

---

# UNIT 12 COST OF CAPITAL FOR FOREIGN INVESTMENTS

---

## Structure

- 12.0 Objectives
- 12.1 Introduction
- 12.2 Weighted Average Cost of Capital for Foreign Projects
- 12.3 Cost of Various Sources of Funds
- 12.4 Cost of Foreign Debt Capital
- 12.5 Cost of Equity Capital
  - 12.5.1 Dividend Valuation Model
  - 12.5.2 Capital Asset Pricing Model
- 12.6 Discount Rates for Foreign Investments
- 12.7 All-Equity Cost of Capital for Foreign Projects
- 12.8 Comparing the Cost of Capital in Developing Countries
- 12.9 Let Us Sum Up
- 12.10 Key Words
- 12.11 Terminal Questions/Exercises

---

## 12.0 OBJECTIVES

---

After studying this unit you should be able to :

- explain the cost of equity capital
- discuss capital asset pricing model
- explain the cost of foreign debt capital
- examine discount rates for foreign investments
- calculate the weighted average cost of capital for foreign projects
- explain the all-equity cost of capital for foreign projects
- compare the cost of capital in developing countries.

---

## 12.1 INTRODUCTION

---

An important question for multinational corporations is to decide what their required return on foreign investments should be. Should it be higher, lower or the same as that for domestic projects?

It is a complex question comprising as it does, a number of factors, which the multinational corporation do not have to take into account in deciding the hurdle rate for their domestic investments. However, the appropriate cost of capital for foreign projects should be known to avoid pitfalls later on.

The cost of capital is the basic measure of financial performance of a firm. For any given investment, the cost of capital is the minimum risk adjusted return required by investors for undertaking an investment. The investment project has to generate sufficient surplus to repay the loans of creditors. It should also earn sufficient return which the shareholders might have obtained in some other investment. If the surplus earned by the investment project does not cover the return payable to creditors and shareholders, the value of the firm is jeopardised. It is imperative, therefore, that the net present value of the future cash flows of the project exceeds or at least be equal to, the project's cost of capital. This cost is used as a discount rate. Alternatively the yield from the project should be equal to or exceed this cost.

The required rate of return indicated by the cost of capital is used by the MNCs as a discount rate to allocate their funds globally for various projects. These rates must reflect the value of these specific projects to the firm. Thus the emphasis in calculating the cost of capital on foreign projects is on finding a required rate of return for a specific project rather than for a firm as a whole. A single required rate can only be used if all the projects which the MNC wants to invest in are broadly similar in their financial structures and commercial risks. For an MNC, investing in many countries, this is not possible. Hence, different discount rates are used for different projects in view of the risk profile of the specific project(s) undertaken by MNC. In this unit you will learn in detail about the concept of cost of capital in the context of foreign investment, its calculation and comparative evaluation of cost of capital in developing countries.

---

## 12.2 WEIGHTED AVERAGE COST OF CAPITAL FOR FOREIGN PROJECTS

---

Whenever we use a required return on equity for a particular investment, we assume that the financial structure and the risk of the project is similar to that for the firm as a whole.

The weighted average cost of capital (WACC) of the project as well as that for the company as a whole, is the cost of equity combined with the after-tax cost of debt. This weighted average cost of capital ( $K_o$ ) is computed as :

$$K_o = (1 - L) K_e + L i d (1 - t)$$

Where,

$$K_o = \text{Weighted cost of capital}$$

$$L = \text{debt ratio (debt to total assets) of the parent company}$$

$$K_e = \text{cost of the equity capital}$$

$$i d (1 - t) = \text{after-tax cost of the debt.}$$

This weighted average cost of the capital is used as a discount rate in evaluating the specific foreign investment.  $k_e$ , the cost of equity is equivalent to the return on the firm's equity shares given its particular debt-equity ratio.

Weights are to be used in the proportion of the firm's capital structure accounted for by each source of capital. Market values, and not the book values are used, because this cost keeps on changing depending on the market values of equity and debt. Both value weights are taken from firms balance sheet and market weights are based on current market prices of bonds and stock.

