 27. Investments (other than long term investments) | | | | |
| (I) Govt. & other trustee securities | | | | |
| (II) Fixed deposits with banks | | | | |

| Analysis of Balance Sheet | Last 2 years' actuals (as per audited accounts) | | First years' estimates | Following years' proj. etc. |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| 28. (I) Receivables other than deferred and exports (including bills purchased and discounted by banks) (II) Export receivables (including bills purchased/ discounted by banks) | | | | |
| 29. Installments of deferred receivables (due within one year) | | | | |
| 30. Inventory: (I) Raw materials (including stores & others items used in the process of manufacture) (a) Imported (b) Indigenous (II) Stock-in-process (III) Finished goods (IV) Other consumable spares (a) Imported (b) Indigenous | | | | |
| 31 Advances to suppliers of raw materials and stores/spares | | | | |
| 32. Advance payments of taxes | | | | |
| 33. Other current assets (specify major items) | | | | |
| 34. Total Current Assets (total of 26 to 33) | | | | |
| **Fixed Assets:** | | | | |
| 35. gross block ( land & building, machinery, work-in-process) | | | | |
| 36. Depreciation to date | | | | |
| 37. Net Block (35-36) | | | | |

| Analysis of Balance Sheet | Last 2 years' actuals (as per audited accounts) | | First years' estimates | Following years' proj. etc. |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| **Other Non-current Assets** | | | | |
| 38. Investments/book debts/advance/deposits (which are not current assets) | | | | |
| (i) (a) Investments in subsidiary companies/ affiliates | | | | |
| (b) Others | | | | |
| (ii) Advances to suppliers of capital goods & contractors | | | | |
| (iii) Deferred receivables (maturity exceeding one year) | | | | |
| (iv) Others | | | | |
| 39. Non- consumable stores & spares | | | | |
| 40. Other non-current assets including dues from directors | | | | |
| 41. Total other Non-current assets (total of 38 to 40) | | | | |
| 42. Intangible assets (patents, good-will, prelim, expenses, bad/doubtful debts not provided for etc.) | | | | |
| 43. Total Assets (total of 34,37,41&42) | | | | |
| 44. Tangible Net Worth (24-42) | | | | |
| 45. Net Working Capital (17+24)-(37+41+42) to tally with (34-10) | | | | |
| 46. Current ratio (items 34/10) | | | | |
| 47. Total outside Liabilities/Tangible net worth (18/44). | | | | |
| **Additional Information** | | | | |
| a) Arrears of depreciation | | | | |
| b) Contingent liabilities | | | | |
| (i) Arrears of cumulative dividends | | | | |
| (ii) gratuity liability not provided for | | | | |
| (iii) Disputed excise/customs/tax liabilities | | | | |
| (iv) Other liabilities not provided for | | | | |

| Computation of Permissible Bank Finance<br>**Annexure - IV** | **Last Year's Actuals (1)** | **Curr. Year's Estimates (2)** | **Following Year's prof. (30** | **Peak Requirement as on (4)** |
|---|---|---|---|---|
| **Current Assets** | | | | |
| 1. Raw material: (incl. stores & other items used in the process of manufacture)<br>a) Imported (Month's consumption)<br>b) Indigenous (month's consumption) | | | | |
| 2. Other consumable spares excluding those included in above.<br>a) Imported (month's consumption)<br>b) Indigenous (month's consumption) | | | | |
| 3. Stock-in-process (month's cost of production) | | | | |
| 4. Finished goods (month's cost of sales) | | | | |
| 5. Receivables (incl. bills purchased & discounted by bankers) (month's domestic sales) | | | | |
| 6. Export receivable (incl. bill purchase & discounting) (month's export sales) | | | | |
| 7. Advances to suppliers of raw materials & stores/spares, consumable | | | | |
| 8. Other current assets incl. cash & deferred receivables due within one year (specify major items) | | | | |
| **9. Total Current Assets** | | | | |
| **Current Liabilities**<br>(other than bank borrowings for working capital) | | | | |
| 10. Creditors for purchase of raw materials, stores & consumables spares (month's purchase) | | | | |
| 11. Advance from customers | | | | |
| 12. Statutory liabilities. | | | | |
| 13. Other current liabilities (specify major items) short term borrowings, unsecured loans, dividend payable, installments of TL, DPG, public deposits, debentures, etc. | | | | |
| **14. Total current liabilities other than bank borrowing.** | | | | |
| 15. Working capital Gap (9-14) | | | | |
| 16. Net working capital (item 45 of Annex. III) | | | | |
| 17. Assessed bank finance (15-16) | | | | |
| 18. NWC/TCA (%) | | | | |
| 19. Sundry creditors to TCA (%) | | | | |
| 20. Other CL to TCA (%) | | | | |
| 21. Inventory to Net Sales (days) | | | | |
| 22. Receivables to gross sales (days) | | | | |
| 23. Sundry creditors to purchases (days) | | | | |

**Annexure - V**

| Funds Flow Statement | | | |
|---|---|---|---|
| | **Last 2 years' actuals** | **Curr. year's estimates** | **Following years' proj.** |
| | **(1)** | **(2)** | **(3)** |
| **1. Sources** | | | |
| a) Net profit (after tax) | | | |
| b) Depreciation | | | |
| c) Increase in capital | | | |
| e) Decrease in | | | |
| i) Fixed Assets | | | |
| ii) Other non-current assets | | | |
| f) Others | | | |
| **g) Total** | | | |
| **2. Uses** | | | |
| a) Net loss | | | |
| b) Decrease in Term liabilities (incl. public deposits) | | | |
| c) Increase in: | | | |
| i) Fixed Assets | | | |
| ii) Other non-current assets | | | |
| d) Dividend payments/drawings | | | |
| e) Others | | | |
| **f) Total** | | | |
| 3. Long term surplus (+)/deficit (-) (1g - 2f) | | | |
| 4. Increase/decrease in current assets (as per details given below) | | | |
| 5. Increase/decrease in current liabilities other than bank borrowings | | | |
| 6. Increase/decrease in WCG | | | |
| 7. Net surplus (+)/deficit (-) (Difference of 3 & 6) | | | |
| 8. Increase/decrease in bank borrowings | | | |
| 9. i) Increase/decrease in raw materials | | | |
| ii) Increase/decrease in stock-in-process | | | |
| iii) Increase/decrease in finished goods | | | |
| iv) Increase/decrease in receivables | | | |
| a) Domestic | | | |
| b) Export | | | |
| v) Increase/decrease in stores & spares | | | |
| vi) Increase/decrease in other current assets | | | |

**Annexure - VI**

| | Sensitivity Analysis | | | | | |
|---|---|---|---|---|---|---|
| | Decrease in sales volume | | Decrease in sales price | | Increase in raw materials cost | |
| | 5% | 10% | 5% | 10% | 5% | 10% |
| 1. Sales | | | | | | |
| a) Volume | | | | | | |
| b) Value | | | | | | |
| 2. Raw material cost | | | | | | |
| 3. Other variable cost | | | | | | |
| 4. All other expenses | | | | | | |
| (Assumed to remain constant) | | | | | | |
| 5. Profit before tax | | | | | | |
| 6. Tax | | | | | | |
| 7. Net profit after tax. | | | | | | |
| 8. Dividend/drawing | | | | | | |
| 9. Retained profit | | | | | | |
| 10. Retained cash accrual | | | | | | |
| 11. Term loan repayment | | | | | | |
| 12. DSCR (Gross) | | | | | | |
| 13. DSCR (Net) | | | | | | |



## 313.9. Exercise

**a)** How is the cost of a project estimated? What is the ideal mix of debt and equity for financing a project?

**b)** Describe the methodology of funds flow analysis. What is its utility?

**c)** Financial viability of a project depends on its ability to withstand adverse fluctuation of critical factors — Discuss.

## 313.10. Reference

**a)** Working Capital Management & Control — By Satish. B. Mathur.

**b)** How to Write a Business Plan — By Mike Mckeever.

# Unit 314 ❐ Factors determining exchange rate

## Structure



## 314.1 Objectives

Cross-border trade and matters related to foreign exchange are like two sides of the same coin. One cannot be separated from the other. The movement of exchange rates has a strong bearing on international trade, affecting everyone involved in this business. Exchange rates have a direct bearing on the profitability of every export and import business. Exchange rate risks, which are integral parts of every international trade, must also be managed effectively. Hence, a proper understanding of the basics of exchange rate mechanism is necessary for every exporter and importer.

The following sections introduce the reader to the world of exchange rates and some key concepts.

## 314.2 Introduction

Within its own borders the currency of a country is its legal tender and the approved medium of exchange. The same holds true for other currencies of their respective countries worldwide. Cross-border transactions make it necessary for the purchaser of goods and services to tender his own legal currency to the other party (which is easily and readily available to him) or acquire the currency of the exporter's country for payment to him. The same applies to the overseas seller. An authorised intermediary converts one currency into the other. The process of conversion and exchange of currencies spans almost all the countries in the world, and is (almost) a 24-hour activity. These exchanges are largely prompted by international trade, investments, travel, movement of capital or speculation; but there are other reasons too which we would touch upon later.

## 314.3 Exchange Rate

The important point to remember is that the exchange rate of a currency is never considered in isolation; *it is not a stand alone number*. Exchange rate, as the expression indicates, always involves two currencies. It is the rate (ratio) at which one currency is exchanged for another. In other words, it is the value of one currency expressed in terms of another. Consider it as a form of barter trade, the commodity traded being the currencies of various countries. As in barter trade, the commodities in question are ascribed certain values (prices) and exchanged in ratios or against rates in proportion to their respective values or quoted unit prices.

When we say 'value', consciously or unconsciously we impute a certain price that we are willing to pay when we exchange one currency for another. The price of a currency, as with all prices, is rarely constant.

## 314.4 Why Exchange Rates Fluctuate

The simplest answer is, the exchange rates (as all prices) are subject to forces of demand and supply, sometimes changing much more frequently than the weather. A currency appreciates against another when its demand increases (relative to its supply), and depreciates when its demand falls, i.e. supply outstrips demand. But again, why should

a particular currency, like any commodity, be demanded in preference to another? Or, why should a currency be offered (liquidated, given up, offloaded) in quantity to acquire another that is in scarce supply?

Strangely, the question has no clear or definitive answer. There are a whole range of explanations for the ever-changing demand and supply scenario, and frequently fluctuating exchange rates. A few of the possible reasons are described in the next section.

## 314.5 Factors influencing Exchange Rates

### 314.5.1 International Trade

For short-term periods a country's current account balances work as a good indicator of exchange rate trends. International trade is one main reason for creating demand and supply of foreign currencies. When goods and services are exported out of a country, the buyer (importer) is required to procure the home currency of the exporter to pay him for the goods and services purchased. The importer achieves this by offering his home currency for exchange or conversion to the exporter's home currency. A demand is thus created in the international market for the currency of the exporting country. All exports and imports follow this principle.

Flowing from the above, if the total export of a country is more than that country's total import, it results in a net *trade surplus*. A net trade surplus would mean a *net* demand for the currency of the country concerned – required by the rest of the world to pay for goods and services purchased from that country. A net *trade deficit*, on the other hand, means that a country's total import is more than its total export. Consequently, that country's currency would be in greater supply in the international market (using its own currency, the country would pay more than it received). Since supply exceeds demand, the intrinsic value of the currency would fall (depreciate).

We can, therefore, conclude that between two countries, the exchange rate of the currency of a country with a trade surplus would be higher vis-à-vis the currency of the country with a relatively *lower* trade or a trade deficit.[1]

The current account balance has been a fairly reliable barometer of the international competitiveness of the economy concerned. The problem is that the trade balance is

1. This one-to-one relationship with reference to trade balance to a large extent determines the rate of exchange of the currencies of these two countries.

not empirical in nature. The trend of the trade balance too depends on a host of factors as outlined next.

### 314.5.2 Inflation

Rate of inflation in the economies has a major influence on currency rates. Inflation (more money chasing fewer goods; in other words, greater demand, less supply) increases the price of commodities in the country. If the external rate of exchange continues to be maintained, then the commodities of that country become uncompetitive in the international market. The existing relationship between cost of goods and the quantity that can be acquired at that cost, called the 'purchasing power parity' (PPP), is disturbed. At the prevailing rate of exchange, one can then buy only a *lesser* quantity than before of the same goods of the country affected by inflation. This situation forces a readjustment of the exchange rates in order to maintain price competitiveness (parity). In the process, the currency is automatically depreciated. Thus, higher rate of inflation translates into a weaker currency.

This theory, while being a good indicator, has its shortcomings too. The reasons are as follows:

a) Purchasing power may not be measurable by price indices alone.

b) The above theory should be applicable only to goods and services which are (or, can be) traded internationally. Domestic consumption pattern need not necessarily affect international parity or exchange rates.

c) It has been argued that competitiveness in international trade is not only a matter of price but also of a host of other factors like quality, conditions of other competitive markets, prompt delivery, and after-sales-service.

### 314.5.3 Relative Strengths of Economics

A faster rate of economic growth also affects the demand and supply of currencies. This may, however, not be reflected in the overall performance in the short run. Because, in the near term, higher level of economic activity may result in higher level of imports. Exports may stay relatively at a much lower level because the demand for goods from other economies may grow at a slower rate. In the long run, however, one growing economy would fuel growth in other economies as well and this would be reflected in higher trade figures. Demand for the growth-oriented currencies would eventually push up their value relative to those of the weaker economies.

### 314.5.4 Economic Indicators

Rise in industrial production, better capacity utilisation, larger order books, growth in the *Gross National Product (GNP)*, and a falling unemployment rate are all positive signs of a growing economy. These go a long way to improve the overall sentiment and the confidence in the economic strength of a country. These positive indicators also promote higher investments and capital inflow, thus raising the demand for the currency of a country.

On the other hand industrial unrest, strikes and lockouts lead to lower industrial production, lower GNP, lower exports and a slower overall growth rate. A negative perception about the economy also influences the flow of investments and international opinion about the strength of the economy. These negative factors lead to a depreciation of the currency of the country concerned.

### 314.5.5 Price Levels

Whenever a major part of the export earnings of a country are contributed by one particular commodity or a select band of commodities, rise or fall in the prices of these commodities in the international market would affect the overall trade performance of that country. In consequence, the currency of that country would also be severely impacted.

### 314.5.6 Capital Flow

The economic meltdown of the South-East Asian countries – especially Indonesia – is now a distant memory, but a very good example of this phenomenon. Speculative capital movements played havoc with the currency rates, and forced devaluation of some of the currencies in this region.

Capital outflow takes place between countries where there is no exchange control or restriction on capital movements. Capital is attracted towards currencies yielding higher 'real rate of return' (interest rate minus inflation rate). To this point add the fact that the relative strength of the economies, as explained just above, also determines the direction of the flow of capital. A strong economy would attract foreign capital in the form of direct investments and portfolio investments. A weaker economy may have to continuously grapple with capital outflow.

A country with a huge trade deficit may be able to attract large foreign capital in the form of investments and thus maintain an overall positive balance of payment situation.

On the other hand, a huge trade surplus may be offset by large capital outflows (again, driven by other considerations), causing problem for the economy, and create a pressure on the currency concerned.

### 314.5.7 Monetary and Fiscal Policies

Control of money supply is a mechanism in the hands of the monetary authorities for the control of inflationary tendencies in the economy. Interest rate adjustments, including changes in 'bank rates', are used by policy makers to manage symptoms of inflation, deflation and stagflation within the economy. Increase or decrease in the interest rate, taken with the rate of inflation, determines the real rate of return and consequently the direction of capital flow. These have direct bearing on and contribute towards the determination of exchange rates.

Instruments of fiscal policy like deficit financing, taxation and so on have a considerable influence on the exchange rates. An increase in budget deficit brought about by an increase in public expenditure or by a decrease in public revenue would push up public demand for funds, leading to a higher interest rate. Conversely, a decrease in budget deficit would bring down interest rates.

### 314.5.8 Political Factors

A host of other factors can put pressure on the exchange rates. Elections, a change in government, death of a statesman or a key political figure, war or war-like situations tend to weaken the currency of the country involved. A country's exchange rate may come under pressure on account of any of the foregoing.

### 314.5.9 Other Factors

(a) *Intervention* by the central banks may have a great influence on the exchange rate of a country. Even though the effect lasts (generally) over a relatively shorter term, such an action can inject uncertainty and lack of confidence, adversely affecting exchange rates.

(b) *(Short term) market sentiments* can have a bearing on the exchange rates. If a few big speculative operators buy a particular currency, the herd may follow suit, pushing the currency to a higher level. Sometimes, the market completely ignores the economic fundamentals discussed earlier, and follows either speculative activities or pure sentiments.

(c) The impact of *long term market sentiments* have been referred to above while discussing inflation, economic indicators, capital flow.

(d) In the *short term, technical factors* in particular may exercise considerable influence on exchange rates. Tax payment dates, changes to legal requirements, minimum reserve requirements to be met on certain reporting days can make it necessary to cover short positions in a specific currency creating a technical, but not long lasting, demand for that currency.

(e) Sometimes *technical analysis*, various charting models and technical trading systems indicate what position a dealer should take in a particular currency. When a majority of dealers follow the signals given by these systems, the rates naturally move in that direction. At such times, the fundamentals are ignored. The trend may become a self-fulfilling prophecy – pushing the rate in a particular direction. 'The more market participants adhere to a specific doctrine, the more this doctrine becomes fulfilled'.

(f) *Anticipation of events* also plays a part in determining exchange rates. The market often tends to take a position ahead of events or announcements (say, regarding trade data, unemployment figures, inflation rate, balance of payment figures). The rates could then move either way depending on whether the events were above, in line, or below expectations, or already fully discounted.

Thus, besides the economic fundamentals, the hopes, fears and expectations of the market participants also drive the demand for, or the supply of, currencies and hence, their exchange rates.

## 314.6 Predicting Rate Trends

The principles outlined in the preceding section could be viewed from another perspective. It can be said that the price of a currency depends on the extent to which market participants are prepared to hold or get rid of that currency. Some of the reasons were explained earlier. The fact that market participants do not (not always, anyway) take this decision on the grounds of well-founded facts and figures but based also on the intangibles, makes the forecasting of exchange rates an extremely difficult discipline. Opposing fundamental trends often coincide with each other. This is aggravated by the fact that expectations of market players converge only in rare cases and only for short periods of time.

This is good in a way. Because, if everyone agreed on a particular scenario, everyone would either be a seller or a buyer. An exchange rate quote is available in the market because when one comes to the market to buy (or to sell) there is another ready to sell

(or to buy). These factors create a market for foreign exchange. Both the parties believe that they have the right view about the foreign exchange they intend to buy or sell. Both believe that their decisions are backed by all the right reasons for acting the way they do. Both believe that they have taken the right decision, even if they have totally opposite views about the same subject. This curious situation keeps the exchange market active, liquid, alive and ticking. Because of the belief in their (opposing) view points we have a buyer for every seller, we have an active market in foreign exchange, and for every trade there is someone ready to quote an exchange rate.

