CHAPTER V

COST–INCOME–RISK ANALYSIS OF FOREIGN INVESTMENTS

Introduction:

The study in the foregoing chapter has highlighted that India is attracting foreign investors at an accelerated rate with the exception of 1998. The previous year, 1998, is marked by a steep decline in foreign investments in the country. The decline is explained by capital flight from the Southeast Asia in the aftermath of economic disasters in a number of countries of the region. However, it is heartening to note that the
major investing nations have maintained steady pattern of investment especially in communications and energy sectors.

The present chapter takes stock of foreign investors who take financial decisions on the basis of certain objective norms. Financial decision is the function of cost, income and risks. The question for inquiry is how to measure cost, income and risk. Various hypotheses are available for application to measurement of cost, income and risk. Investors commonly use some of them. The Payback Period Method, Accounting Profitability Method, and Internal Rate of Return Method are traditional techniques to
evaluate projects for investment. The traditional techniques suffer from their failure to find value of money and contribution of a project to the firm's value.

Some modern techniques have been evolved with an element to shed light on the net value of the project. Net Present Value Technique satisfies investors and the management of a firm both. Management is satisfied with a project adding to the value of the firm at internal rate. Investors are satisfied when the actual return meets their expectations.

Foreign investors expect real gains and real returns. In other words, foreign
investments should get premium return to compensate themselves for risks from fluctuations in exchange rates and interest rates.

Following is the path that a foreign investor would prefer to apply:

\[
\text{Return} = \text{Income} - \text{Cost}.
\]

Risks associated with income are:
- Fluctuations in price of the product
- Fluctuations in rate of interest
- Fluctuations in tax rates
- Fluctuations in exchange rates

Foreign investors would experience erosion in real gains in the event of upward change in the foregoing variables of income. It may be described below:

\[
\text{Real Income} = (\text{Notional income}) \text{ discounted at Variations rate}
\]
Variations include interest rate, exchange rate, inflation rate and taxation rates, GDP Growth, unemployment rate, etc.

Variation rate = Average change

The above approach furnishes an insight into the demand of foreign investors for a higher return.

Cost is total capital employed to establish a business concern and to operate it. The question as to whether cost is justified by the income would be answered by capitalised value of income at expected rate. The ultimate path that a foreign investor would adopt would be as follows:

\[
\text{Return} = \frac{(\text{Notional income})V.K}{\text{Cost}}
\]
For management, it is internal rate and the cost that justifies funds for acquisition of assets. It is explained as follows:

\[
\text{Internal Return} = \frac{(\text{Income})}{\text{V/C}}
\]

\(V\) signifies variation rate and \(C\) is the cost of the project.

It is explicit that internal rate of return would be higher for foreign funds. Investment of foreign capital is justified by its higher income generating capacity.

It is correct to draw the inference from the above expressions that it is not in the interest of foreign investors and the management of business houses to operate in an environment of inflation, falling exchange rates and rising interest rates. For the investors, the real gains disappear, and for
the management the internal rate of return begins to slide. It is the stable price level, stable exchange rate and stable interest rates at relatively comparable level with investing economies that is beneficial to both the foreign investors and management of business houses.

Technique of Analysing Income:

Traditionally, an investor's income is earning per share. To find total gains, the capital gain per share is added to earnings per share. It is described below:

\[
\text{Investor's Income} = \text{EPS} + \text{GPS} \\
\text{Return} = \frac{\text{EPS} + \text{GPS}}{\text{P}}
\]

\text{EPS} denotes earnings per share; \text{GPS denotes gains per share; } P \text{ denotes purchase price of a share.}
Following steps are suggested to determine EPS, GPS and P:

P has a value that is assumed to be at par with the monetary unit invested to buy a share.

EPS has a value that is assumed to be average performance of a share at the stock exchange.

GPS has a value that is assumed to average out at gains per point (GPP). GPP is the lock-in period. GPS has been assigned 30 points for conversion into GPP, and vice-versa the GPP into GPS. It is illustrated below:

\[ 1 \text{ GPP} = 30 \text{ GPS} \]
It explains foreign investors do not like longer lock-in period because it tends to reduce their GPS. Shorter lock-in period is always beneficial to them.

Analysis may be misleading without making capital market comparable. It would be useful to assume as follows:

*Investors are assumed to be free to enter and exit capital market.*
*Financial institutions do not distinguish between small and big borrowers.*
*The cost of transactions and taxes are neutral to investment decisions.*

On the basis of assumptions about the behaviour of foreign investors and the stage of development of capital market, the veritable factors can be highlighted in the analysis of income to foreign investors.
Income, Cost and Risk Analysis:

Income to a foreign investor is:

\[ \text{Income} = (\text{GPS} + \text{EPS} + \text{GPP})V/K \]

When US $/Re = Rs.40, GPS 3 per cent, EPS $0.25, GPP 30 per cent of GPS per point, V is 5 per cent and K (Discount Rate) is 5 per cent, Income per US $ is as follows:

\[ \text{Income/US $} = (0.03+0.25+0.01) \]
\[ 0.05/0.05 \]
\[ = 0.29 \text{ or } 29 \text{ per cent}. \]

It is the expression of foreign investor’s attitude towards investment that would be beneficial when return is adequate to compensate them for opportunity cost associated with lock-in period, variations in
exchange rate, interest rate and inflation rate. K is the discount rate for the safety margin to allow for changes in earnings per share and the gains per share.