Similarly in calculating the weighted average cost of capital, the existing historical mix is not relevant as future debt and equity components in the firm's capital structure are important. Let us take an example to estimate the weighted average cost of capital.

Supposing a company is financed with 60% ordinary share capital, 30% debt and 10% preference capital. The after-tax costs of equity debt and preference capital are 20%, 6% and 14% respectively.

Using these as weights, the weighted average cost of capital of this firm is :

$$0.6 \times 0.20 + 0.3 \times 0.06 + 0.1 \times 0.14$$

$$= 15.2\%$$

If the net present value of the cash flows of the project discounted at the WACC is positive, the investment may be undertaken. A negative value disqualifies the investment.

---

## 12.3 COST OF VARIOUS SOURCES OF FUNDS

---

Let us suppose that a subsidiary company has decided to finance a project as follows:

- P = Parent Company Fund
- R = Amount taken from retained earnings of the Subsidiary
- D = Amount taken in Foreign Debt
- T = Total cost of capital
  
- T = Cost of (P + R + D)

The cost of capital of these three components must be calculated first to know the total cost of capital. They are calculated as follows:

**Cost of Parent Company's Funds :** The required rate of return on parent company's fund is the marginal cost of capital ( $K_0$ ). Any investment in a foreign country must also provide the marginal rate of return as of the parent company, if there is no change in the riskiness of the firm. If there is a change in risk perceptions, the cost of capital  $K_0^*$  is calculated by formula:

$$K_0^* = K_0 + (1-L)(K_e^1 - K_e)$$

- $K_0^*$  = Cost of capital in changed conditions of riskiness
- $K_e^1$  = Cost of equity based on new perceptions of riskiness
- $K_e$  = Company's cost of equity capital
- L = Debt ratio of the parent company

**The Cost of Retained Earnings :** It is given by formula

$$K_s = K_e \times (1 - t)$$

where

- $K_s$  = cost of retained earnings
- t = tax rate on repatriation

**Cost of Foreign Debt :** The following formula given below will be discussed under heading 12.4

$$R_{fd} = R_f (1-t) (1-d) - d$$

where

- $R_{fd}$  = Cost of foreign debt
- $R_f$  = Foreign interest rate
- d = Percentage depreciation of foreign currency

If there is appreciation of foreign currency, in above formula it will be :

- $R_{fd}$  =  $R_f (1-t) (1 + a) + a$
- a = percentage appreciation of foreign currency

---

## 12.4 COST OF FOREIGN DEBT CAPITAL

---

The cost of debt in common parlance is the rate of interest on debt. In case of foreign debt, tax and devaluation (appreciation) of local currency is to also be considered. Thus the cost of foreign currency debt should be nominal rate of interest on foreign currency loan plus (minus) devaluation (appreciation). To illustrate this point, assume Indian subsidiary of a U.S. parent borrows U.S. dollars 100 million @ 8% p.a for one year, and

the rupee depreciates in that year by 5%. The effective cost of foreign currency loan to Indian subsidiary will be approximately, 13% i.e. 8% (nominal) + 5% (devaluation) and if the rupee appreciates by 30%. The cost of foreign currency loan will be 5% i.e. 8% (nominal) – 3% (appreciation).

Foreign currency equivalent cost of local currency debt of foreign subsidiary can be computed by the following formula already explained above.

$$R_{fd} = R_f (1 - d) (1 - t) - d$$

$R_f$  = the rate of interest

$t$  = tax rate

$d$  = devaluation

$d$  can be formed out by formula  $\frac{(e_o - e_i)}{e_o}$ , where  $e_o$  is the exchange rate on the of borrowing

and  $e_i$  is the expected exchange rate at the end of the year.