**Factors Affecting Exchange Rates**

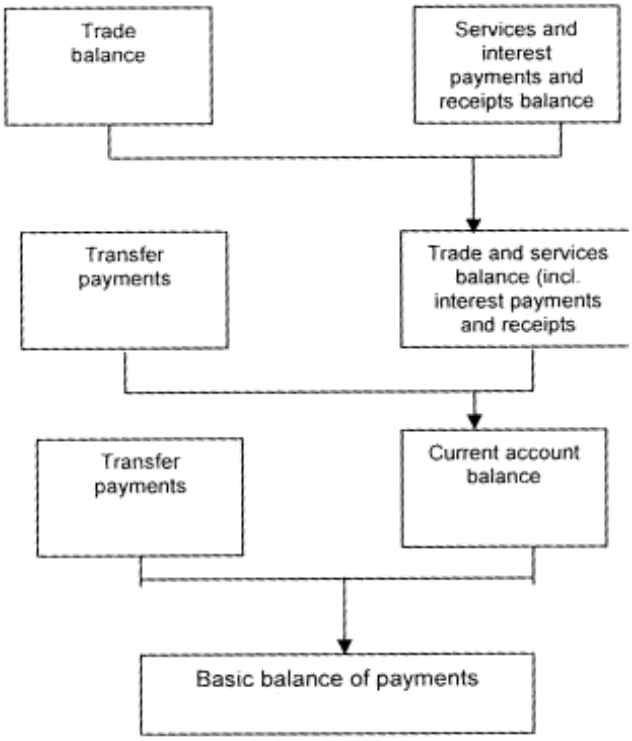



Figure 1
*Source:* Swiss Bank Corporation: Foreign Exchange and Money Market Operations.

## 314.7 Exchange Rate Fundamentals

### 314.7.1 Conventions and Standard Practices

The first is that *the currency of a country never leaves its home,* where it is legal

tender. This gives rise to the need to exchange currencies that are not legal tender in one's country to the home currency.

While the reasons for the exchange of currencies could be several, foreign exchange is all about exchanging one currency for another. The essence of an 'exchange' is that when one currency is purchased, the other is sold. All transactions, therefore, have three key components simultaneously at work: (1) a purchase, (2) a sale, and (3) a rate of exchange. We would be dealing with 'rates' a little later. But first, we should be familiar with certain standards and conventions observed by the market and its participants. These are as follows:

1) All rates are quoted from the *bank's* point of view;

When we say 'buying rate' we mean a *bank's* buying rate. This is the rate at which a *bank* buys or offers to buy. Similarly, when we say 'selling rate', we are talking about the rate at which a *bank* sells or offers to sell. (Sell what? See Point 4)

2) All transactions are also referred to from the *bank's* point of view;

In terms of transactions, when we say 'purchase' transaction we mean 'purchase' by a bank, i.e. a *bank* is buying or has bought. (Bought what? See Point 4). Similarly, when we say a 'sale' transaction, we are talking about sale *by a bank*.

3) The terms are from the perspective of the bank that *quotes* the rate.

This is a corollary to the above two. Though they may appear obvious, they need to be re-emphasised. The terms 'purchase', 'sale', 'buying rate', 'selling rate', and 'sale' transaction are always from the point of view of the one that *quotes* (the rate). This is irrespective of whether the party on the other side (the one who is selling to the bank, or buying from it) is another bank or a merchant customer.

4) The terms 'purchase' and 'sale' are with reference to foreign exchange.

When we refer to 'buying rate' we mean the rate (to be) used to buy *foreign exchange* only. Similarly, a 'purchase' or a 'sale' transaction means buying or selling (by a bank) of *foreign exchange* – generally using the home currency, sometimes also against another foreign currency.

These standard reference points and conventions must be remembered at all times.

### 314.7.2 How Exchange Rates are Quoted

The concept of 'exchange rate' was explained in the preceding sections. Our understanding becomes easier if we treat foreign exchange as a nothing but a commodity. As defined earlier, a rate of exchange is the value of one currency expressed in terms

of another. Accordingly, the exchange rates between a set of foreign currencies against the home currency (INR in our example in Table 1) could be quoted in either of the following ways:

| **Method 1** | | | **Method 2** | | |
|---|---|---|---|---|---|
| (Home currency @ per unit of foreign currency) | | | (Foreign currency @ per unit of 100 Indian Rupees) | | |
| 1 GBP | = | Rs.80.00 | Rs.100 | = | GBP 1.25 |
| 1 USD | = | Rs.43.50 | Rs.100 | = | USD 2.30 |
| 1 CAD | = | Rs.34.00 | Rs.100 | = | CAD 2.94 |
| 1 Euro | = | Rs.55.00 | Rs.100 | = | Euro 1.82 |

**Table 1**

You would notice that the rates of exchange shown above *are exactly the same* under both the methods used (allowing for rounding off for convenience). Under the first method, the unit of *foreign currency* was kept constant. The value of one unit of foreign currency was expressed in terms of a certain (variable) amount of the home currency (INR). The *'price' per unit* of the foreign currency (the 'commodity') is thus ascertainable in terms of the home currency equivalent.

Under the second method used above, the home currency was used as the base or the standard point of reference. The *home currency* was kept constant, while the amount of foreign currency was allowed to vary (in terms of the home currency). This method is slightly inconvenient in the sense that how much one should pay to buy a unit of any foreign currency (the unit price), i.e. the value of the commodity being purchased, is not readily ascertainable. But both methods measure the same thing.

### 314.7.3 Direct and Indirect Rates

The style of quoting rates under method 1 is termed as '*direct'* method of quoting exchange rates. The approach to quote as per method 2 is called '*indirect*' method. The reasons for these terms should be obvious from the explanations and examples above. These are standard terms in foreign exchange and have been used frequently throughout the book.

Except in the London market, the use of indirect quotation is virtually absent. In the markets of the US and other places throughout the world the direct method of quoting

exchange rates is in vogue. In India, the method of direct quotation was used till 1966. After devaluation in the same year India adopted the method of indirect quotes. However, it reverted to the direct method with effect from 2nd. August, 1993. The method continues to be used to this day.

*Exceptions:* There are, however, exceptions to this rule. Euro and Sterling Pound, for example, are always quoted as indirect rates. The value of a unit of GBP, for example, is quoted in terms of the USD. Otherwise, for inter bank dealings all other quotations are 'direct', variable amounts of foreign currencies being quoted against one US Dollar. Therefore, when it comes to quoting rates between banks in the inter-bank market, dealers normally quote dollar rates. In other words, the value of the other currencies is expressed by indicating the price of one dollar in terms of that particular currency.

### 314.7.4 Two-Way Quote

The foreign exchange market, as we know, is made up mainly of banks (authorised dealers), exchange brokers and the central banks, buying or selling currencies just as others trade in goods, commodities and services. For a market to work efficiently, liquidity is important. By 'liquidity' we mean that at any given time one can go to the market and find a counterparty for the purpose of concluding a transaction. Liquid markets would have both buyers and sellers operating together, quoting their prices at which they are prepared to buy or sell foreign exchange from one another, and from those who are not direct market participants.

In an active market, 'two-way quote' is the approach that market participants use to quote exchange rates. The term simply means simultaneous quoting of both the buying price and the selling price for a given currency. In other words, two rates are quoted at the same time: one, at which one is ready to buy a currency; and another, at which it is ready to sell (the same currency). Once the rates are quoted, it is for the enquirer (the one asking for a rate, one who is said to be *facing* the quote) to either buy from, or sell to, the one that quotes these rates or *offers* the quotes.

For example, when asked by the enquiring bank (Bank E), the quoting bank (Bank Q) may quote the $/INR exchange rate as follows:

1 USD = Rs.44.05 – 44.15

indicating that Bank Q is prepared to buy US$ currency at Rs.44.05 (per unit of US$), and if asked to sell, would sell US$ @ Rs.44.15 per unit of US$. Once a quotation has been given, it is firm unless indicated otherwise at the time of the quote, but remains

valid for the immediate period only. If not accepted immediately, the offer lapses. If the quote is taken up (say, by Bank E) immediately, Bank Q would be bound to deal at the rates quoted.

## 314.8 Identifying Rates

### 314.8.1 Buying rate, selling rate

In the exchange rate quoted above (Rs.44.05-15=USD 1), how can one quickly and easily distinguish the buying rate from the selling rate? The exercise is simple if one recalls the ground rules.

(i) *It is the foreign currency that is bought or sold:* The first point to note is that in the above quotation, Bank Q quoted its buying and selling rates for USD against INR (assuming INR to be the home currency of the quoting bank). The rate, therefore, was quoted in terms of INR, i.e., so many INR per unit of USD. Similarly, one can ask for rates (i.e. the price) of any other foreign currency (viz., GBP, CAD, CHF) against the local currency.

(ii) *The higher of the two is the 'selling' price:* When a bank, a dealer or a trader quotes a buying and a selling rate, he would always be looking for profit through a deal. Everything said and done, that is the reason why he is in business. Therefore, the dealer – like any other businessman – would always seek to buy foreign exchange at a *lower* rate and sell the same at a rate that is *higher* than the price he paid to buy it.

The difference between the two rates would be his spread – his margin of profit from the deal.

The same approach applies to exchange rates. In the above example, the quoting bank had declared the price at which it was prepared to buy or sell USD. We observe that Rs.44.05 was the *lower* of the two prices quoted. Therefore, Rs.44.05 would be the rate (amount) the bank would be willing to pay (give out or part with) to *buy* one USD. This rate would, therefore, be the *buying* rate for USD. While selling USD the bank would like to receive more in order to make profit from the deal. Therefore, the *higher* of the two (i.e. Rs.44.15) would be its price at which it would *sell*

the USD. Thus we can quickly and easily distinguish the buying rate from the selling rate.

Quoting the rates in another fashion, we can also say that Bank Q was ready to '*bid*' for US$ @ Rs. 44.05 per US$; it was ready to '*offer*' US$ @ Rs. 44.15 per US$. Once again, the terminology used is from the perspective of the bank quoting the rates. To the party *facing* these quotes, the terms used would be just the opposite.

## 314.9 Exchange Rate Maxims

### 314.9.1 Buy low, Sell High

The rate 1 USD = Rs.44.05-44.15 is an example of a two-way (direct) quotation. Of the two sets of prices on the right-hand side of the equation, it's clear that the *lower* one is the buying rate of the foreign currency (USD); the *higher* one is the selling rate (of USD). The basic rule is that you pay *less* to buy and ask for *more* (than the buying price) when you sell; only then you'd generate profit.

Hence the maxim: *buy low, sell high*. Note that this maxim applies to all *direct* quotations.

### 314.9.2 Buy high, Sell low

Let us now convert the exchange rate 1 USD=Rs.44.05-44.15 to the indirect method of quotation. Rs.44.05 = USD1 translates to Rs.100=USD.2.2700; and 1 USD = Rs.44.15 is the same as Rs.100 = USD.2.2650 (rounding off to fourth place of decimals). Maintaining uniformity in quoting rates, we write the indirect quotation of USD against INR as Rs.100 = USD 2.2650-2700

Obviously, of the two prices appearing on the right hand side of the equation, the *higher* one would be the *buying* rate for USD, and the *lower* one would be the selling rate for USD (against the INR). Simply put, the dealer would like to *give less* foreign exchange (USD in our example) for every hundred rupees it receives, but *receive more* foreign exchange (USD) for every hundred rupees it pays out. Only by doing that would he generate profit.

Hence, for all indirect quotations, the maxim is: *buy high, sell low*.

### 314.9.3 Point to note

The quotation Rs.100 = USD 2.2650-2700 could also be (mistakenly) interpreted as stating the buying and selling rates for INR. Here it is worthwhile to remember the convention and the standard practice enumerated in above. To reiterate, all quotations should be read *only* as for buying and selling of *foreign exchange* against the home currency, *not* home currency (in our example, INR) against foreign currency.

Yes, mathematically the prices quoted mean the same thing irrespective of the manner of their arrangement. Whether direct or indirect, buy high/sell low, or sell high/buy low – the calculations and the rates do not change (obviously!). We have seen this earlier, while working from the same set of rates. But, the problem is that if we change the style, abandon the convention and the maxims, confusion may arise in our understanding of the rules of the game. In a fast moving market, this could be dangerous, and result in a loss. Therefore, we must be very clear about what we mean when we use the standard terms to deal with rates, quotations and maxims.

### 314.9.4 The thumb rule

The above method of ascertaining rates may still seem confusing to some, especially to those who are new to the exchange rate mechanism. First, to decide whether it's direct or indirect, next, to determine the high and the low, and finally, to select the right rule to apply (buy high/sell low, or buy low/sell high) – may appear to be confusion compounded. For the sake of an easier method, let us take the same set of rates and work out a simpler approach – without getting into direct/indirect, high/low factors – to decide how we can quickly and easily identify which should be the buying rate, and which should be the selling rate.

We had stated earlier that when we buy one currency we sell another. It all depends on which way we quote rates. The rate 1 USD = Rs.44.05-44.15 was *exactly the same* as the quotation saying: Rs.100 = USD 2.2650-2700. The arrangement and the definitions changed, nothing else did. Therefore, the buying rate for USD could also be defined as the selling rate for INR, and vice versa[2].

We know that every price quoted is arrived at after keeping a margin in order to

2. This does not change the fact that we buy or sell foreign exchange against the home currency.

generate profit. To earn profit, the fundamental approach to any deal or transaction is always to pay less and receive more. Using this approach, let us now formulate a thumb-rule to identify which of the two prices should be *paid* and which one to be *received*. The thumb rule ignores the terms direct/indirect or high/low.

We had in front of us two sets of rates, viz.,

1 USD = Rs. 44.05 – 44.15

Rs.100 = USD 2.2650 – 2700

Going by our rough and ready rule, we may simply say that we *'take more and give less'*. So, the *lower* number would *always* be the selling rate (of the currency we sell), and the higher one would be the buying rate (of the currency we buy).

In the above two examples, the amounts on sale would then be INR.44.05 (in the first example), and in the second, USD2.2650 (selling INR to buy USD, and selling USD to buy INR respectively). The amounts to receive would similarly be INR.44.15 and USD.2.2700 (against USD and INR respectively). This is a somewhat rough and ready method of quickly identifying from a set of given rates, which particular amount we are supposed to pay out and which of the two we are supposed to get. Doing the opposite through mistakes in identifying buying and selling rates (it happens even to the best) would result in a loss.

### 314.9.5 Bid and Offer rates

In foreign exchange business we often come across these terms. These terms mean the same as buying and selling rates. Using the rates quoted earlier (1 USD = Rs.44.05-44.15) we note that Rs.44.05 would be termed as the 'bid rate' (for USD) and Rs.44.15 would be the 'offer rate' for USD. In other words, a foreign exchange dealer is prepared to bid for one USD against payment of Rs.44.05 per USD. He is also offers one USD in return for Rs.44.15 in exchange.

Thus, the terms 'buying rate' and 'bid rate' are synonymous as are 'selling rate' and 'offer rate'. Once again, it is good to remember that the terms 'bid' and 'offer' are in respect of *foreign* currencies – settlement being effected through the intervention of the home currency or another foreign currency.

### 314.9.6 Spread

Several times during our discussions of exchange rates, we had made a reference to

profit margins. Profit margin is the difference between the buying and the selling rate in any exchange rate quotation. In our example 1 USD = Rs.44.05-44.15, the difference between the buying and the selling rates was Re.0.10 per USD. This difference or margin is known as the 'spread'. The wider the spread, the higher is the profit margin built into the exchange rates by the quoting bank. In times of volatility the spreads tend to be higher. In an efficient or an active market, the spreads tend to narrow down significantly. The significance of the 'spread' will emerge at a later stage as we delve deeper into exchange rates.

## 314.10 Cross Rates

### 314.10.1 introduction

In the overseas market, exchange rates (except for GBP and EUR) are quoted against the USD. The rates are quoted in terms of so many units of a foreign currency against one unit of USD. When prices or rates move, the foreign currency units vary against the fixed amount of USD. This is the standard way of quoting inter-bank rates in the overseas markets the world over. We can say that the rates are 'direct rates' for USD, except EUR and GBP which are quoted 'indirect'.

In the Indian market the convention, with very few exceptions, is to quote the exchange rates per unit of foreign currency. However, because of international trade, the need arises to quote one foreign currency against another – where neither is the USD or the home currency. Thus, if we ask for the exchange rate for Canadian Dollar against Australian Dollar, we are looking for what is known as a cross rate. A cross rate is one where currencies on *both* sides of the equation are foreign currencies.

### 314.10.2 Cross rate and chain rule

In India, the exchange rates are arrived at based on the assumption that the foreign exchange acquired would be disposed off in the inter-bank or international market. If a customer needs foreign exchange, it would be acquired by his bank from the overseas inter-bank market. In order to arrive at the exchange rates for any foreign currency a bank in India must, therefore, derive the quotation from the 'base rate' (inter-bank rate) prevailing overseas. Therefore, the exchange rates for any *other* currency in terms of INR can only be arrived at through the intervention of USD, that is, by *crossing* the

local rate with the overseas rate. Hence the term 'cross rate'. The method used is known as the 'chain rule'. The logic for cross rates and chain rule, both for buying and for selling, has been illustrated through Figures 1 and 2.

**Cross Rates:**

**Spot And Forward Buying Rates For Swiss Frank (chf)**

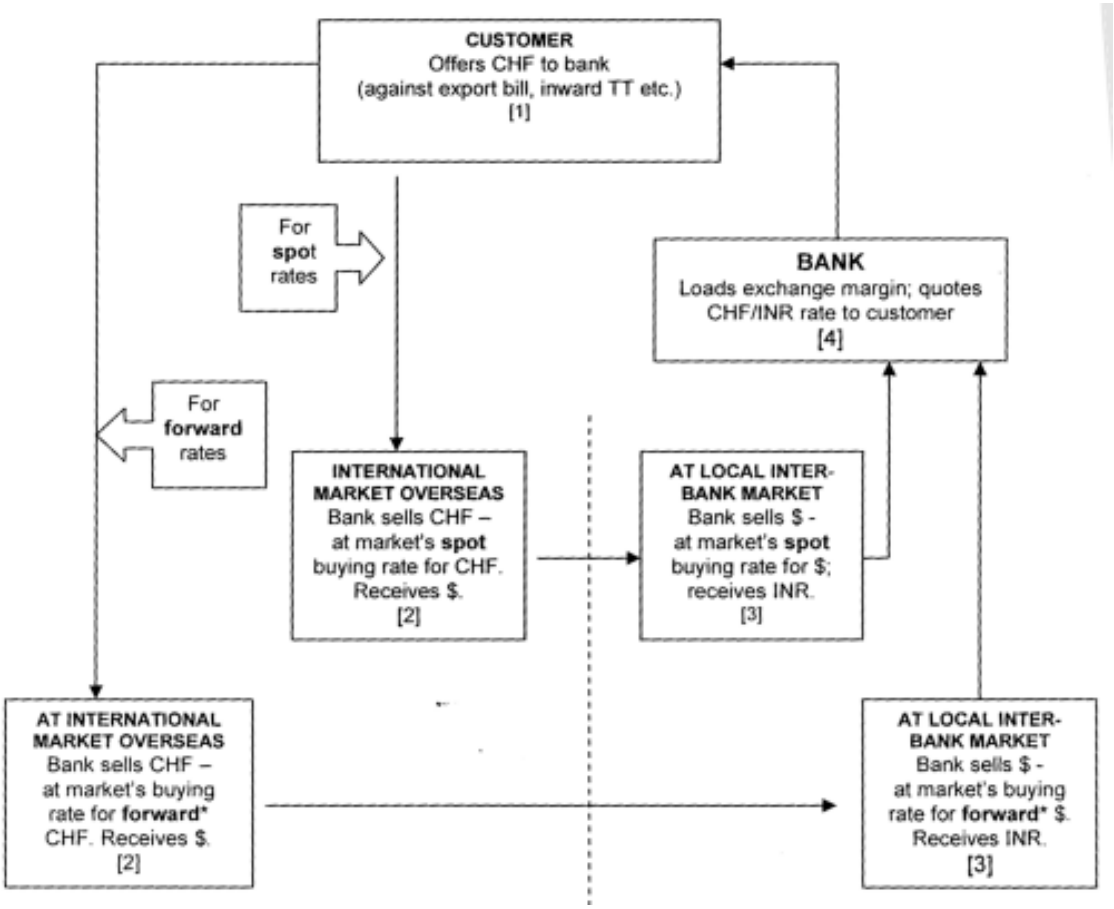



*Figure 2*

*Note: The forward rates would be matching the maturities required by the customer.

### 314.10.3 Example of 'Chain Rule'

USD/INR rate in the local inter-bank market :Rs.43.50 - 60 per USD

USD/CHF in the international market : CHF 1.2560 – 2570

Customer wants to know both (1) buying rate and (2) selling rate for CHF against the local currency, i.e. INR.

*Note*: Buying rate and selling rate mean the *bank's rate for buying CHF from or selling CHF to* its customer. When the customer sells CHF to the bank it gets INR. When it buys CHF from the bank, it would do so against payment of INR to the bank.

(1) The steps to arrive at CHF/INR (bank's buying) rate is as below. Refer to Figure 15.3 to follow the transaction trail from inception till closure.

For transaction #1, the bank buys CHF from its customer, sells it in the overseas or international market, receives USD in exchange and converts the same in the local (Indian) inter-bank market to INR which it delivers to the customer. (Of course, the bank would retain its exchange margin and profits, but we ignore them for the present.)

The overseas market buys CHF from the bank. Therefore, the market buying rate for CHF would be 1.2570 per USD. The local market (inter-bank market in India) would buy USD from the bank, and offer INR. Therefore, the rate applied would be Rs. 43.50. Hence,

| | | |
|---|---|---|
| If 1.2570 CHF | = | 1 USD |
| and 1 USD | = | Rs.43.50 |
| How many (?) Rs. | = | 1 CHF |

Therefore,

| | | |
|---|---|---|
| 1.2570 CHF | = | Rs.43.50 |
| 1 CHF | = | 43.50/1.2570 |
| | = | **Rs.34.60** |

(2) The steps to arrive at CHF/INR rate (bank selling foreign exchange) have been worked out as follows. Once again, a simultaneous reference to Figure 15.4 would make it easier to understand the sequence of transactions outlined below. For rate #2, the bank buys USD from the local inter-bank market, sells it in the overseas (i.e. international inter-bank) market, receives CHF in exchange and delivers to the customer. Our rates would, therefore, now be Rs. 43.60 (market

receives more) and 1.2560 (market gives less). Using the chain rule once again, we have:

| | | |
|---|---|---|
| If 1.2560 CHF | = | 1 USD |
| and 1 USD | = | Rs.43.60 |
| ? Rs. | = | 1 CHF |

Therefore,

| | | |
|---|---|---|
| 1.2560 CHF | = | Rs.43.60 |
| 1 CHF | = | 43.60/1.2560 |
| | = | **Rs.34.71** |

The final quote to the customer would be: **1 CHF = Rs. 34.60 – 34.71**

Summarised,

1) When direct rates are being quoted the procedure is to first (a) select the appropriate rates, and then to (b) divide the USD/INR rate by the USD/foreign currency rate.
2) When the rates are indirect first of all (a) select the appropriate rates, and then (b) multiply the USD/INR rate by the USD/foreign currency rate.

## 314.11 Forward Rates, SWAPS

### 314.11.1 Introduction to Forward Rate

Foreign exchange transactions may be classified in various ways. One approach is to classify them in terms of the time (a) when they are *contracted*, as against (b) when they are *actually executed*. By the term 'when they are contracted' we mean the date on which the parties enter into any arrangement to buy or to sell and agree on the terms (viz., currency, rate, amount, dates of delivery, place of delivery of funds). By the expression 'when they are actually executed' we mean the effective dates of delivery, i.e. the value dates for exchange of funds between the contracting parties. Accordingly, the transactions are classified as (a) cash, (b) tom, (c) spot, and (d) forward.

### 314.11.2 Cash, Tom, Spot and Forward Transactions

*'Value Cash':* means that the transaction is agreed to be put through on the very day the deal is contracted. Alternate terms in common use are 'same day value', 'value today', or 'ready' transactions.

*'Value Tom':* 'Tom' is an abbreviation for the word 'tomorrow'. Any agreement or

contract that is due for delivery the working day *following* the date of contract is called as 'value tom'.

*'Value Spot':* This is the second working day after the date of the contract/deal.

*Forward transactions*: All value dates that are beyond 'value spot' are termed as for 'forward' delivery. Forward transactions are those where the currency, the amount, the rate, and the time of delivery (forward date) are all agreed on and fixed in advance (i.e. on the day the transaction is agreed upon between the parties). The actual delivery, i.e. exchange of funds, takes place on the (future) date as per contract. Hence the term 'forward contract'.

An important point to note is that the *next working day* when the contracting banks are open for business – especially for delivery – must be the same for both the parties. We will now take up a detailed discussion about the intricacies of forward transactions and forward rates.

### 314.11.3 Origin of Forward Transactions

The requirement for forward transactions and forward rates arises because not all transactions are necessarily contracted and executed on cash or spot basis. By entering into forward transactions one seeks to cover or hedge an otherwise existing exchange rate risk - be it of a commercial (trade) or financial nature. Apart from the bank's own needs, requirements from merchant give rise to forward transactions. There are a whole range of reasons that give rise to the need for forward rates. The following examples are just three of them.

a) Any import for which payment would only be due sometime in the future, say after a month or two, or even later.

b) Exports for which the importer, i.e. the overseas buyer, would be paying after a time lag (say, usance bills, deferred payment exports etc.).

c) Infrastructure projects, where the payment or the repayment schedule could stretch over several years.

### 314.11.4 Spot and Forward Rates–Why they Differ

As we already know, forward transactions can be contracted now for being settled any day after the spot date, ranging from a week, a month, three months, six months to even a year or more. The rates for forward transactions *may* be the same as for spot

rates ('at par') or different from spot (almost always the latter, rarely 'at par'). In real life, for a number of reasons, interest differentials exist between various economies. Market dynamics ensure that the advantage of interest differential is neutralised and the party on the other side compensated by an equal measure. How that is ensured through the foreign exchange rate mechanism is shown through an example below.

### 314.11.5 Relation between Forward rates and interest differentials

*Assumptions*

a) The spot exchange rates for Pound Sterling./USD = 1.8000 USD per Stg. Pd (£).

b) The forward exchange rate for £./US$ is also the same as the spot rate assumed above, i.e. 1.8000 USD per £.

c) Interest rate on one month £ deposit is at 3 per cent per annum;

d) Interest rate on one month US$ deposit is at 5 per cent per annum;

Using these rates and the formula below:

(Base exchange rate) x (difference in interest rates) x (period) = forward differential

We arrive at the forward differential, thus: 1.8000 x (2/100) x (1/12) = 0.0030

As can be observed easily from the calculation, the figure 0.0030 is the forward rate differential equivalent of the interest differential for the one-month period assumed in our example. In order to compensate Bank B, this forward differential should be loaded on to the spot rate ($1.8000 per £). Bank A should pay Bank B, not at the spot rate, but at the one-month forward rate of (1.8000 + 0.0030 =) 1.8030$ per £. *The benefit of higher interest rate has thus been passed on to the one holding currency at a lower interest rate, through a 'discount' on the spot rate.*

To reiterate:

| | | |
|---|---|---|
| Spot rate of GBP | = | $ 1.8000 |
| I mth. fwd. diff. | = | 0.0030 (added) |
| I mth. fwd. rate | = | $ 1.8030 |

The above example shows how, using the interest differential between currencies, the forward exchange rate can be arrived at from the spot rate. The example also shows why, almost always, forward rates tend to differ from the spot rates. The principal contributory factor being that no two countries' economies are exactly the same, or continue to be the same, in all respects. Their interest rates too differ most of the time thus impacting the forward rates. But going into the future, there are several other

factors that influence the perception of projected rates of foreign exchanges, and hence the forward differentials.

## 314.12 Premium and Discount

### 314.12.1 Definition

Our simple understanding of these terms tells us that when any item is at a premium, it is either priced more (relative to another), or that a *lesser* quantity can be had at the same price. Similarly, any item at a discount is available either at a relatively cheaper price, or more is available for the same price. Similar definitions apply to foreign exchange business and to exchange rates.

While applying these terms to exchange rates, we refer to any currency being at a premium or at a discount in the forward market in comparison to the spot market. As explained earlier, in direct quotes, discount or premium is always defined using the *foreign currency* as the reference point.

### 314.12.2 Premium and Discount Illustrated

In the example worked out above, we arrived at a forward rate (1.8030) for the GBP (in terms of USD) which was higher than the spot rate (1.8000). Hence, one unit of Pound Sterling was available at $1.8000 for spot delivery, but commanded a (higher) price of $1.8030 for one month forward delivery. We conclude that in the forward, 1 GBP was dearer in terms of USD than for spot delivery. In other words, the GBP was at a *premium against the USD in the forward market*. Obviously, the underlying reason – as we ourselves worked out – was that it fetched relatively less interest for the holder (than did the USD)

### 314.12.3 General principles of forward rates

The following general principles for forward rates can now be derived from the above exercise:

a) Foreign currencies earning higher interest are traded at a forward rate *below* the spot rate, i.e. at a discount to their spot prices;

b) The forward price of the low-interest currency is always *above* the spot rate (meaning, at a premium). This is explained by the fact that when a bank borrows at a low interest rate and invests at a higher rate of interest, resulting in a net positive interest rate

differential (profit), the same is passed on in the form of a higher exchange rate, i.e. at a discount.
c) Therefore, between two currencies, one that commands a lower interest is always at a premium compared to that which carries a higher interest rate. Conversely, a currency that commands a higher interest rate is always at a discount in relation to the other that commands a *lower* interest rate.

### 314.12.4 Thumb rule for premium and discount

a) For *direct* quotations, premium should be *added* to the spot rate to arrive at the forward rate. *Discount* should be *deducted* from the spot rate to arrive at the forward rate.
b) For *indirect* quotations, the rules are reversed. Premium is to be *subtracted*, and *discounts added* in order to arrive at the respective forward rates.

### 314.12.5 How are Forward Rates Quoted

#### Forward differentials

Table xx illustrates how spot rates and forward differentials are quoted on the electronic rate charts, including the Reuter screens.

**Forward Rate Table**

| | £/$ | | | $/Euro | | | $/CHF | | |
|---|---|---|---|---|---|---|---|---|---|
| Spot | 1.8399 | - | 1.8405 | 0.79008 | - | 0.79026 | 1.2188 | - | 1.2603 |
| 1 month | 100 | - | 97 | 3 | - | 5 | 2 | - | 4 |
| 2 months | 187 | - | 183 | 15 | - | 17 | 5 | - | 8 |
| 3 months | 268 | - | 264 | 25 | - | 28 | 9 | - | 12 |
| 6 months | 470 | - | 463 | 63 | - | 68 | 20 | - | 26 |
| 12 months | 805 | - | 785 | 142 | - | 152 | 35 | - | 50 |

**Table 2**

### 314.12.6 identifying premium and discount

We noted that forward rates were arrived at by loading the forward margins (discounts or premium) on the spot rates. But, from Table xx, how would one determine whether the forward differentials indicate a 'discount' or a 'premium' over the spot rates?
The basic principle, once again, is quite simple. From a set of spot and forward rates, to help us to quickly identify whether the currency is at a premium or at a discount, let us remember the following:

1. If the figures are in ascending order, the currency is at a premium;
2. If the figures are in descending order, the currency is at a discount.

(Just remember the two 'd's, the rest should then be easy to determine,)

### 314.12.7 Other Important Rules

By way of further clarification, let us work out one example of each. To arrive at (say) the three-month outright forward rates for the above currencies, the working would be as follows:

**Forward Rates**

| | £/$ | $/Euro | $/CHF |
|---|---|---|---|
| Spot rate | 1.8399 - 1.8405 | 0.7 9008 - 0.79026 | 1.2188 - 1.2603 |
| 3 months fwd | (-) 268 264 | (+) 25 28 | (+) 9 - 12 |
| *Forward outright* | 1.8131 - 1.8141 | 0.79033 - 0.79054 | 1.2197 - 1.2615 |
| *(3 mths)* | | | |

**Table 3**

Note that forward premiums were *added* to the spot rates, and discounts were *deducted* from the spot rates to arrive at the outright forward rates.

### 314.12.8 SWAPS

### Definition and example of swap

A swap constitutes a pair of back-to-back transactions entered into at the *same time*, with the *same counter-party bank*, for the *same currency* and *amount*, but for two

*different delivery dates*, at rates which almost always (unless executed 'at par') are different.

Swaps can be for spot to forward, or forward to forward. But two outright, opposite but *independent* deals, otherwise matching in all respects, do not qualify as a 'swap' transaction.

*Advantage of swap:* The greatest attraction of a 'swap' is that it doesn't affect the exchange position. The simultaneous 'buy and sell' or 'sell and buy' leaves the exchange position unchanged. Only the timing of the respective cash flows gets affected. This is a useful tool for the adjustment of mismatches in cash flow, and quite frequently resorted to by exchange dealers.

### 314.12.9 Swap Difference

Usually there is a difference between the exchange rates at which the two legs of the swap transactions are executed. The difference is caused mostly by interest rate differences between the currencies concerned. The bank that enters into such contracts may either *receive* (as a net gainer) the difference between the rates (called the 'swap rate') or pay (as a net loser) the 'swap rate' to the other bank with which it has done the SWAP deal. The difference in the two (between the buying and the selling) rates in a SWAP deal is called the 'swap rate' or the 'Swap Difference'.

'Swap difference' is also referred to as 'swap cost' or simply 'spread' between spot and forward rates. It can be negative or against (bank pays), positive or in favour (bank receives), or at par (no one pays or receives). This swap difference is relatively a smaller price to pay compared to the price one may have to shell out – by way of exchange rate or overdue interest – if a bank is caught unawares and if an account must be funded very urgently, at very short notice.

## 314.13 Merchant Rates

### 314.13.1 Introduction to Merchant Rates

In this chapter we would be looking at merchant transactions, merchant rates, types of merchant rates, and the rules associated with the calculation of merchant rates with specific reference to India.

A few important aspects of merchant transactions are as follows:

a) Banks refer to foreign exchange transactions emanating from their customers as 'merchant transactions'.

b) Merchant rates are rates that are quoted by the commercial banks to their customers. This type of rates is different from inter-bank rates which are only between banks.

c) Quotations for all merchant rates are derived from the inter-bank rates. The exchange margins, and forward spreads as applicable, are added to or subtracted from the inter-bank rates to arrive at the merchant rates for various currencies.

d) The exchange margin or spread between the buying and selling rates constitute the profit for a bank.

e) Transactions with merchants are usually, but not necessarily, 'value cash', i.e. on 'same day value' basis.

f) Merchant transactions are also booked for execution on 'forward' basis, for which forward rates are applicable. The agreement entered into between the banks and their customers for forward transactions are evidenced through what is known as forward contracts.

### 314.13.2 Basis for Calculation of Merchant Rates

A bank buys foreign exchange from, and sells foreign exchange to, its customers as part of its routine business activity. When a bank buys foreign exchange from its clients (a 'purchase' transaction), it must sell the amount so purchased to another at a rate *better* than its purchase rate if it is to earn some profit. Similarly, if the bank is to sell foreign exchange to its customers (a 'sales' transaction), it must buy foreign exchange from another at a rate *lower* than that at which it would eventually sell the same to its customer. (Think of how a retailer earns his profit.)

Mostly, the on-going rates in the inter-bank markets form the basis for arriving at merchant buying or selling rates. The inter-bank rate on the basis of which a bank quotes merchant rates is called the 'cover rate' or the 'base rate'. The latter term is used by the Foreign Exchange Dealers' Association of India (FEDAI). Figure 3 illustrates the process of arriving at merchant rates from inter-bank rates.

**Determining Merchant Rates**

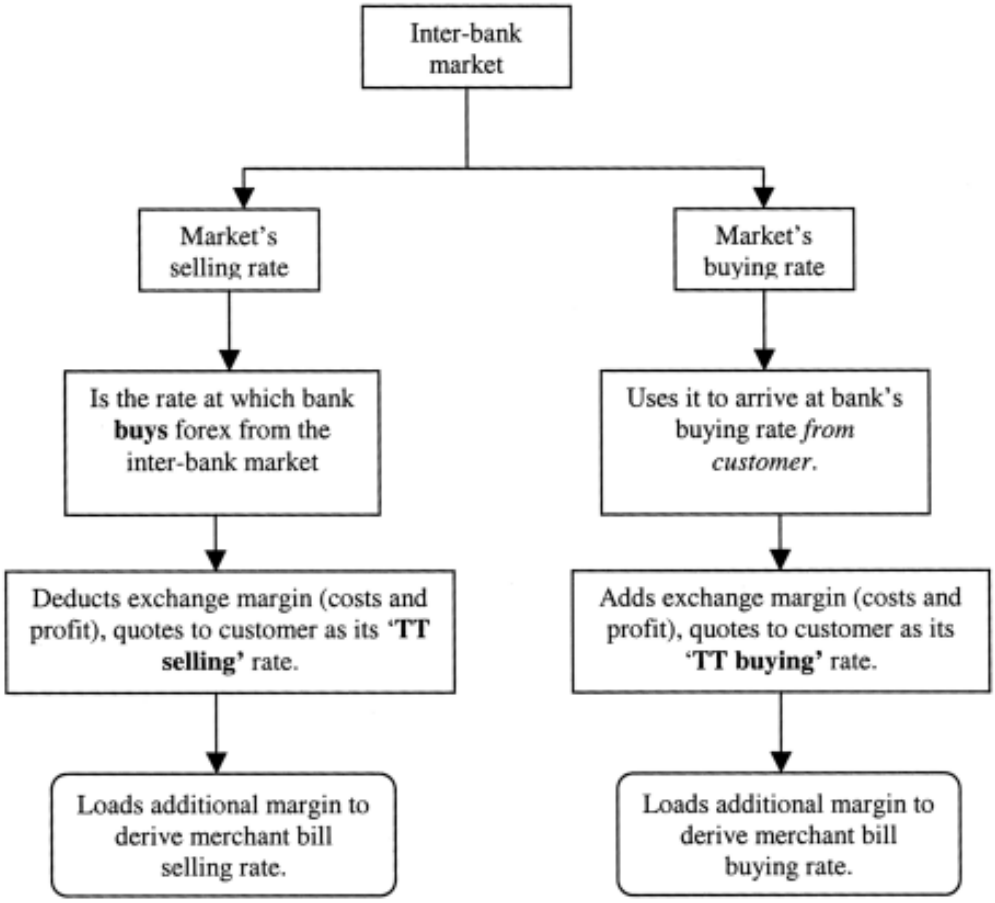



**Figure 3**

## Exchange Margin

Earlier, the exchange margins were regulated by FEDAI. The banks were permitted to enjoy no more than the stipulated exchange margins. Their exchange profits were thereby restricted to the limits set by FEDAI. The mandatory stipulations were abolished in 1977 vide their AR Circular no. 6/99 dated 28/Sept/1999. Since then, the banks in India are free to determine the exchange margins.