If there is an appreciation the above formula will be :

$$R_f (1 + a) (1 - t) + a$$

$a$  = the appreciation of the currency

If debt is taken for a long period, interest is paid at the end of each year and principal is repaid in a lumpsum at the end of loan period the cost of debt in such case in the absence of taxes, is given by formula :

$$-P_{e_0} + \sum_{t=i}^n \frac{rf Pe_i}{(1+r)^i} + \frac{Pe_i}{(1+r)^n} = 0$$

$r$  = Internal rate of return

$P$  = Principal amount

$e_i$  = value of foreign currency at the end of the year  $i$

In case of taxes, the formula will be

$$-P_{e_0} + \sum_{t=i}^n \frac{rf Pe_i(1-t)}{(1+r)^i} + \frac{Pe_i}{(1+r)^n} = 0$$

It is better to project an average rate of currency change over the life of the debt. In case of flotation costs the first term in both formula will read as :

$-pe_0 (1 - F)$  where  $F$  = flotation costs.

---

## 12.5 COST OF EQUITY CAPITAL

---

The cost of equity capital for a firm is the minimum rate of return necessary to induce investors to buy or hold the shares of the firm.

The required rate of return is equal to the basic yield (internal rate of return), which covers the time value of money, in addition to the risk premium. In mathematical form it is

$$R_r = R_f + R_p$$

$R_r$  = required rate of return

$R_f$  = risk free rate of return

$R_p$  = risk premium

The holders of equity capital claim that portion of profits which remains after the payment of interest to the lenders and dividends to the preference shareholders. The equity share

holders face the risk of variable cash flows and expect a higher return than the internal rate of return on the capital invested by them. This internal rate of return would equal the discounted value of all future income streams accruing to them equal to the net worth of shareholders.

One can, alternatively, also look upon the required rate of discount as the weighted average return of all the returns which are available on the various activities of the firm.

This latter view of the required return (as a weighted average return of all the returns on individual activities) gives a better idea of the cost of equity capital of a firm from the conceptual point of view. However, it may not be suitable as a convenient choice of a discount rate to evaluate the firm's foreign investment project. All the projects have different risks. A new project to be undertaken by the firm may not be similar in nature to the other projects, which have been undertaken by the firm.

Thus the better approach seems to be to take a project specific required rate of return, which will give a better idea of the riskiness of the particular project. Two models are used for this purpose

### 12.5.1 Dividend Valuation Model

In a dividend valuation model the cost of equity capital can be calculated by following formula :

$$P_o = \frac{\text{Div}_1}{K_e - g}$$

Where

- $K_e$  = company's cost of equity capital,
- $\text{Div}_1$  = expected dividend in year 1
- $P_o$  = current price of the share
- $g$  = average expected annual growth rate of dividends

From the equation above, we derive :

$$K_e = \frac{\text{Div}_1}{P_o} + g$$

The growth rate of dividends,  $g$  can be estimated from the historical data. If similar experience replicates, the estimation will be more or less current. However, if the past performance does not provide a reliable indicator of the future, expected future earnings will have to be calculated. Even in the case of the dividend valuation model, the expectations of future earnings can be reliable, only if the new project has a similar risk profile and financial structure to that of existing projects.

### 12.5.2 Capital Asset Pricing Model

The approach to determining the cost of equity capital for a particular project is based on Capital Asset Pricing Model, (CAPM).

In this model, an equilibrium exists between an asset's required return and its associated risk.

This is expressed by the formula :

$$R_i = R_f + \beta_i (R_m - R_f)$$

Where

- $R_i$  = equilibrium expected return for asset i,

- $R_f$  = rate of return on a risk free asset, usually the yield on say 365 days government treasury security.
- $R_m$  = expected return on the market portfolio consisting of all risky assets.
- $\beta_i$  = covariance  $(R_i, R_m) / \sigma^2 (R_m)$ , where  $Cov (R_i, R_m)$  refers to the covariance between returns on security i, and the market portfolio; and the  $\sigma^2 (R_m)$  is the variance of returns on the market portfolio.

The CAPM assures that the total variability of an asset's return can be attributed to two sources :

- 1) market-wide influences that affect assets to some extent, such as the state of the economy and,
- 2) other risks, that are specific to a given firm, such as a strike.