However, for academic interest, and also to have some idea as to the range of exchange margins that were used by banks in India, the margin stipulations of yore are quoted below:

| | | | |
|---|---|---|---|
| TT Purchase | 0.025% | to | 0.080% |
| Bills Purchase | 0.125% | to | 0.150% |
| TT Selling | 0.125% | to | 0.150% |
| Bills Selling | 0.175% | to | 0.200% (over TT Selling rate) |

We would be using these margin rates for our exchange arithmetic exercises.

## Norms for Quoting Rates

The rates in India are quoted using the direct method, up to four decimal places in multiples of 0.0025[1]. The quotation is mostly for one unit of foreign currency. The exceptions to this rule are for Belgian Franc, Indonesian Rupiah, Italian Lira, Japanese Yen, Kenyan Schilling, Spanish Peseta and the ACU currencies. For these currencies the quotation is to be against 100 units of the foreign currency concerned[2] . (Some of these have been replaced by the Euro.)

While calculating merchant rates, one can work on the basis of five decimal places and at the end round off the result to the nearest multiple of 0.0025. Further, the amount payable to or receivable from a customer should be rounded off to the nearest Rupee. The FEDAI Rules on these are as follows:

'*Rule 7B.1 Quotation of Merchant and Interbank Rates*

The exchange rate shall be quoted in direct terms i.e. so may Rupees and Paise for 1 unit of foreign currency or 100 units of foreign currencies.

Regarding quotation of rates, the FEDAI vide its AR Circular No. 3/2000 dated 30th June 2000 has advised all the member banks that henceforth Authorised Dealers may determine their own policy regarding the basis of quotation of rates.

Rule 7B.2 *Rounding off Rupee equivalent of the Foreign Currency at the agreed Merchant Rate*

Settlement of all merchant transactions shall be effected on the principle of rounding off the Rupee amounts to the nearest whole Rupee i.e., without paise.'

However, for the daily rate charts published by banks and applicable to relatively small value merchant transactions, the exchange rates can be quoted rounded off to two decimal places, i.e. quoted to the nearest paisa.

1. FEDAI Rule 7B.1 - Quotation of Merchant and Inter-bank Rates: The exchange rate shall be quoted in direct terms i.e. so may Rupees and Paise for 1 unit of foreign currency or 100 units of foreign currencies.
2. Ref. FEDAI Rules, 7D.1.

## Types of Merchant Rates

Commercial banks handle a wide range of transactions for their customers. Most of the merchant transactions can be categorised under four broad heads. These are (1) TT Buying, (2) Bill Buying; (3) TT Selling, and (4) Bill Selling. Apart from these four categories, rates are quoted separately for purchase and sale of travellers cheques and currency notes.

## Buying rates

Depending on the type of transactions and the administrative work involved, the rates for purchase transactions are categorised as (a) TT Buying or (2) Bill Buying rates.

*TT Buying rate:* The term 'TT Buying' is an umbrella-term used to generally encompass all 'clean' purchases. This rate is applied when the bank is *not out-of-pocket* in terms of foreign exchange before it is due to pay out Indian Rupees. The transactions where TT Buying rate is applied include payment of mail transfers, telegraphic transfers inward, collection cheques realised and foreign collection bills realised.

*Bill Buying rate:* This rate is applied for all transactions pertaining to purchase, negotiation, discount or payment of export bills expressed in foreign currency. The rate includes a higher exchange profit margin than that for TT Buying. This is principally for two reasons: (1) the transaction involves more administrative work than for TT buying transactions, and (2) foreign exchange proceeds are received later, sometimes much after the rupee equivalent has been paid out by the bank.

Besides higher exchange margin, for export bill transactions banks usually recover transit period interest, usance period interest (as applicable) and handling charges.

## Selling Rates

In a sales transaction the bank parts with foreign exchange in exchange for local currency. The sale of foreign exchange is effected by way of an outward remittance. The two principal types of selling rates are described below.

*TT Selling Rate:* Applied to all 'clean' sales transactions.

*Bill Selling Rate:* Bill selling rate is applied to all transactions that involve processing of documents – including those instances where a TT must be sent in realisation of an import bill (under collection, or under an LC).

The bill selling rate is arrived at by adding exchange margin to the TT selling rate. In effect, as per FEDAI Rules, the exchange margin is added on two separate occasions

–once when arriving at the TT selling rate, and again when calculating the bill selling rate (when the margin is added to the TT selling rate). It is, thus, a two-step process.

## Fedai Rules

In India, the approach to merchant rate calculation is guided by a set of rules prescribed by Foreign Exchange Dealer's Association of India (FEDAI)[3]. The rules are summarised below.

## Base Rate

'Base Rates' to be applied for arriving at merchant purchase and sale rates shall be derived from the ongoing spot market rates for each of the currencies.

## Purchase Rates

For calculating merchant spot

1. *T.T. purchase rate:* from the 'base rate' deduct exchange margin.
2. *T.T. bill buying rate:* from the 'base rate' deduct/add on-going forward discount/ premium depending upon the normal transit period, tenor of the bill such as sight, usance period, etc., and thereafter deduct exchange margin.
3. *T.T. merchant forward T.T. buying rate*: - from the base rate deduct/add on-going forward discount/premium depending upon the delivery period. Deduct exchange margin.
4. *T.T. merchant forward bill buying rate:* from the base rate deduct/add on-going forward discount /premium depending upon the delivery period of the bill, transit period, tenor of the bill such as sight, usance and grace period etc. Deduct exchange margin

## Sale Rates

For calculating merchant spot

1. *TT. Sale Rate:* to the base rate add exchange margin.
2. *Bill Sale Rate:* - to the merchant TT sale rate as determined above, add exchange margin.
3. *Forward Sale:* Rate for import TT/Bill transactions – banks to base their quotation on the appropriate cover rate to which exchange margins for TT and/or bills as mentioned above may be added.

3. For full details, please refer to the FEDAI Rules appended as Annexure 19.

## Issues Related to Merchant Rates

In order to clearly understand the concepts discussed earlier, as well as to illustrate and explain the issues that would be coming up in the next few pages, let us use the rate list given in Table 4 as our starting point.

**Inter-bank Exchange Rates**
**19/MAY/2005 at 9:33:00 AM**

| | Bid | Ask/Offer |
|---|---|---|
| USD/EUR | 0.79008 | 0.79026 |
| USD/JPY | 107.1 | 107.2 |
| USD/MXN | 10.934 | 10.9505 |
| USD/BRL | 2.458 | 2.461 |
| USD/GBP | 0.54333 | 0.54351 |
| USD/CHF | 1.2188 | 1.2193 |
| USD/CAD | 1.2598 | 1.2603 |
| AUD/USD | 0.7595 | 0.76 |
| USD/NZD | 1.4033 | 1.4045 |
| USD/WON | 1004.5 | 1005.0 |
| USD/SGD | 1.6529 | 1.6534 |
| USD/NOK | 6.4136 | 6.4166 |
| USD/DKK | 5.8828 | 5.8858 |
| USD/SEK | 7.26 | 7.262 |

**Table 4**

**Notes:**

1. Table 4 lists a few of the world currencies (before the Euro was introduced and spread its wings). The three-letter currency abbreviations (viz., CHF, CAD) were uniformly standardised and accepted worldwide.
2. Since its introduction, the Euro zone has expanded to make several commonly traded currencies of Europe obsolete. The process is still on, and the scenario is ever-changing. For these reasons, exporters and importers should keep an eye on the Euro zone to keep themselves up to date with developments.
3. Whenever a currency is mentioned by name, it is common practice to precede the name of the currency with the name of the country concerned. Hence we refer to *Canadian* Dollar, *Swiss* Franc, *Indian* Rupees. A currency is rarely mentioned in isolation (Euro is a good example). This practice is to avoid all possible confusions in communication. As a matter of interest, a large number of countries use 'dollar' as their national currency, as is the case with rupee, franc, shilling or pound. Hence the precaution.

## A Few Key Points Illustrated

A number of terms that have been defined and explained in the earlier chapters may now be placed in their proper context, using the exchange rate table. This exercise would help the reader to clear any confusion that may still be lingering at the back of the mind.

*Two-way Quotes:* The exchange rate table above provides two-way quotes for the currencies. The quotes show both the buying and the selling rates.

Let us take the rate at the top of the table, it being for USD against Euro. The two-way quote would be 1 USD = 0.79008-26 Euro. This means the bank that has quoted the rates is willing to pay (sell) Euro 0.79008 for every USD it bids for, and receive (buy) Euro 0.790026 for every USD it offers for sale.

*Bid and Offer Rates:* Putting it in another way, the bank is *bidding* for (or buying) USD @ 0.79008 Euro per USD, and *offering* (selling) USD @ 0.79026 Euro per USD. The next rate just below the first line shows the amount of Japanese Yen the bank quoting these rates is willing to pay to buy per unit of USD, or receive to sell per unit of USD.

*Exchange Rates – Interpretations:* We observe from Table 4 that the *selling* rate of Euro is the *buying* rate for USD, and vice-versa. Same with Japanese Yen and the other currencies. The table, therefore, shows the selling (first column) and the buying

(second column) rates of various currencies against one unit of the USD (except for USD which is quoted against AUD). We could also say that the table shows the amount of various currencies the bank that has quoted these exchange rates is willing to pay (or part with) to bid for USD, and the amounts the bank is willing to ask (buy or receive) for every USD. In everyday language, we refer to the first column in the table as showing the *selling rate* (for Euro, JPY, MXN, CAD) and the second column as showing the *buying rate* (for the same currencies). This, in essence, is the *exchange rate table*.

*Spread:* It had been explained earlier that the difference between the *bid* and the *offer* rates is termed as the *spread.* This is the margin that the bank expects to keep for itself every time it buys and sells any foreign exchange. In our above example the bank maintains a spread for each USD it buys and sells, i.e. every time it turns over one USD. The same concept works for all the other rates in Table xx. You need to be careful only when dealing with the rates for the Australian Dollar. The rate is an *indirect* quote – in terms of so many USD per AUD. Unlike all the other quotes, the *base* is the not the same here.

## Computing Merchant Rates

Table xx above shows the inter-bank rates prevailing at a particular point in time on 19th May 2005. These are the rates at which one bank is ready to deal with another. (Of course, these rates are valid for that moment only and may change without notice). Banks also deal with those who do not (or are not allowed to) have direct access to the inter-bank markets. They must, necessarily, route all their requirements for foreign exchange through an authorised dealer in foreign exchange, viz., a commercial bank.

In order to compute merchant rates (for customers of banks or authorised dealers) the inter-bank rates are used as base rates (starting points). Going by the inter-bank rate quoted for Euro (1 USD = 0.79008 - 26 Euro), a bank can buy Euro from the inter-bank market @ 0.79008 Euro per USD. The Euro thus acquired can be used to meet a customer's requirement (say, for payment of import bills or an outward remittance). But if the inter-bank rate is extended to its customer, the bank would not be left with any profit margin, nor would the bank succeed in recovering its cost of operations.

Therefore, the final merchant rate must be arrived at after loading a margin on the inter-bank rates. In other words, inter-bank rate + operating costs + exchange profit = merchant rate. (Mostly, overall profit margin includes operating costs). Let us assume that, for quoting to its customers, the bank plans to retain an overall margin of (say) 0.1 per cent on the inter-bank rates. The load of 0.1 per cent on the selling rate as also

the buying rates would be 0.00079 (approx). The merchant rates would then be computed as below:

1USD = (0.79008-0.00079) and (0.79026+0.00079)*

or

1USD = 0.78928 – 0.79105 (rounding off in favour of the bank)

*Note the principle applied above while arriving at the merchant rates: margins, once loaded, ought to result in the bank *paying even less* or *receiving even more*. To achieve these objectives the bank, therefore, *deducted* the 0.1 per cent margin from the inter-bank selling rate (thus giving out less), and *added* to the buying rate (thus receiving more).

The margin or spread for the inter-bank deal was (0.79026-0.79008=) 0.00018 pips per USD. The margin or spread on the merchant rates quoted translated to (0.79105–0.78928=) 0.00177 pips, higher by 0.00159 pips, *an increase by a multiple of **9.8** per USD.*

### 'covering' Transactions

As an essential part of a bank's risk management policy, a bank must ensure that its transactions are suitably 'covered'. This means that the rate at which it has concluded its 'purchase' transactions is matched by a corresponding 'sale'. Whether that is achieved through the inter-bank market or by matching it with transactions generated by other merchant customers, is a decision to be made by the bank and its dealing team and after taking into consideration information from its branches. Similarly, all 'sales' contracted with its customers must be 'covered' by corresponding 'purchase' transactions.

## Exercises on Exchange Rate

### Exchange Arithmetic

The following section on foreign exchange arithmetic brings into sharp focus the many principles and definitions regarding exchange rates that had been discussed and explained here. The worked out examples in the following sections demonstrates in practical terms the method for calculation of bill buying rates from the on-going inter-bank rates, the ground rules for applying margins and spreads, and methods for calculation of rates for forward transactions - both for DP and DA bills.

The exercises also show the FEDAI Rules at work. The exercises have been tailored to help the reader work out forward rates using two-way quotes, premium and discounts, and guide him to the correct choice of rates for various merchant transactions. Of great interest to the reader would be the process used to calculate cross rates for spot and forward transactions and the application of chain rule. Through these worked out examples, all that had appeared in the earlier pages regarding exchange rates would be more easily understood.

## Exercise 1:

This is a worked out example to show the impact of interest differential on forward price.

*Objective*: We are required to arrive at 4 months' merchant forward sales rate for a customer. Customer requires 4 months' forward rate on USD150,000/-.

*Assumptions*:

| | |
|---|---|
| Spot rate for USD in India | Rs.44.50 |
| Interest rate on deposits in India | 6.0% p.a. |
| USD deposit rate in New York | 4.0% p.a. |

*Steps* by bank:

| | | |
|---|---|---|
| Borrowed INR in India @ 6% p.a. (to purchase USD) | $150,000 x Rs.44.50 = | Rs.6,675,000 |
| Interest on Rupee borrowing @ 6% p.a. | (6,675,000 x 6 x 4)/(100 x 12) = | Rs.133,500 |
| Total INR repayable after 4 mths. | | Rs.6,808,500 |
| | | |
| Invested USD 150,000 in New York | for 4 months @ 4% p.a. | $150,000 |
| Interest earned on above investment | $(150,000 x 4 x 4)/(100 x 12) | $2,000 |
| Total USD receivable after 4 mths. | | $152,000 |

If the above rates are to be frozen for delivery 4 months hence, the bank should be able to get back Rs.6,808,500 from the customer on sale of his required amount of USD, i.e. $150,000/- (excluding operating profits and other costs).

The exchange rate, therefore, should work out as

$$\frac{6,808,500}{152,000} = \text{Rs.44.79 (per USD)}$$

The rate for 4 months' forward INR being Rs.44.79 per USD, the USD is obviously at a premium (to the INR) in the forward market. This is in line with the fact that the Rupee interest rate is higher than USD. *The required premium works out to Re.0.29 for the four-month period.*

*Note:* The bank could have bought USD spot, thus fixing the price, and simply passed it on to the customer on due date. This step would have resulted in (a) the bank paying interest on the Rupee loan used to acquire the USD, and (2) loss of interest income from investment (the opportunity cost) of the USD over the next 4 month period. It would not have been the best rate quoted to the customer either. Hence the use of the above calculations to arrive at the actual forward rate applicable to the whole transaction. The above working can be simplified using the following formula:

$$\text{Forward margin} = \frac{\text{Spot rate x months x the difference in interest rates}}{12 \times 100}$$

$$= \frac{44.50 \times 4 \times 2}{12 \times 100} = \text{Re.}0.30$$

**Exercise 2**

**Task**: To issue a TT of USD 15,000/- at the request of a customer. (This exercise is to show how the correct rates are selected, and how the exchange margin is applied.)

**Assumptions:**

| | |
|---|---|
| Spot rate for USD | Rs. 44.5000 - 5500 |
| I month forward | 2200 - 2300 |
| Exchange margin for TT sale | 0.15% |

**Points to remember:**

i) The bank must buy the required foreign exchange (USD) from the inter-bank market.

ii) Therefore, it would have to effect the purchase at the inter-bank selling rate for the USD.

iii) The customer would be paying the total rupee equivalent (at the applicable rate of exchange plus margin and communication charges) to the bank *before* the latter puts through the transaction. The bank would not be out of pocket. The spot rate would, therefore, be applicable. The forward rate can be ignored.

iv) Exchange margin should be added to the inter-bank rate, so as to make the USD dearer to the customer. The customer should be paying more rupee per $, to enable the bank to retain a margin for itself.

The inter-bank offer rate for USD being Rs. 44.5500, the rate to the customer would be Rs. 44.5500 + 0.15% = Rs. 44.6168 (or Rs. 44.62 after rounding off). Towards the TT remittance of $15,000.00 the customer should pay the bank Rs. 669,300 plus handling charges.

**Exercise 3**

**Task** : import bill for USD 80,000 to be retired by customer.

**Assumptions**:

| | |
|---|---|
| Spot rate for USD | Rs.44.5000 - 5500 |
| I month forward | 2200 – 2300 |
| *Exchange margin for TT sale | 0.15% |
| *Exchange margin for bill selling | 0.20% |

***Note* :**

Current rules do not require banks in India to observe the two-step rule earlier prescribed by FEDAI to arrive at the Bill Selling rate. The exercise has been consciously structured in the above manner to help the students in case the examination questions happen to appear in the older format. If a straightforward, single exchange margin over the inter-bank rate is stipulated in the questions, the calculations would obviously be simpler.

**Calculations**:

The bank must buy the required foreign exchange (USD) for its importer-customer from the inter-bank market at the inter-bank selling rate for the USD. The applicable rate would, therefore, be Rs.44.5500. Next, the exchange margin would be calculated as follows:

| | | |
|---|---|---|
| Bill Selling rate | Rs. | 44.5500 |
| Exchange margin for TT selling (0.15%) | | 0.0668 |
| TT Selling rate (base rate for import bill) | Rs. | 44.6168 |
| Exchange margin for Bill Selling (0.20%) | | 0.0892 |
| Bill Selling rate | Rs. | 44.7060 |
| Amount payable by customer USD 80,000 X 44.7060= | Rs. | 3,576,480 |

**Exercise 4**

**Task** : Inward TT received for credit of customer's account (in INR).

**Assumptions**:

| | |
|---|---|
| Amount received | CAD 25,000/- |
| Spot rate for USD | Rs.44.5000 – 5500 |
| Overseas inter-bank market rate for CAD | CAD 1.2598 – 2603=1 USD |
| Exchange margin for TT Buying | 0.08% |

**Rationale**:

The idea is for the bank to buy the CAD from the customer, and pay him INR. However, CAD quotations in the local market are based on international market rates for CAD. In the international market the CAD is quoted against the USD. Therefore, we have to go through the international market rate for USD/CAD and local rate for USD/INR to arrive at the CAD/INR rate.

The bank first buys the proceeds of the inward TT at the TT Buying rate for USD. This is arrived at as follows:

Step 1: Bank buys CAD from customer (rate to be determined), sells the same in the international market.

Step 2: Since in the international market CAD is quoted only against the USD, when the bank sells CAD it receives USD (at market's buying rate for CAD, e.g. 1 USD = CAD 1.2603).

Step 3: Bank sells the USD thus received in the local inter-bank market (at market's buying rate for USD, viz., 1 USD = Rs.44.5000). Receives INR equivalent.

Step 4: Bank deducts exchange margin and pays balance amount to customer. Transaction completed.

**Calculations** (to arrive at the CAD/INR exchange rate):

| | | |
|---|---|---|
| Amount purchased from customer | | CAD1 (assumed) |
| Sold to overseas/international market | @ market's buying rate for CAD | 1.2603 = 1 USD |
| Receives in exchange | USD (1/1.2603) = | 0.7935 |
| Sold in the local/inter-bank market | @ market's buying rate for USD | Rs.44.5000 per USD |
| Amount recd. from inter-bank market | Rs.[(1/1.2603) X 44.5000] = | Rs.35.3091 |
| Deduct exchange margin on above @ | 0.08% | 0.0283 |
| Net INR payable to customer per CAD (CAD/INR rate) | Rs. [(1/1.2603) X 44.5000] less [(1/1.2603) X 44.5000] x 0.08%= | Rs. 35.2808 |

We thus arrive at the CAD/Rupee rate of Rs.35.2808 per Canadian Dollar, and apply the same on the amount tendered by the customer by way of TT received. The net amount payable would thus be Rs.882,020.

The process for arriving at the cross rate between Canadian Dollar and the Indian Rupee is known as the 'chain rule'. We have also used the opportunity to explain the rationale and the logic behind the process.

***Thumb rules*:** For direct rates, divide the $/Rs. rate by the $/Foreign Currency rate. When dealing with indirect rates, multiply the two.

**Exercise 5**
**Task**

To arrive at export bill purchase rate for a CHF export bill through the use of forward rates, cross rates and chain rule. Bill amount: CHF 750,000.

**Assumptions:**

Prices of USD/INR ruling in the local inter-bank market on the date of presentation of bill:

| | | |
|---|---|---|
| Spot USD 1 = INR | | 44.5000 – 5500 |
| Spot | / 1 month | 2320 – 2200 |
| | / 2 months | 4950 – 4800 |
| | / 3 months | 6350 – 6200 |
| | / 4 months | 8460 – 8300 |

Prices of USD/CHF ruling in the overseas market on the date of presentation of bill:

| | | |
|---|---|---|
| Spot USD 1 = CHF | | 1.2188 – 2603 |
| Spot | / 1 month | 0002 – 0004 |
| | / 2 months | 0005 – 0008 |
| | / 3 months | 0009 – 0012 |
| | / 4 months | 0020 – 0026 |

Exchange margin 0.15%, and NTP to be taken as 20 days.

**Calculation of exchange rate:**

We have to find out the bill buying rate for a CHF bill. Just to recap the steps: (i) bank buys CHF from the exporter, sells to overseas market against receipt of USD; (ii) sells this USD in local inter-bank market, receives INR; (iii) reduces rate by margin amount and charges, arrives at final bill buying rate [and applies the same to (i)].

CHF/INR rate would be arrived at through the overseas rates for USD/CHF, and local inter-bank rates for USD/INR. Note also that the USD is at a discount over spot against the INR in the forward market.

The bank would be receiving USD and selling to the market at the market's USD buying rate. Since USD is at a discount, rounding off of the forward rate should be done taking the month-end rate into account.
From the table above, we find

| | |
|---|---|
| USD/ INR spot rate | 44.5000 – 5500 |
| 1 month forward | 2320 - 2200 |
| Market's 1 mth. Fwd. buying rate for USD | 44.2680 |
| Adjusting for the exchange margin of 0.15%, the merchant bill buying rate would be | 44.2680 – (0.15% of 44.2680) = 44.201598 |

The next step is to arrive at the CHF/INR rate.
First, we note that the USD is at a premium against the CHF in the overseas forward market. Second, the bank is to sell CHF to the overseas market which is the buyer, hence quotes the CHF buying (or USD selling) rate.
Third, USD being at a premium against the CHF, and in view of the above fact, rounding off will be for the month-end, not the lower month. Therefore:

| | |
|---|---|
| Spot selling rate for USD/CHF | 1.2188 – 2603 |
| 1 month forward rate | 0002 - 0004 |
| 1 month forward outright rate for USD/CHF | 1.2607 (market selling rate for USD) |

Applying the chain rule, bank's bill buying rate for CHF/INR would now be: (44.201598/ 1.2607) i.e. Rs. 35.0612. Rounding off to the nearest multiple of 0.0025, the final rate would be Rs.35.0600 per CHF.

*Note*
Many a times, the problems include an element of interest to be charged to the customer. The rate is also given. In such instances, simple interest is to be calculated for the duration of the NTP, or the (NTP + usance) period applicable to the bill in question, the amount being reduced from the proceeds. The final INR amount payable to the customer would be less to the extent of interest thus calculated, plus handling charges and out of pocket expenses deducted by the bank.

**Exercise 6**
This example illustrates the application of cross-currency rates for a currency quoted through indirect method.
Our objectives are to calculate (i) TT selling rate and (ii) bill selling rate using the chain rule.

Assumptions:

| | |
|---|---|
| Spot USD 1 = INR | 44.5000 – 5500 |
| Spot / 1 month | 2200 – 2320 |
| / 2 months | 4800 – 4950 |
| Spot 1 EUR = USD | 1.2650 – 2725 |
| Spot / 1 month | 0025 – 0050 |
| / 2 months | 0045 – 0075 |

§ Stipulated exchange margins: 0.15% for TT selling, and 0.20% for Bill Selling.

## Calculations

The bank is required to sell Euro to both the clients. Therefore, it must buy from the market the required foreign exchange. Quotations would have to be based on the overseas market rates, since all quotations for Euro are against the USD, from which Euro/INR rates are derived.

Both the transactions are spot transactions, since customer would pay cash (INR) (actually by debit to their respective accounts) to acquire their foreign exchange requirements.

| | |
|---|---|
| Inter-bank market selling rate for USD | Rs. 44.5500 |
| TT Selling exchange margin @ 0.15% (to be added) | Re. 0.0668 |
| USD TT Selling rate | Rs. 44.6168 |
| Exchange margin for Bill Selling @ 0.20% (to be added) | Re. 0.0892 |
| USD Bill Selling rate | Rs. 44.7060 |

Bank must buy EUR from the overseas spot market, at the *market's selling* rate for Euro (i.e. their *buying* rate for USD). Accordingly (remember the thumb rule: the one that quotes the rates, would like to receive *more* Dollar per Euro, and give *less*).

| | |
|---|---|
| Overseas market's spot rate for selling Euro | USD 1.2725 |
| TT Selling rate for Euro (44.6168 X 1.2725 =) | RS. 56.7749 |
| Bill Selling rate for Euro (44.7060 X 1.2725 =) | Rs. 56.8884 |

Rounding off to the nearest multiple of 0.0025, the above rates would read as Rs. 56.7750 for TT Selling, and Rs. 56.8900 for Bill Selling. Applying these rates, the amounts payable in INR by the customers can now be easily calculated.

**Exercise 7**

**Task**

To find out export bill buying rate for DP bill and 30 days' DA bill for CHF. Bill presented for discount on 3rd June, when rates were

| | | |
|---|---|---|
| Spot USD | = | INR 44.80 - 44.81 |
| Spot / 1M | = | 0.18 - 0.19 |
| / 2M | = | 0.33 - 0.35 |
| / 3M | = | 0.67 - 0.68 |
| / 4M | = | 1.00 - 1.01 |
| Spot USD | = | CHF 0.8400 - 0.8410 |
| Spot / 1M | = | 0.0002 - 0.0003 |
| / 2M | = | 0.0004 - 0.0005 |
| / 3M | = | 0.0006 - 0.0007 |
| / 4M | = | 0.0008 - 0.0009 |

Exchange margin 0.15%. Transit period 25 days.

**Workings**

a) It may be seen that USD is at a premium against Rs and CHF is at a discount against USD.

b) Since a DP bill may take anything between 5 to 25 days to get paid, bank will ignore premium for the transit period but extract full month's discount from thje exporter.

d) Hence for a DP bill, bank will take IMF CHF buying rate against USD and spot USD buying rate against Rs and vombine both to get effective cover rate for CHF/Rs. which will ensure extration of one month's discount for CHF from USD/CHF rate but conceding no premium on USD/Rs.

Thus the effective cover rate will be

| | | |
|---|---|---|
| 1 CHF = Rs 44.80 / (0.8410 + 0.0003) | = | 53.2509 |
| Deduct exchange margin 0.15% | = | 0.0799 |
| DP bill buying rate | | Rs. 53.1710 |
| Rounded off to | | Rs 53.17 |

**e)** Following the same logic, for a 30 days' DA bill, the relevant rates will be IMF $ / Rs rate and 2MF $/CHF rate.

The effective cover rate will be

| | | |
|---|---|---|
| 1 CHF = Rs (44.80+0.18)/(0.8410+0.0005) | = | 53.4521. |
| Deduct exchange margin 0.15% | = | 0.0802. |
| 30 days DA bill buying rate | = | Rs. 53.3719 |
| Rounded off to | = | Rs 53.37 |

**Exercise 8**

**Task**

To quote option forward contract rate for 2MF delivery option for a 30 days' DA export bill for CHF. Rates same as in exercise 7. Exchange margin 0.15%.

**Workings**

**a)** In a 2MF option delivery contract, the exporter has the option to deliver on any day from the first day of the second month till the end of that month. For example, if the request is made on 3rd June, the option delivery period will be 4th July to 3rd August.

**b)** Since the option lies with customer, bank will presume that he will deliver on a day most favourable to him and least favourable to the bank and quote rates accordingly to protect himself against any eventuality. Thus, an exporter is presumed to deliver on the first day of option period if the currency is at a premium and on the last day, if the currency is at a discount. Vice-versa for the importer.

**c)** In the present case this will mean that for the premium currency, that is $/Rs, exporter will deliver on the first day of option, that is 4th July, transit period should be ignored and after accounting for 30 days usance, the relevant cover rate will be market's 2MF USD buying rate, that is Rs (44.80+0.33) or Rs.45.13. On the other hand for the discount currency CHF, exporter is presumed to deliver on the last day option, that is 3rd August, transit period of one month (Since broken periods are not quoted) to be considered and after accounting for 30 days' usance period, the relevant cover rate will be market's 4MF CHF buying rate, that is CHF (0.8410 + 0.0009) or CHF 0.8419.

Thus the cover rate will be

| | | |
|---|---|---|
| 1 CHF = Rs 45.13 / 0.8419 | = | 53.6049 |
| Deduct exchange margin | = | 0.0804 |
| | | ——— |
| 2MF option for 30 days DA bill buying rate | = | 53.5245 |
| Rounded off to | Rs | 53.52. |

**Exercise 9**

**Task**

An importer had booked 2MF option delivery contract for Euro 100,000 at 65.50 on 3/6/2011. On 15th June, he requests the bank to cancel the contract. Quote the rate at which the contract will be cancelled assuming an exchange margin of 0.25%. What will be the profit/Loss of the importer? The market rates on 15th June were:

| | | | |
|---|---|---|---|
| Spot USD / Rs | = | Rs | 45.20 - 45.21 |
| Spot / 1MF | = | | 0.25 - 0.26 |
| / 2MF | = | | 0.52 - 0.53 |
| / 3MF | = | | 0.78 - 0.79 |
| Spot Euro / USD | = | | 1.4620 - 1.4630 |
| Spot / 1MF | = | | 0.0011 - 0.0010 |
| / 2MF | = | | 0.0024 - 0.0022 |
| / 3MF | = | | 0.0037 - 0.0035 |

**Workings**

**a)** Original delivery period of the contract is 4th July to 3rd August

**b)** On 15th June, no. of days remaining for the beginning and the end of original delivery period will be 19 days and 49 days respectively, which is approximately between 0.5 month and 1.5 months.

**c)** Cancellation of a sale contract is equivalent to a buy contract and the bank will have to sell Euro against USD and sell USD against Rs to cover itself. The bank will hence concede less premium in a premium currency and extract more discount in a discount currency, the delivery period being 1st day of option for premium currency and last day of option for discount currency.

**d)** In this case, $ / Rs is at premium, first day of the option is 19 days away and hence spot $ buying rate of Rs 45.20 will be the cover rate. On the other hand Euro is at a discount against USD, the last day of the option is 49 days away and hence 2MF euro buying rate, which is USD (1.4620 - 0.0024) or USD 1.4596 is the cover rate.

**e)** Thus the Euro / Rs cover rate will be

| | |
|---|---|
| 1 Euro = Rs 1.4596 x 45.20 | = 65.9739 |
| Deduct exchange margin 0.25% | = 0.1649 |
| Cancellation rate | = Rs. 65.8090 |
| Rounded off to | = Rs. 65.81 |

**d)** Since originally Euro was sold forward to the importer at Rs 65.50 and now it is being cancelled, that is effectively being bought back at Rs 65.81, the gain to the importer will be Rs (65.81 - 65.50) = Rs 0.31 per Euro or Rs 31,000 for the contracted amount of Euro 1,00,000.

**Exercise 10**

**Task**

An exporter had booked 2MF option delivery contract for DP bill for Euro 1,00,000 at Rs 66.50 on 3rd June. On 15th June, he requests the bank to accept early delivery under the contract and discount the bill. What will be the amount payable by or payable to the customer? Interest on outlay of funds at 15%. The market rates on 15th June were as given in exercise no 9.

**Workings**

**a)** Original delivery period of the contract is 4th July to 3rd August. Bank had covered itself by selling forward Euro of appropriate maturity against Rs through USD

and quoted the rate of Rs 66.50 to the exporter on that basis after keeping his exchange margin.

**b)** If the bank now accepts early delivery on 15th June, it will have to sell Euro against Rs immediately and simultaneously buy Euro back against Rs forward whose maturity will coincide with earlier forward sale of Euro. This is a swap transaction and the resulting swap gain or loss will be to the customer's account.

**c)** The rate for the front leg of the swap will be calculated by combining market's spot $ / Rs buying rate with IMF Euro / $ buying rate on the principle of "concede minimum premium but extract maximum discount for a buy transaction"
Thus the rate for front leg of the swap will be 1 Euro = Rs 45.20 x (1.4620 - 0.0011) = Rs 66.03.

**d)** The rear leg of the swap is a sale transaction of maturity between 19 and 49 days (reckoned from 15th June) and based on the principle of "extract maximum premium but concede minimum discount on a sale transaction" the rates will be 2MF $ / Rs selling rate with spot Euro / $ selling rate.
Thus the rate for the rear leg of the swap will be
1 Euro = Rs (45.21 + 0.53) x 1.4630 = Rs 66.92.

**e)** Hence the swap charges will be

| | | |
|---|---|---|
| Sell Euro 100,000 @ Rs 66.03 and receive | Rs | 66,03,000 |
| Buy Euro 100,000 @ Rs 66.92 and pay | Rs | 66,92,000 |
| Difference | Rs | 89.000 |

This is a swap loss which will be payable by the exporter for early delivery under the contract.

**f)** It may be seen, that by accepting early delivery, the bank will pay the exporter Rs 66,50,000 by discounting the bill for Euro 1,00,000 @ 66.50. However, by selling Euro 100,000 in the front leg of the swap, bank receives only Rs 66,03,000 as shown above. Bank is, thus, out of pocket for Rs 47,000 (66,50,000 - 66,03,000) which will persist till the rear leg of the swap is completed, effectively after 49 days from the date of execution of front leg. This is known as outlay of funds and interest on Rs 47,000 for 49 days at 15% amounting to Rs 946 will be payable by the exporter.

Thus the total amount payable by the exporter for early delivery is
Swap charges + interest on outlay of funds
That is Rs 89,000 + Rs 946 = Rs 89,946.

**g)** If swap difference is collected at the time of accepting early delivery and if the difference is more than the amount of outlay of funds, the interest on outlay shall

be ignored. If however, it is paid at the end of the original tenure of the contract, both swap charge and interest on outlay shall be payable.

**Exercise 11**
**Task**
Extension of a forward contract.

**Workings**
In terms of current RBI guidelines, a forward contract cannot be extended at the old contracted rate. To extend the contract, first the original contract has to be cancelled as shown in exercise 9 and a new contract has to be booked as shown in exercise 8.

## 314.1 4 Conclusion

In this unit we discussed the fundamental issues relating to exchange rates. In the process, we clarified the concept of exchange rate, covered some of the important definitions relating to exchange rates, and discussed the factors affecting the movement of rates and the methods of rate quotation. The concepts of forward rates, merchant rates, cross rates and chain rule were discussed in detail. These should help those engaged in international trade to understand how the exchange rate mechanism works in practice and some of the related issues.

### Exercise

**a)** Enumerate the various factors that affect the exchange rate of a currency. How does the central bank of a country maintain the stability of exchange rate of the home currency?
**b)** **"** Forward differences in exchange rate is nothing but a reflection of the interest rate differential of the two currencies " - Explain with example.
**c)** Explain with example the principles based on which option forward rates are quoted to an exporter or an importer when the currency is at a premium or discount.

### Reference

**a)** Fundamentals of International Banking - By Rupnarayan Bose ( Macmillan India Ltd )
**b)** A Brief Course on Foreign Exchange Arithmetic - By C. Jeevanandam
**c)** The Principles and Arithmetic of Foreign Exchange - By S. Evelyn Thomas

# Unit 315 ❐ Types of Risks

## Structure

315.19 Historical background of the futures markets

315.20 Futures contract

315.21 Futures contracts and forward contracts

315.22 Financial futures: terms and conditions of contract

315.23 Types of futures contracts

315.24 Financial futures in risk management

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315.25 Definition

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315.27 Futures contracts and option contracts

315.28 Call option, Put option

315.29 Risk comparison – Cash market vs. Option market

315.30 Conclusion



## 315.1 Objectives

Risks are integral to any venture. While risks exist for both, for various reasons, risks in domestic trade are somewhat less than in international trade. There also exist in the market various financial products and instruments to insure against those risks – either to the full extent or to a somewhat lesser degree. What is important, however, is to first understand the nature of the risks; second, the financial instruments available for managing (hedging against) them; next, their merits, demerits and costs.

This unit provides an introduction to some of the risks in international trade and the instruments available for managing them.

## 315.2 Payment Terms and Risks

Put very briefly, the buyer's dilemma is as follows:

(a) How to make sure that I get exactly the goods that I pay for?

(b) Why should I pay before I have an opportunity to *examine* the goods?

The seller's main concern is about receiving payment. His typical question is something like, "What is the guarantee that the buyer will pay once I have effected delivery?"

For the seller, the main area of concern is the time lag between the loss of physical control over the goods and the receipt of payment. The buyer, on the other hand, is more concerned with due receipt of the goods contracted for, the specifications of the goods and its timely delivery. For obvious reasons, payment is not his primary concern. He'd like to ensure that he pays for only what he receives.

In an ideal scenario, a buyer would like to pay only when the goods have been received and examined. The seller, on the other hand, would prefer to have the entire amount paid in advance. Unfortunately, the best option for the seller is often the worst option for the buyer, the risks being the highest. Similarly, the best option for the buyer carries the greatest risk for the seller. The parties, therefore, stand at the opposite end of the payment spectrum that ranges from advance payment to deferred payment. Given this scenario, where does the twain meet?

Before one is in a position to address that question, it is necessary to understand the nature of the risks in international and domestic trade. The more commonly used methods of payment, and the risks associated with each, are given in brief in Table 1. Details of risks follow.