The former type of risk is usually termed systematic or non-diversifiable risk. The latter risk is called unsystematic or diversifiable risk. The unsystematic risk is largely irrelevant to the highly diversified holder of securities because the effects of such disturbances cancel out in the portfolio.

On the other hand, no matter how well diversified a stock portfolio is, systematic risk cannot be eliminated. Hence the investor should be compensated for bearing this risk. This distinction between the systematic risk and unsystematic risk provides the theoretical foundation to the evaluation of risk in the multinational corporation.

Although CAPM states that only a systematic component of the risk will be rewarded by a risk premium, this does not mean that the total risk (the combination of systematic and unsystematic risk) is unimportant to the value of the firm. In addition to the systematic risk reflected in the premium on the appropriate discount rate, the total risk may have a negative impact on the firm's expected cash flows.

The inverse relation between risk and the expected cash flows exists, because financial trouble arising out of high total risk, will hurt the interests of customers, suppliers and employees. For example, potential customers will be nervous about purchasing a product which they may have difficulty in getting serviced if the firm goes out of business. Similarly a firm which is trying hard to survive can get suppliers only at higher than usual prices. If the project's cash flows are volatile and uncertain, the management may be unable to take a long-term view of the firm's prospect. It will lead them to adopt hit-and-run strategies making most of current opportunities.

In the above equation the risk-premium associated with a particular asset i is assumed to equal  $\beta_i (R_m - R_f)$ , where :

$\beta_i$  = the systematic or non-diversifiable risk of the asset. In effect,  $\beta_i$  measures the correlation between returns on a particular asset and returns on the market portfolio.

$(R_m - R_f)$  = the market risk premium.

Where the returns and the financial structure of a new investment are likely to be similar to those of earlier investments, the company-wide cost of equity capital can be used as a discount rate to evaluate the new investment. Where the returns and the financial structure of the new investment are not similar to those of other projects, a project-specific discount rate has to be used.

The risk-free return ( $R_f$ ) is known. If we are looking into the future, we should know the risk premium  $[R_m - R_f]$ , which is the excess return expected. We may make a fortune if we have this knowledge for future for every year to come. However, it cannot be so. So we depend on past patterns assuming that there is a good chance, that the history will repeat itself and the past patterns will be good indicators the future returns.

**Check Your Progress A**

- 1 What is cost of equity capital? why is it calculated?  
.....  
.....
- 2 What is the formula for CAPM model?  
.....  
.....
- 3 How is the cost of capital calculated in dividend valuation model?  
.....  
.....

**12.6 DISCOUNT RATES FOR FOREIGN INVESTMENTS**

**U.S. Evidence**

There have been two or three classic studies of US equity returns. Fisher and Loric analysed common stock returns for the period from 1926 to 1965. The before-tax return including dividends and capital gains over the whole period was 9.3 per cent. The real before-tax rate of return, adjusted for inflation was about 7.7 per cent annum over the forty years period.

The choice of the base year and the end year can influence the realised return. Ritter and Urish (1984) measuring equity yields over the period 1968 to 1983 obtained different returns. The U.S. equities yielded a real return of only 1 per cent per annum in their study.

Ibotson and sinquefield in their annual publication of stocks bonds, bills and inflation yearbooks use 1926 as the base year and calculate the realised yields on ordinary shares, long-term corporate bonds, etc. as follows :

**Total annual returns from U.S. Investments over long run from 1926**

	Arithmetic Mean (%)
Ordinary shares	12.0 - 12.5
Long-term corporate bonds	5.2 - 5.7
Long-term government bonds	4.6 - 5.1
U.S. Treasury bills	3.5 - 5.1
Inflation	3.0 - 3.2
$R_m - R_f$ ( $R_f$ based)	
on long term government bonds	7.2
$R_m - R_f$ ( $R_f$ based on	
U.S. Treasury Bills)	8.5

(Calculated by-Ibbotson et.al)

Note : The end years are from 1986 to 1990. The beginning year is 1926. The returns would vary according to the choice of the end year. For example, immediately following 1987 stock market crash would yield a lower return than immediately before 1987. The arithmetic mean is calculated as :

$$\text{Arithmetic mean } \bar{R}_a = \frac{1}{n} \sum_{t=1}^n R_t = R_t$$

Where  $R_t$  is the annual rate of return in year  $t$ .