## Table 1: A comparison of payment terms and associated risks

| Term of settlement | When goods available to buyer? | When the seller gets paid? | Risk to Seller | Risk to Buyer |
|---|---|---|---|---|
| Advance payment | Upon arrival at the buyer's l ocation | Prior to shipment; sometimes even before the seller begins the manufacturing process | None | The greatest since the goods may be delayed or not be shipped, or be of inferior quality, Since buyer has already paid, he is at the mercy of the seller. |
| Open Account | On receipt of shipment and shipping documents. | As per mutual arrangement, but after receipt (and often only *after* sale) of goods | Full reliance on buyer to pay invoice when due | Risk is the least or none |
| Bills for collection – on D/P terms | After payment of the bills and invoice amount. | Upon presentation of draft and documents to the buyer | Non-payment on presentation. Problems with disposal of goods. | Relies on seller to ship goods as per specifications. Cannot examine goods till payment made and delivery taken. |
| Bills for collection – on D/A terms | Upon acceptance of time draft. | Upon maturity of time draft. | Non-payment of draft on maturity. Control over the goods already lost. | Less than that for bills on DP basis. Payment to be made regardless of product quality, but time is available to examine goods and negotiate. |
| Banker's Acceptance (BA) | Upon acceptance of time draft and co-acceptance by his bank. | Upon maturity of time draft | Control lost over shipment. But acceptance or co-acceptance by bank ensures payment on maturity of draft(s). | Irrespective of possible disputes over product quality etc. payment must be made to bank which has accepted or co-accepted drawer's time draft. |
| Deferred Payment | If a draft is part of documentation, then on acceptance of time draft and/or co-acceptance by his bank. | On maturity dates of drafts, or on due dates of respective instalments. | Control lost over shipment. Payment on schedule assured only if banker's co-acceptance or DPG is available. | Irrespective of possible disputes over product quality etc. payment must be made to bank which has accepted or co-accepted drawer's time draft. |
| Sight Letter of Credit | Only upon payment against LC and taking delivery of documents. | When shipment has been made and documents presented to the issuing/negotiat-ing bank. | Documents must be approved by the issuing/ confirming bank. | Cannot examine goods till payment made; must rely on seller for supply of specified goods. If documents comply, payment must be made irrespective of the quality etc. of the goods. |

## 315.3 Risks in International Trade

### 315.3.1 Types of risks

For our purpose we may define a risk factor as any eventuality that may negatively affect the performance of a contract or the receipt of payment; an event that – if it occurs – could result in a loss. The risks in international trade are discussed here under the following broad heads:

(1) Counterparty risk: Performance of importer
(2) Counterparty risk: Performance of exporter
(3) Country risk (includes political risks)
(4) Transit risk
(5) Industry risk
(6) Documentation risk
(7) Exchange rate risk
(8) Legal risk

The list is neither exhaustive nor complete. There are several other types of risks like operational risks, key person risk, risk arising from fraud, obsolescence etc. that can easily be included in our list of risk factors. There are no water-tight compartments or 'boxes' for categorisation of risks. Some risks overlap, as do their causes or circumstances. These facts will become apparent as we proceed in our analysis of the risks and their causes.

### 315.3.2 'Performance' and 'counterparty' defined

Before we go deeper into the subject or risks, we should clarify two terms that are in common use. These terms are:

(a) performance, and
(b) counterparty

*Performance:* The term 'performance' refers to the tasks or responsibilities assigned to or expected of a party to the transaction or an arrangement. For example, when a buyer buys goods, he should take delivery at the agreed place, and also pay for them (as per agreed terms). As far as the seller is concerned, payment is one of the 'performances' expected of the buyer.

Similarly, when a buyer has contracted with the seller or the exporter to buy certain goods, the buyer expects the consignment to be packed and made ready for the voyage

or for delivery, or transported to the agreed point of delivery to enable the buyer to take possession of the consignment. If these are the agreed tasks the seller is required to undertake as an integral part of the contract, then each of these tasks would be deemed to be 'performance' expected of the seller. Not executing any of these would count as *non-performance*.

*Counterparty:* The term counterparty means the party on the other side of a contract, transaction, arrangement or deal. For the buyer, his counterparty is the seller. For a shipper or exporter the counterparty, depending on the issue at hand, may be the buyer, the transport operator, the insurer, or the forwarding agent. The counterparty is, thus, determined by the transaction under reference relevant at that point in time.

We begin our analysis of risks with the first major areas of concern to the seller and the buyer viz., counterparty risks.

### 315.3.3 Counterparty Risks : Performance of the Buyer/Importer

While looking toward the buyer, the 'counterparty risks' that a seller or exporter would be primarily concerned about are the following:

*(a) Non-payment:* It is one of the major areas of concern for any seller. The probable cause of-payment could be any of the ones stated below.

*(b) Unwillingness to pay:* This is the most common of all causes. The apparent 'unwillingness' is an umbrella term, a cover for other possible reasons for the buyer's delay or ultimate failure to pay. Once again, the reasons could be internal or external or a combination of both such as better deal from elsewhere, transient or long term cash-flow problems, liquidity crisis, deterioration in business conditions, competitive or deteriorating market conditions, or any reason unfavourable to his business.

*(c) Delay in payment:* This includes habitual or frequent delays caused by the importer in settling his dues. Delays could arise for reasons not of the exporter's own making, but final payment to the exporter could be adversely affected nonetheless.

*(d) Unwillingness or delay in releasing goods or payment:* The buyer may delay taking delivery of the goods or in paying his supplier. Probable reasons include the following:

(i) Quality, quantity or any aspect of the consignment not being according to specifications.

(ii) Items supplied differing from that originally contracted.

(iii) Shipment delayed by seller, late arrival of consignment: Delayed arrival of

goods may cause the buyer to miss the peak or the right season for sale of his goods. The buyer may not have any further use thereafter for the items ordered. Or, the buyer's production schedule may be upset or gone awry if the inputs fail to arrive when they ought to.

(iv) Drop in price in the international market forcing the buyer to demand discounts, as otherwise his prices become uncompetitive and the returns from business unviable.

(v) Availability of alternate and cheaper source of supply or better terms of sale.

*(e) Insolvency of buyer or closure of business operations*: Failure to pay may be caused by the buyer's insolvency, going deeply in the red to the extent that he is unable to meet his commitments, or if he is declared insolvent/bankrupt. The closure may also be brought about by the buyer himself. He may change his line of business or location. For the seller, the worst possible scenario may materialise if the buyer simply closes his business and disappears, without trace, without notice or without meeting his obligations.

*(f) Change in specifications*: This is a situation that could be forced on the seller by the buyer at any time during the process of production or manufacture. Problems become greater for the seller under such conditions especially when the consignment happens to be made-to-order or custom built. In the case of manufacture of heavy machinery or specialised items where long term planning and large investments are called for, significant modification in specifications while the item is midway through the production process, or a cancellation, may cause severe problems for the seller/ manufacturer. The resultant cost implications could have a crippling effect on the manufacturer/exporter.

### 315.3.4 Counterparty Risks: Performance of Exporter

Some of the risks that a buyer would have to consider vis-à-vis his supplier are enumerated below.

*(a) Incorrect documentation:* The seller may have problems in furnishing the specific documents or documents with the exact contents and descriptions as demanded by the buyer.

*(b) Failure to supply goods in accordance with the sales contract:* The buyer may stand to lose heavily if he is supplied with goods that are (i) out of fashion, (ii) not suited to the market, (iii) of inferior quality and, therefore, cannot be sold, (iv) not usable because of change in their specifications, (v) not according to the specifications contracted for, (vi) not in the quantity in accordance with that originally requested.

*(c) Delay in delivery or failure to deliver:* Apart from supplying goods according to specifications, delay in delivery could also hit the buyer hard. Delay in supply of raw material or products that act as inputs to the seller's manufacturing or processing schedule, or too late to catch the high season, could result in the buyer's or the importer's own production schedule or sales plans suffering badly.

The foregoing paragraphs list some of the reasons that could lead to the buyer's or the seller's failure to perform as expected. The buyer, as also the seller, may still be willing to do his bit to reconcile the differences, sort out the difficulties, to carry through a transaction to its logical conclusion. Yet, external factors, factors beyond the immediate control of the parties, may intervene to disrupt a transaction. In the sections that follow we continue with our analysis of the risks to international trade, taking up only those that are of immediate relevance to us.

### 315.3.5 Country Risks (including political risks)

It will be appreciated that, though the exporter and the importer may be committed to meet their respective obligations, issues external to a transaction may obstruct from fulfilling their respective commitments. A few of the factors under the umbrella term 'country risks' are outlined below. Do note that the definition of 'country risks' includes, but is not limited to, those discussed hereunder.

*(a) Political risks:*

These include:

Changes without notice or warning in the buyer's country, its government, its political regime, or its policies which directly or indirectly affect either of the parties concerned - especially during the period between signing of the contract or after shipment and when payment becomes due.

Change in policies or political situations which affect, in one way or another, import of goods, procedures for import, or release of foreign exchange for payment to the seller.

Risks would be greater if disruptions or cancellations are forced on the parties during the production stage, or (even worse) during the process of execution and delivery in accordance with the contract.

*(b) Unforeseen restrictions*: Even if there are no sweeping political changes, restrictions could still be imposed by the political administration generally or selectively on imports or on outward remittance of foreign exchange. Adverse balance of payment situation, for example, could trigger such a move by the authorities in the importer's country.

*(c) Unfavourable balance of payment situation:* In continuation of the foregoing

example, no political development, no policy changes may occur; but, a simple shortage of foreign exchange required for the remittance could lead to delay or default in payment by the buyer. The importer/remitter may have to wait his turn, bear with a long period of uncertainty, or take recourse to an unfavourable rate of exchange from 'other' sources to meet commitments to his supplier.

*(d) War or war-like situation*: Globally, such situations are not uncommon. Any of these may intercede, interrupting a trade transaction at any point during its operation cycle. Such developments could result in (i) uncertainties with regard to trade and commerce, (ii) cancellation of the contract, (iii) a lucrative market becoming out of bounds for an indefinite period, (iv) barriers or constraints being imposed either in the process of goods reaching the buyer or the payment reaching the seller.

*(e) Barriers to trade:* Any of these developments can interfere with the normal trade process and exchange of goods and services. New regulations may conspire to raise barriers to the smooth flow of trade or the import of goods. (This is now taking place in the aftermath of the global financial crisis.) New levies or taxation may make a transaction unviable for either party. Barriers may also come up against the realisation of dues by the seller.

*Managing country risks:* To reduce defaults arising out of country risks, institutions have been set up in several exporting countries to provide risk cover under selected heads. These institutions provide risk cover to the financial institutions, term lending institutions, banks, and through them to the exporter against delay in payment or non-payment by the importer. These institutions, generally sponsored or set up by the respective governments of the countries concerned, assist the exporter to obtain favourable terms, and offer a reasonable level of protection against possible defaults and thus encourage their export efforts. They also offer credit reports, expert advice and assistance to the exporters to obtain buyer reports, explore new markets or select suitable buyers.

In India, Export Credit Guarantee Corporation of India Limited (ECGC) is engaged in providing risk cover to the exporters and the institutions that finance exports, both at pre-shipment and at post-shipment stages, as well as on large value export contracts.

### 315.3.6 Transit Risks

Though transportation could be a potential risk area even in domestic trade, the risks multiply when distance increases; where goods have to move across countries' borders. The risks to safe delivery of goods from the seller's (exporter's) warehouse to that of the buyer/importer are several. Let us look at some of the probable areas of concern.

(a) Safety during transit depends on the distance to be covered, the type of goods shipped, the mode of packing and transport, the route taken, proximity to troubled areas while in transit, the integrity of the shipping line, incidence of piracy, and a number of other variables.

(b) Other risk areas include delayed availability or non-availability of designated means of transport, damage to goods in transit, deterioration in quality while in transit, delay owing to choice of inappropriate mode of transport, partial or total loss due to sinking of the ship, abandonment, loss arising out of piracy or action of rogue shipper.

(c) Improper storage (including during transit) may result in higher demurrages, theft, damage to the consignment, deterioration in quality (viz. cement or food grain exposed to rain) making the goods unsuitable for further use.

Depending on at which point the risk passes from the seller to the buyer, and how the costs have been shared, either may stand to suffer losses if goods are damaged beyond salvage or lost while in transit. Appropriate application of the international trade terms (Incoterms 2010) is suggested for mitigation of some of the risks in transit.

*Managing transportation risks or risks during carriage:* To minimize problems associated with loss of shipment, marine insurance (also referred to as transit insurance) is available to the shipper or the consignee. A proper understanding of the subject, especially the nature and extent of the risks covered, including those risks for which special cover must be obtained, would go a long way in securing appropriate protection against risks in transit.

### 315.3.7 Industry Risks

Some of the risks relating to the industry that may affect the performance of the buyer or the seller have been outlined in the following sections. Note that some of the risks described hereunder overlap counterparty risks.

*(a) Change in requirement for particular product(s):* This has been discussed earlier. These are risks that the seller would have to factor in and try to minimise or prevent.

*(b) Recession in a particular industry:* Sudden drop in demand, buyers disappearing from the market, volumes dwindling rapidly, downturn or recession lasting for a prolonged period – are the possible triggers for problems to occur in the anticipated business cycle. A contract made earlier may be modified or rescinded altogether by the buyer. This is a risk that the seller would have to be prepared to encounter in his

business operations. The seller may, therefore, end up with serious problems in his business operation - especially if his is a 'single product' operation, he is unable to diversify quickly or cannot find alternate buyers in the same or in another country.

*(c) Fashionable or seasonal goods:* Seller may not be prepared, or able to keep up with, or accurately anticipate changes in style, fashion, nature of demand, consumer preferences etc., and may not have been prepared to meet any or all of these. If the buyer changes his mind, or the market conditions change rapidly, would the seller be in a position to shift his focus equally smoothly to meet these challenges?

*(d) Competitive product and/or pricing:* The risk lies in the seller being unable to survive or beat competition in terms of product specifications, features, quality, pricing, terms of payment or after-sales service. The incidence of predatory or competitive pricing or terms of sale may crop up even after the start of production or just before delivery.

*(e) Shipment delays:* Delay in shipment or delivery of seasonal goods by the seller may also cause the buyer to refuse to take delivery, with inevitable consequences and possible losses to the seller.

Do note that the risk potentials as described here, though discussed in the context of international trade operations, are not exactly alien to domestic trade scenarios. They are applicable to domestic business environment too, though to somewhat lesser degree. Further, the risks described herein should not be viewed in isolation or as individual items. The causative factors are generally interlinked, and should be viewed as such. This has been witnessed especially during the recent global meltdown in 2008.

### 315.3.8 Documentation Risks

Documentation is an integral part of any trade transaction, domestic or international. Documents are required for varied purposes, viz., to comply with statutory requirements, import regulations, stipulations by authorities of exporter's or importer's country, exchange control regulations, export control or import control purposes etc. Quality certificate, consular invoice, export certificate, import clearance certificate are some of the documents that are invariably called for under certain form of export or import transactions – irrespective of whether they are under letters of credit. The exporter and the importer should both be aware of the documents required, even while finalising a contract. Proper documentation has an extremely important role to play in most transactions, more so when the transactions involve letters of credit (LC).

For the importer, it is important to understand why he should be careful about the documents that he requests from the seller. The seller/exporter should, in turn, realise the importance of 'performance' under a sales contract, which not only implies timely despatch of the specified goods, but also correct documentation. It is important to remember that defective documents are the best recipe for disaster.

### 315.3.9 Exchange Rate Risks

This risk is one that cuts both ways. Adverse movement in exchange rates can severely impact the business of exporters and importers. Both should, therefore, be aware of its nature, its implications, and the ways it can be managed.

As with performance risk, exchange rate risk is part and parcel of the lives of both the exporter and the importer. Changes in exchange rates may force a rethink on the part of the exporter or the importer about the contracted price, sometimes casting a shadow over even the viability of a transaction. Depending on who stands to lose owing to the movement in the exchange rates, either party may be desperate to renegotiate. Be that as it may, exchange rate risks can, and do, seriously affect parties in international trade.

*Managing exchange rate risks:* This type of risk is not relevant to domestic transactions as no conversion takes place from one currency to another. In contrast, exchange rate risk is inherent in almost all foreign exchange transactions since conversion of one currency to another takes place at some point during payment or receipt of foreign currency. 'Hedging' is a term used quite often to refer to an arrangement to obtain cover (protect) against these types of risks including exchange rate risk.

### 315.3.10 Legal Risks

There are as many countries as there are laws. At the minimum, an understanding of the relevant laws of both the parties involved in the contract is called for in order to draw up a workable and mutually acceptable contract. Therefore, in addition to the foregoing risks we should not lose sight of legal risks which exist in all kinds of financial markets. It is probably more so in international trade operations, given their inherent volatility and the difference in the laws and their interpretation from one country to another. It is extremely important that parties take such steps as would sufficiently protect them from the legal standpoint.

*Managing legal risks:* A well-drafted contract or agreement should cover all the critical aspects of a transaction. Future problems could be minimised by taking recourse

to internationally accepted Master Agreements or standardised contract formats. These could be supplemented by other relevant documentation and advice from counsel conversant with international laws applicable to the line of business and the countries concerned. International Chamber of Commerce also has a rich repertoire of publications catering to various international legal requirements.

## 315.4 Managing Risks

### 315.4.1 Preamble

The nature of the risks outlined in the preceding sections and the suggestions for their management are by no means exhaustive or comprehensive. Risk management is an extensive branch for study. The descriptions preceding this section provide only a flavour to the reader about the wide variety of risks that the exporter or importer must anticipate, assess and guard against. For, losses, if they do occur, can take a serious toll on the end-result of their business performance, reputation and profitability.

A few of the risks integral to international trade exist in varied degrees in domestic trade transactions too. For example, though exchange rate risk is not relevant to domestic trade, counterparty risks, transit and industry risks do apply to domestic trade. Therefore, it is important for the seller (exporter) as well as the buyer (importer) to understand the nature of risks involved, evaluate their impact on business, determine those risks that need to be addressed on a priority basis, and then select methods to reduce or eliminate them altogether.

Our analysis boils down, finally, to the questions: "What steps should importers and exporters take to protect themselves against risks in domestic or international trade? How should they go about managing, if not totally eliminating, most of these risks?"

The best answer to this question is, to know your customer (well). If you select your customer carefully, there is a very good possibility that a transaction will conclude smoothly, in spite of the hurdles and occupational hazards inherent in any business or trade.

### 315.4.2 LCs in Risk Management

A few methods have been suggested at appropriate places in the foregoing sections for management of risks. Letter of credit is one of the instruments available for the settlement of international trade transactions. It is an instrument that reduces counterparty risks to a great extent. If used properly, an LC also significantly reduces risks of incorrect shipment, risks related to the goods being shipped (viz., quality, quantity etc.), or

performance risks. It can also be used very effectively to reduce to a great extent country risks, industry risks and a few other types of risks.

Owing to its very nature, if used wisely, a letter of credit can be a very powerful instrument for reduction of risks inherent in international and domestic trade. Since the fear of non-payment and of receivable management affect domestic trade as much as export or import, a proper understanding of the letter of credit (LC) instrument can contribute greatly in successful conclusion of both domestic and international trade transactions.

It should, however, be remembered, that LCs cannot manage every risk in international trade.

### 315.4.3 Credit Risks

A letter of credit is an undertaking issued by a commercial bank on behalf of the applicant to the credit, i.e. the buyer or the importer, in favour of the seller or the exporter. By issuing an LC, the issuing bank undertakes to pay the beneficiary – provided certain conditions are complied with - irrespective of whether its customer (i.e., the applicant/buyer/importer) pays the issuing bank or not. In other words, even where the issuing bank honours its own obligation against a letter of credit, there is a possibility that the applicant may fail to pay the bank[1] . This is called credit risk, and is borne by the bank that issues a letter of credit.

### 315.4.4 LCs in Domestic Trade

UCP does not draw any distinction between LCs issued against domestic and international trade transactions. The UCP applies also to domestic letters of credit, provided Article 1 of UCP 600 is complied with (i.e., the text of the credit should expressly indicate that it is subject to the UCP). Given that the UCP is an internationally recognised set of rules, it brings certainty to a domestic transaction. Since letters of credit are being used extensively in many countries for settlement of domestic trade transactions and payments arising out of the same, people handling inland trade bills would also be well-advised to acquaint themselves with the operations of letters of credit.

## 315.5 Forex and Money Market

An economy can be broadly divided into two types of markets: the market for goods and services, and the market for financial assets. A financial asset is defined as a claim

1. A non-fund based financial facility is thereby converted to a funded (advance) facility.

on an economic unit such as a business or an individual[2] . A number of financial assets are traded in markets that have physical addresses. Others, like foreign exchange, have no defined or identifiable markets as such, no geographical location or a defined address.

The financial markets can be divided into two sub-markets: the money market and the capital market. In all these markets – both for goods and services as well as for financial assets – it is required that the underlying products are exchanged against payment either immediately or at the earliest after an exchange has been agreed upon. Payment is made immediately or sometimes later if so agreed. The former are referred to as 'cash markets'.

In other types of arrangements, the goods or security is contracted for delivery at a date subsequent to the agreement date. These are grouped under the 'forward' market. Yet other types of arrangements permit the buyer or the seller, for an agreed fee, the advantage to choose whether or not to go through with the sale agreed to earlier. These types of arrangements are conducted in options and futures markets.

## 315.6 Forward Exchange Contracts

### 315.6.1 Definition

A forward exchange contract ('forward contract', for short) is an obligation entered between a bank and its customer to buy or sell certain specified currencies of fixed amounts at a pre-arranged rate of exchange, for delivery[3] on an agreed fixed date or on any day between two agreed dates.[4]

Banks deal in forward contracts on their own account as well as for their merchant customers. The merchant customer is (mostly) not required to pay any fee to obtain a forward contract from a bank. However, a bank may choose to issue forward contracts only against pre-approved limits and/or impose a margin. These steps form parts of exposure risk management, the policy and approach varying from bank to bank.

### 315.6.2 Fixed and option forward contracts

A forward contract under which the delivery of foreign exchange is scheduled to take place on a specified future date is known as 'fixed forward contract'. For a fixed date contract, the merchant must specify the exact date of delivery for taking up the contract.

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2. Don M. Chance, *An Introduction to Options and Futures.* The Dryden Press, Fort Worth, Texas, USA; 1991.
3. The word 'delivery' always means either purchase from or sale to the bank by a customer; or 'performance' under the contract.
4. The period not exceed one month, as per FEDAI Rules.

If any change is envisaged, the contract terms have to be modified through a prescribed procedure, with possible cost implications for the merchant.

In real life and in practical situations, an exporter or an importer may not always be in a position to exactly specify the future date for performance under the contract. External factors, internal constraints, efficiency of agencies associated with imports or exports, transport bottlenecks and procedural formalities may cloud the picture, making it difficult for the merchant exporter or importer to commit to a specific future contract date. Under such circumstances, often unpredictable, a customer can exercise his option to select the starting and ending dates for performance under certain types of forward contracts. These types of contracts are known as 'Option Forward Contracts'[5]

### 315.6.3 FEDAI rules regarding option forwards–delivery period

**Rule 7A.2 Option Period of Delivery**

'Unless date of delivery is fixed and indicated in the contract, the option period may be specified at the discretion of the customer subject to the condition that such option period of delivery shall not extend beyond one month. If the fixed date of delivery or the last due of delivery option is a holiday/declared a holiday the delivery shall be effected/delivery option exercised on the preceding working day. Contracts permitting option of delivery must state the first and last dates of delivery- for example 18th. January to 17th. February, or, 31st. January to 28th. (29th.) February.

'Ready' or 'Cash' merchant contract shall be deliverable on the same day. 'Value next day' contract shall be deliverable on the day immediately succeeding the contract date. A spot contract shall be deliverable on second succeeding business day following the day when the transaction is closed. A forward contract is a contract deliverable at a future date, duration of the contract being computed from spot value date at the time of transaction.

## 315.7 Forward Markets

Though less developed than the Futures markets there is a large, healthy and viable forward market for the exchange of foreign currency. There is no formal, recognised, centralised marketplace; nor do formal rules and regulations govern trading in forward

5. Under FEDAI Rules the option period should not exceed one month.

contracts. Yet, transactions are executed quickly and efficiently among international banks across the globe. Forward contracts, being a part of the inter-bank foreign exchange market, do not trade on organised exchanges but adhere to the standards, norms and practices governing the inter-bank markets worldwide. Unlike Options and Futures, prices and contract terms of forward contracts are not standardised. This remains the key difference with the other financial products.

## 315.8 Delivery Periods–Pricing of Contracts

We said earlier that the delivery period may be any pre-determined specific date in the future. It may also be a period spanning over a few days to a period of delivery covering one or three months. These options are available to the customer if he is not certain about the exact period of the performance of his side of the contract. The option to have a longer delivery period may look attractive to a customer since he would be relieved of being bound to a fixed date for delivery. But it should be noted this comes at a price which is not readily visible to the customer.[6]

## 315.9 How A Merchant Forward Contract Works

If an exporter submits an export bill to a bank for collection, the proceeds are normally expected after a time lag ranging from a few days to a few months. The time lag depends on whether the bill is payable at sight, on demand, immediately on presentation or, as in the case of a D/A (Documents on Acceptance) or deferred payment bills, after a certain agreed period of time.

Let us assume that the export bill has been submitted to the bank on 1st. June, payable after 90 days from sight. Allowing for transit time, time for presentation of documents to and acceptance by the drawee, credit to account, payment could reasonably be expected say by 6th. September. The exporter, anticipating a weakening of the foreign currency in which the bill has been drawn, may seek a forward cover to protect his earnings. Thus, he would book a forward 'purchase' contract (he *sells* his future receipt to the bank, the bank 'purchases' the same) for the period (6th.September in our example). The bank which furnishes the exporter the forward purchase contract 'covers' itself by selling the future receipt to the inter-bank market, value 6th. September.

6. Ruler to the worked out examples in Chapter 18 for illustrations.

The process works similarly for the importer. The importer is required to acquire foreign exchange to pay for his imports. It is quite possible that the exchange rate which he uses to negotiate with the exporter (his counter-part) would be very different from the actual rate when payment eventually becomes due. To prevent risks arising from adverse movement in exchange rates, he would have to hedge, and so obtain forward cover for himself.

Forward contracts (fixed forward, option forward, and range forward), futures and option contracts are some of the hedging instruments that can be used to protect against exchange rate risks. Proper advice and guidance should be sought from professionals and experts.

## 315.10 Foreign Exchange Swaps

### 30.10.1 Basic concepts revisited

By definition, a swap is the combination of a spot purchase of foreign exchange with its simultaneous forward sale, or vice-versa. For every spot purchase or sale of foreign exchange, the settlement is made through the medium of the local or home currency.

Thus, if a bank buys US$50,000 value spot and sells the same amount value one month forward, it has effectively executed one spot and another forward transaction. Assuming that the bank is in India, the first part of the transaction (purchase of US$50,000 value spot) would be settled against payment in INR. The second leg (sale of $50,000), one month later, would again be effected against the receipt of equivalent INR currency. The net difference (in INR, the home currency) arising out of the two transactions would give the bank its swap gain (or loss).

### 315.10.2 Utility of Swaps

Swaps are useful for dealers who play on forward differentials. Swaps also help the dealing desks to execute transactions which otherwise would have left the bank with open foreign exchange positions, carrying far greater risks[7] in the final analysis. Quite often, foreign exchange swaps help dealers in banks to stay within their respective daylight or overnight limits set by the banks' management. Swap has, thus, proved to be a very useful tool in the hands of exchange dealers in managing funds profitably for commercial banks.

7. The extent of risk exposure is limited only to swap differences against the cost of outright acquisition.

## 315.11 Currency Swap

### 315.11.1 Background

In a currency swap, it may be possible for a firm to have easy access to the market and borrow in a particular currency. But it may actually need to borrow in another currency to complete its intended transaction. By way of a solution, the firm goes to a swap dealer which matches it with another firm holding an opposite position. The swap dealer then arranges for the two firms to exchange their respective cash flows.

It would be fortunate for the first firm or the swap dealer to always find an exact opposite match in terms of the required currency, amount and maturity period. A particular firm may not always find its needs matched against another that is exactly the opposite. In such instances, the swap dealer may combine counter-parties to effect a match, or take up a portion of the swap deal on his own books and dispose it of at a later date, thus reducing his own exposure in the deal.

### 315.11.2 Currency Swap-illustrated (Figure 1)

**Assumptions**

1. UK Corporation has been contracted to set up a plant in the US over a five year period.
2. UK Corporation is well known in its home country, is well rated, and is in a position to raise loans in GBP.
3. But it must pay to the local suppliers, workers and others in the USA during the erection of the plant.
4. Payment by US contractors to UK Corporation will not begin till a major portion of the work has been completed.
5. UK Corporation needs US$10.0 million towards start-up expenses.
6. GBP1= US$1.8400
7. Major assumption: Capital and fund movement are freely allowed between the two countries.

**Currency Swap Illustrated**

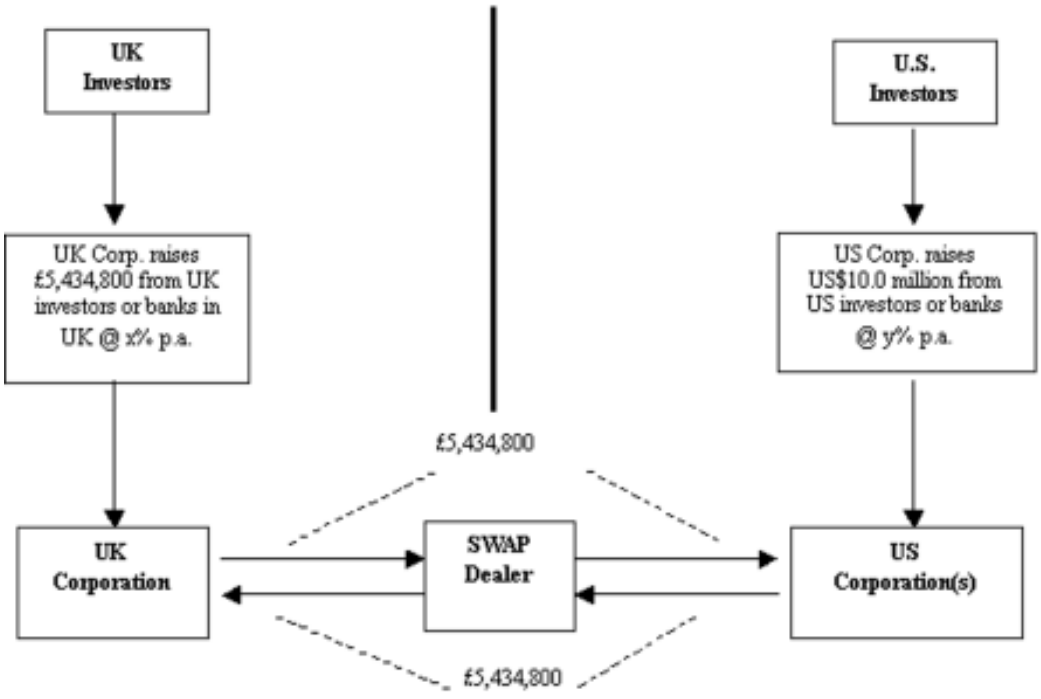


Figure 1

## 315.11.3 Comments

*The arrangement*

1) Both the UK Corporation and US Corporation pay to each other interest at pre-determined and previously agreed rates for the funds they have swapped (or raised).
2) The swap dealer may take his fees direct or from the interest spread that it may retain for itself.
3) Periodic interest payment is arranged according to a mutually agreed time table.
4) On maturity, when the loans are due for repayment, both the parties effect repayment through the swap dealer.
5) The transactions can be recognised as a series of forward contracts.

*The risks*

1) Failure (by either) to pay interest on due dates.
2) Failure (by either) to pay principal amount on maturity.

3) Fluctuation in exchange rates - the actual exchange rates during the dates of interest payments, and the rate applicable to the principal amounts payable at maturity (still far in the future) being uncertain.

The risk factor no. 3 above could give rise to interesting possibilities. If one of the parties happens to be truly unfortunate, and the exchange rate invariably is the worst possible come the day of settlement, the party concerned could end up at the wrong end of the spectrum. He could thus suffer the worst of the exchange rate risk, and hence the interest rate risk.

## 315.12 Interest Rate Swaps

As with currency swaps, an interest rate swap is used to exchange interest payments. Several types of interest rate swaps exist. Some borrowers are in a position to borrow in short-term markets. Others are well placed to borrow in long term markets. A swap can be used to pass on the advantage of one party in exchange for the advantages of the other.

In most cases, however, swaps are designed to exploit different perceptions in credit risks. As with any type of risk, here too the risk factor that must be kept in view is that one of the parties to the contract may default. Like forward contracts, these transactions are not risk free. When borrowers with favourable borrowing rates enter into swaps, they may find themselves assuming the credit risks of borrowers with lower credit ratings. Although the swap market is enormous, there is some concern that these credit issues have not been fully appreciated and properly priced.[8] The causes for such 'concern' became a devastating reality during the financial crisis in 2008.

Interest rate swaps occur when, for example, X Corporation has borrowed at a floating rate, and Y Corporation at a fixed rate over the same period of time. But, X Corporation would like to borrow at a fixed rate while Y Corporation would like to borrow at a floating rate. The preference to switch the characters of their respective borrowings may arise from an underlying motive: Y Corporation may be lending at a floating rate. If lending rates fall it would earn less, and so would like to hedge its bets by swapping its fixed rate obligations to a floating rate obligation.

The network of firms, called swap dealers, brings the parties with opposite interests together for a fee. They help to locate counter-parties to the deals and match their interests. They also provide liquidity and depth to the market.

8. *Introduction to Futures and Options,* Don M. Chance. The dryden Press, Fort Worth, Texas, USA, 1991

The reader may refer to guidelines on FRAs and Interest Rate Swaps issued for the information of commercial banks by the Reserve Bank of India (ref. Ref.No.MPD.BC.187/07.01.279/1999-2000 dated July 7, 1999)[9]. Though addressed to banks in India, those in other countries would also find the guidelines useful in formulating their own policies and procedures for managing this product.

## 315.13 Other Types of Swaps

In addition to financial swaps, commodity swaps are also available. These involve the exchange of fixed payments covering a specified quantity of a commodity for floating payments. There are also instruments which use options-to-buy swaps, the instruments being called 'swaptions'. A few other types of swaps are set out below:

*Principal-only swaps:* A principal-only swap involves only the exchange of principal amounts at the end of the term. These swaps are used to hedge the currency risk on a foreign currency denominated loan or obligation. Here the entity seeking the hedge is willing to run the interest-rate risk (which is therefore left uncovered), but takes steps to hedge against the currency risk. Hence the name of this type of swap.

*Coupon-only swaps*: A coupon-only swap involves only the interest rate exchange leg of a currency swap. Here the entity is willing to run the currency risk, but hedges the interest rate risk on its loans. As in the earlier example, the entity could receive the one-year Libor (London Inter-bank Offered Rate) and pay a fixed rate. This allows the entity to lock in the interest rates while keeping the currency risk open.

*CMS Range Accrual Swap*: These are swaps which bet on interest rates remaining within a determined range for a determined term. Interest rates could be an international benchmark like the Libor or a foreign yield curve. These are swaps with some amount of optionality built into them. For example, an entity could receive a particular amount as long as the benchmark was within the particular range. The moment it moves beyond the range either way, it could mean a decreased or no payout to the corporate. Here the bet is on the direction of the particular benchmark or rate.

*Quanto Swaps*: Quanto swaps are swaps on international benchmarks like Libor but which are denominated or quantified in Indian rupee terms. They are structured as payouts on the dollar Libor denominated in Indian rupees on an underlying rupee loan. The RBI had banned quanto swaps, as these are in effect international interest rate benchmarks denominated in rupees.

*Mifor Swaps*: The Mifor rate is a summation of the dollar Libor and the Rupee dollar forward premia.

9. *Annexure 19*

*Features of swaps to merchants*

Some features of swaps offered to merchants are as follows:

i) A swap is an instrument that provides protection against adverse movements in interest rates.

ii) A swap can be used to protect borrowing costs or investment yields in a foreign currency.

iii) No premium is paid to enter into swap.

iv) A swap offers versatility as it is totally independent from the actual borrowing or investment.

v) No principal amount changes hands.

## 315.14 Definition

Derivatives are financial instruments that are *derived* products. Being *derived* products, these instruments (viz., contracts, quotations) are based on other underlying securities, commodities, goods or services. For example, any instrument based on the share price of a stock in the stock market is a direct instrument. But an instrument based on the stock *index* would be termed as a *derivative*, since the former is based on the stock index which, in its turn, is *derived* from the basket of prices of underlying stocks with varying weightage.

Foreign exchange, bonds, equities, commodities – have all been transformed over the past couple of decades by the emergence of large, liquid markets in derivatives, viz., swaps, options, futures, structured products and the like. This is because derivatives allow investors to buy and sell exposures (on the products) without actually buying or selling the underlying instruments or products themselves. (Question: Are 'mutual fund schemes' derivatives?)

## 315.15 Examples of Derivatives

*Equity derivatives:* Equity derivatives are contracts based on the stock indices. Trading in instruments structured on the Dow Jones index or the S & P 500, for example, would be termed as trading in *derivatives*, but not so when one trades in stocks listed in the New York Stock Exchange (NYSE). Similarly, trades in futures contracts and option contracts are actually trades in *derivatives*.

*Property derivatives:* The formal launch of the Property Derivatives Interest Group

in London on September 16, 2005[10] could be a big step in the development of this new, crucial but the most illiquid market. When fully operational, investors would be able to obtain exposures to the property market without having to buy and sell actual buildings. Investors would do this by betting on whether the Investment Property Databank Index, a measure of income and capital appreciation with 28 years of live data behind it, would rise or fall.

The development could be considered as attractive for several reasons. For example, property transaction costs could be typically 7-8 per cent of the value of the deal and could take months to complete leaving cash idle in the meanwhile. On the other hand, a swap in these products could be executed in a day, and may cost just around 0.5 per cent. Other indirect forms of property investment - mutual funds or share in property companies, for example – often have high costs attached and, like direct investments, require certain degree of expertise to get the best out of such deals.

For those who like property but feel the need to minimise their exposure to it, derivatives offer a way to shed risk while retaining high-yielding physical assets. If the derivative product takes off, it is likely to transform the market, making it more agile, more transparent and easier to hedge. By permitting property investors to reduce their exposure without dumping physical assets, they may also help to bring down the property prices. The advent of this product in the Indian market, though, is still years away.

*Weather Futures*[11] *:* Strange though it may sound, there are those who are willing to bet on something 'as unpredictable as the weather'. In August 2003 Chicago Mercantile Exchange (CME), America's largest futures exchange, announced a joint venture with the Met Office, a British Weather forecaster, to offer futures and options contracts on Europe's weather.