Siegel (1994) calculated U.S. returns from 1802 onwards. He shows that the earlier-to 1926 the risk premium was much lower than that after 1925. The trend of U.S. returns has been increasing over the last two hundred years. The returns calculated by Siegel from 1926 are mostly similar to those calculated by Ibbotson and Signefield. Siegel uses a single finishing year of 1992 while Ibbotson et.al use a range of various terminating dates.

**U.S. Returns since 1980 (Arithmetic mean)**

	1802 - 1870 %	1870 - 1925 %	1926 - 1992 %	1802 - 1992 %
Common stock (normal)	8.1	8.4	12.0	9.5
Common stock (Real)	8.3	7.9	8.6	8.3
Long-term Govt. Securities	4.9	4.4	5.2	4.9
Short term Govt. Securities	5.2	3.8	3.8	4.3
$R_m - R_f$ (based on long-term Govt. Securities)	2.9	4.6	8.2	5.2
$R_m - R_f$ (based on long-term Govt. Securities)	3.2	4.0	6.8	4.6

Source : Siegal (1994)

**The British Evidence**

There have been some studies of returns on ordinary shares, bonds etc. in Britain. Merret and Sykes studied real returns accruing from U.K. equity investment in net of tax terms. They focused upon  $R_m$  net of tax and in real terms rather than  $(R_f - R_m)$ . Their results over the period from 1919 to 1971 suggest a real net of tax return of over 7 3/4 per cent, more than 1 per cent higher than comparable returns from U.S. investment, as shown in the following table.

**U.K. and U.S. equity returns in real terms and net of share holder tax 1919 - 1971**

Period	U.K. returns (%)		U.S. returns (%)	
	Tax exempt.	Tax at standard rate (capital gains tax excluded)	Tax exempt	Tax at 25% (capital gains tax excluded)
1919 - 39	12.1	10.5	7.8	6.5
1926 - 39	10.6	6.4	7.0	5.7
1949 - 66	7.3	5.4	14.1	12.7
1949 - 71	6.6	4.5	12.4	10.8
1926 - 66	6.2	4.5	7.5	6.5
1919 - 71	10.2	7.8	7.7	6.5

Source : Merret and Sykes (1973)

Dimson and Marsh (1982) computed returns to investment in U.K. equities in a similar manner to Ibbotson in the U.S.A. They calculated an arithmetical average of the risk

premium ( $R_m - R_f$ ) based on equity returns and the treasury bill rate for individual years. For relatively long periods, beginning in 1919 and ending at 1st January 1980. The value of ( $R_m - R_f$ ) appears to be 8 3/4 per cent gross of taxes and about 8 per cent on an after-tax basis.

Allen et.al (1987) reported U.K. returns in the format Ibbotson has done from U.S.A. These returns are calculated from 1919 and the end year is 1980. These are presented with Ibbotson's data to facilitate comparison.

**Total annual returns from U.K. investments from 1919 (also U.S. data from 1926)**

	U.S. Arithmetic mean (%)	U.K Arithmetic mean (%)
Ordinary shares	12.0 - 12.5	13.5 - 14.4
Small Company Ordinary shares	17.5 - 18.0	
Long-term corporate bonds	5.2 - 5.7	
Long-term Government bonds	4.6 - 5.1	5.7 - 6.1
Intermediate term Government bonds/3 months govt bills	4.9 - 5.4	4.6 - 5.3
U.S. Treasury bills	3.5 - 3.9	
Inflation	3.0 - 3.2	4.3 - 4.6
( $R_m - R_f$ ) ( $R_f$ based) on long term government bonds)	7.2	8.4
( $R_m - R_f$ ) ( $R_f$ based on U.S. Treasury bills)	8.5	9.0

*U.S. Data - Ibbotson et.al*

*U.K. Data - Allen et.al.*

In U.K. during the period under consideration, higher risk premium reflected in higher returns and the higher value of ( $R_M - R_F$ ) may be due to higher inflation rates.

**Evidence from other countries**

We do not have a complete picture of excess returns over a seventy or eighty year period from other countries in the world.

Officer (1989) reports arithmetic mean of excess return of 7.9 per cent per annum accruing to equity investors in Australia over a period of 1882 to 1987. Investment in equities in the Netherlands is reported to be 6.8 per cent per annum from 1947 to 1993. This is a real return adjusted from inflation from the nominal return of 11.45 per cent per annum.

**Developing Countries**

The research data over a long period for return on equity is not available for developing countries. The question of choosing the appropriate discount rate for developing countries is addressed to the question of whether we should add a further country risk premium in choosing the appropriate discount rate.

The answer depends upon whether the country-risk is systematic or unsystematic. If the risk is unsystematic, it should not be included in the cost of equity. If however, the risk is a systematic one and is not captured in the beta of the project in the other country, some adjustment would have to be made.

One may argue that an investment in a developing country project would provide greater diversification as the economics of the developing countries are less integrated with those

of developed countries. With increasing globalisation this not exactly the situation. Thus systematic risk in projects in developing countries may not be for below that in the project in the developed country. Thus for example, a Zambian copper mine may represent a capital project in the less developing country (LDC) but its systematic risk will be near to that in the industrialised country because the world demand and the world price of copper are dependent on economies of industrialised countries.

## 12.7 ALL EQUITY COST OF CAPITAL FOR FOREIGN PROJECTS

A number of adjustments have to be made to arrive at the WACC for a foreign project. These adjustments relate to determining the components of various types of capital in the targeted capital structure assumptions regarding the risk profiles of the firm and the project etc.

Thus it is suitable to use an all equity cost of capital as the discount rate.

To calculate the all equity rate, we depend upon the Capital Asset Pricing Model discussed earlier in this unit. The expected rate of return to be used as a discount factor is :

$$K^* = r_f + \beta^* (r_m - r_f)$$

Where  $K^*$  = The expected all equity discount rate.

$\beta^*$  = All equity Beta i.e. the Beta associated with the un-leveraged cash flows

The following example would illustrate this concept.

**Example :** Suppose a foreign project has a beta of 1.15, the risk-free return (based on government securities) is 12% and the required return on the market is estimated at 22%.

Thus the project's cost of capital is :

$$\begin{aligned} K^* &= r_f + \beta (r_m - r_f) \\ &= 0.12 + 1.15 (0.22 - 0.12) \\ &= 23.5\% \end{aligned}$$

In actual practice, it may not be possible to estimate  $\beta^*$  very precisely.

If the foreign project is quite similar in risk to the firm's average project. Then  $\beta^*$  can be estimated by reference to the firm's equity price  $\beta_e$ . In other words  $\beta_e$  is the beta that appears in the estimate of the firm's cost of equity capital i.e.  $K_e$ .

$$K_e = r_f + \beta_e [E(r_m) - r_f]$$

To transform  $\beta_e$  into  $\beta^*$ , the effects of debt-financing are to be separated. This is called un-levering, or converting a levered equity beta to its un-levered all-equity value.

$$\beta^* = \beta_e / [1 + (1 - t) D/E]$$

Where  $t$  is the firms marginal tax rate,  $D/E$  is the current debt equity ratio.

**Example :** If :

$$\begin{aligned} \text{Ordinary share price } \beta &= 1.1 \\ \text{Debt equity ratio} &= 0.6 \\ \text{Marginal tax rate} &= 34\% \end{aligned}$$

$$\text{Then all equity Beta } \beta^* \text{ would be } = [1.1 / (1 + 0.66 \times 0.6)] = 0.79$$

---

## 12.8 COMPARING THE COST OF CAPITAL IN DEVELOPING COUNTRIES

---

The component of risk which leads to variable returns and which cannot be eliminated through diversification is systematic risk. However the risk that the multinational corporations face in foreign projects is the unsystematic risk. This can be eliminated through diversification at the level of the individual investor. These unsystematic risk may be high, but they need not affect the discount rate which is to be used in foreign projects.