Enron, the now-defunct energy giant, pioneered weather derivatives in America in 1997. These derivatives are now traded both over-the-counter (OTC) and on the CME, which has offered American weather contracts since 1999. On the other hand, weather contracts launched in November 2001 on Euronext.liffe, a London-based exchange, have aroused little interest. Yet the potential is theoretically enormous. Agriculture, tourism, car makers and clothing businesses are those that could very well be hurt by unusual weather changes. They would be the first of the few to be interested in such derivative products.

## 315.16 Derivatives and Risks

Derivative products are basically designed to reduce or eliminate risks altogether. In

10. *The Economicst,* October 2005
11. *The Economicst,* August 2003

reality derivatives *transfer* the risk from the ones who are not willing to remain exposed to it to others who are better placed (and willing) to manage that risk. Over the years derivatives have gained in popularity internationally. The notional value of derivatives contracts in the international markets is said to have crossed $150 trillion. Yet, while derivatives activity assists in hedging risks (for those who use it to eliminate risks), it could be a source of risk itself, to those who deal in derivatives. For example, the absence of a strict correlation between the derivative and the underlying instrument could cause a typical risk. While the derivative prices fluctuate mainly due to changes in yield curve expectations, the price of the underlying instrument changes both due to expectations in the yield curve and credit risk changes. This gives a potential risk from derivatives *though they are used for hedging against risks*.

Another source of risk is the attractiveness of the possibility of assuming large exposures without the requirement of a major fund outlay. Dealing in cash markets involve a large outlay of funds. Like margin trading derivative dealings, on the other hand, facilitate magnified risk exposures and high leverage from a capital standpoint. This is because in a derivatives market high exposures can be assumed with little cash investment. The availability of such leverage could prove costly on the entire capital base even with small unfavourable changes in the underlying values. A financial shock to any of the large players could have a ripple effect and have serious implications for a financial market.

## 315.17 Financial Futures : Introduction

Futures and Options markets offer instruments designed to reduce their risk perceptions from activities they undertake. These instruments enable those wishing to reduce their risks to transfer them to those whose risk perceptions differ from the others and who are, therefore, prepared to take upon themselves those 'risks' as being acceptable to them. The market has a great capacity to reallocate risks among investors. Hence, no one needs to assume risk they are not comfortable with.

*Hedging* is a term used to signify the arrangement to reduce or altogether eliminate financial risks.

## 315.18 Uses and Benefits

Futures and options market helps greatly in price discovery. It means gathering information about the market's expectation about future prices and trends. Like the

forward premium or discount in an exchange market, the price of a futures contract is said to be the *expected future spot price*. Option markets, while not directly providing forecasts as do the futures markets, are good indicators of possible volatility and underlying risks.

Futures and Options markets offer other advantages to the investing public. These markets offer opportunities at costs that are attractive to use in lieu of spot market investments, or to complement spot positions. Many people prefer to trade in options and futures than in the underlying papers. These markets, therefore, add to the overall liquidity and provide additional investment opportunities while transferring risks and reducing them wherever possible.

Noted authors have observed important linkages among spot, futures and options prices. They opine that the ease and low cost of transacting in these markets facilitate arbitrage trading and rapid price adjustments that quickly eradicate these profit opportunities. Society benefits because the prices of the underlying goods more accurately reflect the goods' economic value[12].

## 315.19 Historical Background of the Futures Markets

Futures markets took their shape from the forwards markets. The origin of futures trading can be traced back to the medieval times and to the rise of mercantile trade. In these arrangements, merchants arranged for deferred delivery of goods at a price agreed to in advance. Over the next centuries organised spot markets for commodities began to develop in major European cities.

The foundation for today's well-organised Futures markets in farm produce, commodities and financial instruments was laid in the early Nineteenth Century as centralised markets developed in the USA for farm produce. In 1848 a group of businessmen took the first step**.....** by forming the Chicago Board of Trade (CBOT). **.....** A few years later the first forward contract was developed. Called a 'to-arrive' contract, it provided that a farmer could agree to deliver the grain at a future date at a price determined in advance. **.....**These 'to-arrive' contracts proved to be a curious instrument. Speculators soon found that rather than buy and sell the grain itself they could buy and sell the contracts. In that way, they could speculate on the price of the grain to be delivered at a future date and not have to worry about taking delivery of and storing the grain. Soon thereafter, the exchange established a set of rules and regulations for governing these transactions. In the 1920s, the Clearinghouse was

12. Don M. Chance, *An Introduction to Futures and Option.* The Dryden Press, UK, 1991.

established. By that time, most of the essential ingredients of future contracts were in place.

In 1874 the Chicago Produce Exchange was formed and later became the Chicago Butter and Egg Board. In 1898 it was reorganised as the Chicago Mercantile Exchange which is now the world's second largest futures exchange.

The restructuring of the monetary policy by the central banks of the Western world, growth oriented US fiscal policy and the economic recovery of the early 1980s laid the foundation for the successful introduction of the stock-index futures immediately thereafter. It was introduced first on February 16, 1982 by the Kansas City Board of Trade. This was followed later by the New York Futures Exchange which introduced the same instrument on May 6, 1982. The market has not looked back since. It is now quite possible for almost anything to be traded in the futures market. It will only depend on whether it fills the needs of hedgers and whether speculators are interested enough to take risks in it.

## 315.20 Futures Contract

### Definition

Futures are forward transactions which are traded on *exchanges*, i.e. not over-the-counter (OTC). A futures contract is a firm contractual agreement for delivery or receipt of an underlying *standardised* instrument at a predetermined price on a pre-arranged future date. The underlying instrument may be money market paper, bonds, shares, currency or commodities. A futures contract is a derivative financial product or instrument. There are a few characteristics that make a commodity attractive for futures trading: the commodity should be homogeneous, be easily identifiable, have a spot market with uncertain demand and supply, and have at least limited storage capability.[18]

## 315.21 Futures and Forward Contracts

Confusion exists as to the exact difference between a forward contract and a futures contract, because a futures contract has certain degrees of similarity with forward contracts. As there are similarities, there are significant differences too. In contrast to traditional forward and spot deals, where price, quantity and maturity differ from one

13. Allan M. Loosigian, Interest Rate Futures, Homewood, III, Dow Jones-Irwin, 1980, pages 20-22

contract to another, financial futures has standardised terms, is traded on an organised exchange, and follows a daily settlement procedure. The exchange specifies the contracts that will trade as well as the underlying terms and conditions. Consequently futures contracts can be traded in the market. These are significant departures from the traditional forward exchange contracts. Apart from the differences stated above, futures contracts also have the advantage of a clearing house that guarantees the performance of both the parties to a contract, and so helps each party to avoid the necessity of verifying the credit-worthiness of the counter-party.

## 315.22 Financial Futures: Terms and Conditions of Contract

It has been mentioned earlier that the terms and conditions of a Futures contract are decided by the concerned exchange. The specifications include (i) size, (ii) the unit for each quotation, (iii) minimum price fluctuation, (iv) contract grade, (v) hours of trading, (vii) daily price bands or limits, (viii) delivery terms and delivery procedures. Those who are familiar with the foreign exchange markets or the stock markets would find similarities in approach to standardisation in terms and conditions of the Futures contracts.

The quotation unit, for example, is the unit in which the price is to be quoted in the exchange. Related to this is the stipulation of minimum price variations which means the smallest unit of quotation of a Futures contract. The exchange also stipulates the contract grades that the Futures contracts must specify for being acceptable for delivery.

## 315.23 Types of Futures Contracts

It was stated at the beginning of this chapter that the futures contracts could be divided into two broad types of contracts viz., *commodity futures* and *financial futures*. Commodity futures was in existence before the financial futures came into being. The development of the futures markets has been outlined at the beginning of this chapter.

Commodity futures markets exist in grains, oil and oilseeds, livestock, meat, food and fibre, metals, petroleum, and several other commodities. Our focus being more on financial futures contracts, some of the more important ones of the latter are touched upon only briefly below.

*Currency futures:* These are the most popular and the most developed financial futures instruments. Foreign currency futures was introduced in 1972 and was followed

by the pure interest rate futures contracts. Currency futures is standardised in terms of quantity, quotation, expiration and delivery. Currency futures, which exists only against the US$, is actively traded at Chicago (IMM) and London (LIFFE) exchanges, and less at Singapore (SIMEX). Currency futures contracts are quoted in the USA using the 'direct quote' approach (so many US$ per unit of foreign currency). The American quotation is the reciprocal of the normal $ quotation outside the USA.

While discussing forward exchange contracts, we noted that the forward rates tend to differ from the corresponding spot rates for a foreign currency. Similar factors influence currency futures as well. Again, the pricing of currency futures depend on the $ spot and $ forward quotations. We had noted the direct impact of differential interest rates between the spot and the forward on the latter. As with forward exchange transactions, there is a difference in futures between the $ spot rate and the futures price. On these instances too, the interest rate differential between any two currencies impacts futures prices.

Futures prices move roughly opposite to those on the spot market. The futures prices drop when the spot rate rises, and vice versa. Buyers of dollar futures, therefore, are the people who expect the spot rate of the dollar to fall. Conversely, sellers of the dollar futures try to hedge against rising dollar spot rates.

*Economic Indices Futures*: The first economic index futures contract, the Consumer Price Index Futures, was launched in June 1985. Another economic index is the Commodity Research Bureau Index, an index of the prices over the last nine months of 21 commodity futures contracts. This contract, which trades on the New York Futures Exchange, is a futures contract on an index of futures contract. So far it has drawn little trading volume.

*Stock Indices Futures*: This has been discussed earlier in the chapter while discussing derivatives. These indices have met with great success the world over. As stated earlier, these contracts are indices of combination of stocks. The number of stocks and their respective weights in the composite basket vary from index to index. The managers of these indices change the combination and the weights from time to time depending on the market trends, the industry profile, the market capitalisation of a company, the liquidity of the respective companies in the stock exchanges. Investors use these indices to hedge positions and the exposures in the stock they may hold, speculate on the direction of the stock market, and arbitrage the contracts against comparable combination of stocks.

*Interest rate futures*: These are firm contracts covering the purchase or sale of interest rates or money market or capital market paper at an agreed price and for a

predefined future settlement date. Interest rate futures are used to hedge liquidity surpluses or deficits. These are also used to reduce or eliminate risks inherent in unforeseen variations in interest rates. The interest rate futures traded on commodity futures exchanges are standardised in terms of contract size and maturities. However, commercial banks are in a position to offer contracts on the OTC markets that can be tailored to meet specific needs of their customers.

Interest rate futures has proved to be a very popular instrument. The main contributing factor has been the increased volatility in interest rates over the last two decades. The level of interest rates has direct impact on the levels of industrial activity, on wage demands, and on the general economic environment. Exposure to interest rate volatility can arise in many ways, but the two main sources of interest rate risk arise from borrowings and cash investments.

## 315.23 Types of Futures Contracts

Financial futures operate just like the commodity futures market, but the contracts traded are Dollar, Sterling, Euro and other currencies. Thus the risk covered is either the exchange rate risk or the interest rate risk. The issues at stake are illustrated below:

March 2005: A banker has an obligation to lend Euro for a period of 6 months. This he has to lend only in June 2005, but he has to agree to the rate of interest for the 6 months loan. The present rate for a 6 months loan is 6 per cent p.a. So he agrees now to lend Euro at 6 per cent p.a. for a period of 6 months for the period June – December 2005 (all rates are assumed).

**His fear:** 'If interest rates go up in June 2005 then I have to fund this loan by borrowing in the Cash market, I will suffer a loss.'

**His hope:** 'If interest rates are down by June 2005 then I will be able to fund this loan by borrowing at a cheaper rate. I will make a profit.'

**His management philosophy:** 'Don't speculate on volatile interest rates, always hedge your risk. We do not want spectacular profits out of interest rate movements because if you can make spectacular profits you can also make spectacular losses.'[14]

**His final action:** So he hedges his risk by operating in the futures market. His operations can be summarised as follows:-

14. This is the golden rule which especially the merchants or the traders fail to appreciate time and time again. They forget that they are not in the business of making money through speculation or trading; when their aim ought to be simply to protect the business from shicks and possible downsides from exposure to risks.

| | Month | Euro Loan Operations | Futures market operations |
|---|---|---|---|
| 1 | March 2005 | Commits to lend Euro 1 million @ 6% (for 6 months, i.e. June to Dec. 2005) | Buys June Euro 1 million Futures @ 6.75% |
| 2 | Last week of May 2005 | Interest rate has gone up to 13%. Has to fund his loan by borrowing Euro 1 million @ 13%<br>**Loss 7%** | Sells June Euro 1 million Futures @ 13.5%<br>**Gain 6.75%** |

**Table 20.1**

Thus he makes a net loss of only 0.25 per cent. *Had he not hedged his risk by operating in the futures market, he would have lost 7 per cent* – given the abovementioned scenario.

The above illustration should serve as an example of the application of financial futures in real life situations.

## 315.25 Options Contracts : Definition

An Option Contract is a contract between two parties that gives the option buyer the right – *but not the obligation* - to buy ('call' option) or to sell ('put' option) at a future date a specified underlying instrument (viz., currency, interest bearing paper, futures contract) at a pre-established (i.e. agreed upon at the time the 'option' was arranged) price, called the strike or the exercise price.

*Note:* In this brief definition of Options, we have already been introduced to quite a few terms peculiar to options contracts. There are a few more which we would be touching upon in the course of the next few pages. But there are a large number of them that would not be coming up for discussion in this chapter. For the information and ready reference of the reader, the commonly used terms and their meaning have been furnished in the Glossary appended to this book.

## 315.26 Application

Options are rather like insurance policies. The buyer of an 'option' acquires insurance for his portfolio against price fluctuations, paying for this service, while the option

seller (or 'writer') acts as insurer and pockets the premium.[15] By paying the 'price' or 'premium', the buyer of the 'option' contract has gained the right to decide whether to exercise the 'option', i.e. his privilege to buy or to sell, or to allow the 'option' contract to lapse. Having received the premium from the buyer of the option contract, the seller (the option writer) has no choice regarding the future action of the option buyer. By taking out an 'option contract', therefore, it is possible for the buyer of the 'option' to hedge against a loss as also to benefit from any favourable movement in the price of the underlying instrument.

Compare it with a forward exchange contract where the bank's customer who takes out a forward contract pays no premium or commission for the contract. If he wants to cancel the contract, he may (but not always) have to pay a price for its cancellation. In certain countries with exchange control regimes, a merchant may not be allowed to cancel the contract unless properly justified in doing so.

## 315.27 Futures Contracts and Option Contracts

Option contracts have a general similarity with Futures contracts. Both provide for the sale and delivery of a commodity at a pre-determined price on a later date. *An Option contract, however, gives the holder the right, but not the obligation, to purchase (or sell) the goods.* In contrast, the Futures contract *does not give this right to the holder* (to forego purchase or sale, if the price is not in his favour).

## 315.28 Call Option, Put Option

A call option, as explained above, is an option to *buy* an asset at a fixed price called the *exercise price*. A call in which the stock price exceeds the exercise price is said to be *in-the-money*. If the stock price is less than the exercise price, the call option is said to be *out-of-the-money*. If the stock price equals the exercise price, the option is said to be *at-the-money*.

A call option is an instrument with limited liability. If the call holder sees that it is advantageous to exercise it, the call will be exercised. If exercising it will decrease the call holder's wealth, the holder will not exercise it. The option cannot have negative value, because the holder cannot be forced to exercise it.

*Intrinsic value* is the minimum value of an option. It is also known as the *parity*

15. *Financial Futures and Options,* Swiss Bank Corporation, 1990

*value*, *parity*, or *exercise value*. Intrinsic value, which is positive for in-the-money calls and zero for out-of-the-money calls, is the value the call holder receives from exercising the option and the value the call writer pays when the holder exercises his 'option'.

## 315.29 Risk Comparison – Cash Market Vs. Option Market

With the introduction of options and futures trading on the index and certain stocks in selected markets around the world, investors can speculate in equity markets too (among others). Speculation for an ordinary investor would mean four things: multiplier for actual available investment, open position with low cost of carry, short selling and no delivery of shares. A derivative product offers all these functions with a built in 'stop-loss' function. The peculiarities need to be well understood.

Here is how derivatives can be used to compare and contrast opportunities in stock markets. Let us assume that an investor decides to invest in the stock market and has US$ 20,000 to invest. The investor feels that the price of the share of a company called (say) Ambition Inc. (current price assumed at $2,000) is expected to go up by $500 in a month. He has two choices, viz., buy the stock in the cash market, or buy it in the derivatives market. If he buys the stock in the cash market, he can buy 10 shares ($20,000/2,000=10).

In the derivatives market, let us assume that he can buy an option contract of 100 such shares by paying a premium. Let us assume the current premium (strike price $2,000) to be $100 per share. Let us now examine his positions. (Brokerage charges ignored in these examples.)

***In the 'cash' market:***

a) Do recall his target of price appreciation by $500 in one month in the cash market. If his target materialises, his profit will be $5,000 ($500 per share X 10 shares). On the other hand, if the share price fell by $500, his loss would be $5,000.

**In the 'derivatives' market:**

b) If the share price of Ambition Inc. did move up by $500 the investor would exercise his call option and take benefit of the strike rate of $2,000 per share. His profit would then be $40,000 [($500 X 100 shares=$50,000) less premium amount of $10,000 ($100 per share X 100 shares)].

c) Continuing in the derivatives market, if the price of Ambition Inc. *fell* by $500, the investor would not exercise his call option. In that case the loss to the investor would

be limited to $10,000 (the amount of premium paid), and not be $50,000 (drop of $500 per share X 100 shares).

***Question***
*Would the investor win or lose by taking the derivatives route?* Let us compare the options.

**The downside**
If the price fell by $500, the investor would stand to lose $5,000 (as in 'a' above) in contrast to $10,000 loss (as in 'c' above) in the derivatives market. In other words, his loss potential doubled.

**The upside**
If the price rose by $500, the investor would stand to make a profit of $5,000 (as in 'a' above) in the cash market, but profit by *eight times* the amount i.e. $40,000 (as in 'b' above) from the derivatives market.

***Our conclusion***
*By shifting from the cash market to the derivatives market, the investor would double*[16] *the extent of his potential for losses, but increase his upside (risk gain) by eight*[2] *times.*

## 315.30 Conclusion

This unit discussed financial risk management, focusing on some of the risks arising out of international trade transactions and the instruments available for managing them. While a general idea is necessary of the risk management products available and their benefits, it is important for exporters or importers to fully understand the upside as well as the downside before buying a hedging product. Complete transparency and understanding is important here. Expert opinion should be sought at all times before a final decision is taken on managing risks in domestic and international trade.

## Exercise

**a)** Describe the various payment terms for international trade settlement along with associated risks. Which one, in your opinion, is best suited to protect the interests of both the exporter as well as the importer?

16. This is only an illustration. The numbers are subject to change, depending on the assumptions we make in the example used.

**b)** What is counterparty risk? How can you use LC to mitigate this risk?

**c)** What is the difference between forward contract and future? How can an exporter use futures to hedge his exchange risk?

**d)** Describe the salient features of an option contract. What are its relative merits and demerits over forward contract?

## Reference


**a)** Fundamentals of International Banking-By Rupnarayan Bose (Macmillan India Ltd.)

**b)** Financial Derivatives-By Robert W. Kolb & James A Overdahl

**c)** Currency Derivatives-By David F. Derosa