On the other hand, the systematic risk affecting the company resulting from the general economic conditions is related to the nature of the economy of the host country, in which the foreign project of the multinational company is undertaken. If the economy of the host country moves in different direction than the economy of the home country of the multinational company, the returns from the foreign project are less highly correlated with the returns of project in the home country. In this case the systematic risk of a foreign project could be lower than the systematic risk of its domestic counterpart.

The domestic share price index such as the BSE sensex, or NIFTY comparable to say the New York stock exchange index can measure the general market risk affecting the country.

It can be said, despite the South Asian debacle in 1997 that the economies of less developing countries, are less closely tied to United States or the European economy. Hence, even though the political risks are high in the developing countries, it is possible to diversify this risk by the individual investor. However, the systematic risk of projects even in developing countries may not be much below the average risk for all the projects. The reason is that by now most economies of developing countries are tied to the world economy. The globalisation interdependence among countries, the dependence on foreign investments for pushing up the GDP etc. have this effect. Thus the systematic risk may be practically the same for foreign projects, but the unsystematic risk would greatly vary.

If companies follow the route of diversification through direct foreign investments, the shareholders would be benefited. The set back in investments in, say, South Asian countries, can be offset by gains in India and China and in developed countries. Now that barriers to international portfolio investments are being raised (Malaysia re-imposed capital controls recently), the corporate diversification can be the preferred option. If the multinational corporations are taking the diversification route where costs do not exceed benefits, the investors may prefer a lower return on an internationally diversified company. They may ask for a higher return from a single country company. The corporates should continue investing abroad so long as there are profitable opportunities. The executives of multinational firms should pay much less attention to the importance of the risk premium. The use of any risk premium ignores the fact that the risk of an overseas investment in the context of the firm's and other investments will be less than the project's total risk. Thus automatic risk premium for a foreign project is not a necessity.

A caveat has to be entered here. In normal times, the above observation is true in the light of empirical evidence and the relevance of CAPM.

However, since the South Asian debacle since 1977 and the Russian debacle in 1998, one may conclude that the observation about ignoring the risk premium may have to be tempered by a careful study of the systematic risk and by properly assessing the project's Beta.

---

## 12.9 LET US SUM UP

---

The cost of capital is the basic measure of performance of a firm. The cost of equity capital for a firm is the minimum rate of return necessary to induce investors to buy or hold shares of the firm. The approach to determine the cost of equity capital for a particular project is based on Capital Asset Pricing Model. The cost of capital can also be calculated on dividend valuation model. There have been empirical studies on

Discounted Rates for foreign investments in U.S.A. and U.K. and not in other countries. It is better to calculate a weighted average cost of capital. The weights may be based on market or book values. The cost of debt is the rate of interest on debt. In case of foreign debt, tax and devaluation (appreciation) of local currency is to be connected. To calculate all equity cost of capital the use of CAPM is made. Multinational Corporation should study risk premium while investing overseas.

---

## 12.10 KEY WORDS

---

**CAPM :** This Model is used to determine the cost of equity capital.

**Systematic Risk :** It is also called non-diversified risk of an asset on market risk. The risk that cannot be magnified.

**Cost of capital :** The minimum rate of return for the firm must earn on its investments in order to satisfy the expectations of investors who provide the funds for the future.

**Weighted Average Cost of Capital :** The cost of capital calculated by assigning weights on the basis of book values of each component of the balance sheet or market value of securities.

---

## 12.11 TERMINAL QUESTIONS/EXERCISES

---

- 1 Define cost of equity. If risk perceptions change what happens to cost of equity?
- 2 Explain the CAPM model in relation to cost of capital.
- 3 Write a short-note on various studies done in U.S.A. and U.K. on discounted for foreign investments.
- 4 How all equity cost of capital for foreign project is arrived at?
- 5 How is cost of all sources of funds calculated?