Cost does not have the problem of risks associated with gap between actual and estimates. It is the sum of money put into income generating activity. Cost per unit of capital is the cost of investment. In other words, it is the price of a share. Foreign investors would not go by the book value of capital and face value of a share. For an investor it is the purchase price of a share that also includes cost of transactions.
Facts of Inquiry:

Following are the facts of inquiry about foreign investment in India. The value is measured in terms of US $/Re.

TABLE 1—ANALYSIS OF FOREIGN INVESTORS’ INCOME IN INDIA

<table>
<thead>
<tr>
<th>USA</th>
<th>UK</th>
<th>GERMANY</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25</td>
<td>0.4</td>
<td>0.3</td>
</tr>
<tr>
<td>0.02</td>
<td>0.05</td>
<td>0.1</td>
</tr>
<tr>
<td>0.1</td>
<td>0.12</td>
<td>0.08</td>
</tr>
<tr>
<td>0.1</td>
<td>0.04</td>
<td>0.05</td>
</tr>
<tr>
<td>0.05</td>
<td>0.02</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Source: Compiled and computed from different sources.

Income to foreign investors in India is as follows:

\[(EPS + GPS + GPP) \frac{V}{K}\]

Income to US investors = 190%
Income to UK investors in India: 1.14 or 114%
Income to Germany: 24%

Income to Japan: 19.5%

Source: Compiled and computed from different sources.

The foregoing table makes it evident that US and UK investors top the income index from investments in India, followed by Germany and Japan. Japan has made investments in iron ore, automobiles and fisheries. Germany has initiated investments in chemicals and pharmaceuticals. UK and USA are in cybernetics, hardware, power and transportation and service sector. India is quite lucrative for UK and US investors.
China has offered super-fast stream of income to foreign investors. The facts of analysis are presented in the following table.

**TABLE 2 – STATEMENT SHOWING INCOME OF FOREIGN INVESTORS IN CHINA DURING 1993–98**

<table>
<thead>
<tr>
<th>Determinants</th>
<th>Country of investors</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>USA</td>
<td>UK</td>
</tr>
<tr>
<td>1 Earning per share %</td>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>2 Gains per share %</td>
<td>0.6</td>
<td>0.56</td>
</tr>
<tr>
<td>3 Gains per Point %</td>
<td>0.4</td>
<td>0.33</td>
</tr>
<tr>
<td>4 Variations %</td>
<td>0.002</td>
<td>0.002</td>
</tr>
<tr>
<td>5 Discount Rate %</td>
<td>0.001</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Source: Compiled and computed from different sources.

The composite picture of income to investors in India and China is presented in the accompanying table.
TABLE 3 - COMPARATIVE STATEMENT SHOWING INCOME TO FOREIGN INVESTORS IN INDIA AND CHINA DURING 1993-98

<table>
<thead>
<tr>
<th>Country of Investors</th>
<th>India</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA %</td>
<td>190</td>
<td>280</td>
</tr>
<tr>
<td>UK %</td>
<td>114</td>
<td>278</td>
</tr>
<tr>
<td>Germany %</td>
<td>24</td>
<td>60</td>
</tr>
<tr>
<td>Japan %</td>
<td>20</td>
<td>94</td>
</tr>
</tbody>
</table>

Source: Computed from tables 1-2, Ibid.

It would be fair to infer from the foregoing table that China offers avenues of super-fast stream of income. Pattern of income to foreign investors is substantially similar in the countries, China and India. Vast difference in the income explains the
reason for priority to China in the agenda of foreign investors.

In short, analysis of income to foreign investors in India clearly explains one of the major reasons of the existing trend in foreign investments in the country.

**Net Present Value of Income To Foreign Investors:**

Investors are concerned about money value of their income from investments as much as about the real gains. Economists hold the view that creditors are losers when money is losing purchasing power. Secondly, erroneous decisions take place under the ballooning effects of inflation on income. Its genesis lies in the amount of goods and
services that money is capable to lay its claims on.

It is true accounting has developed different techniques to assess the efficiency of investments. For instance, it is the amount of profit that justifies investments. Operations that do not add to profits are not justified. Further criticism of the accounting technique to base comments about efficient investment on quantum of profit led to improvement in the techniques. Return on investment came into vogue to evaluate performance of the management. The ratio identifies income and expenditure in relation to total funds employed. Inadequacies of
accounting techniques to make distinction in the fund flows and cash flows raised serious doubts about the acceptability of the technique itself. Nevertheless, it is still one of the popular methods in use.

The accounting techniques took one step in the direction of profit planning by fixing internal rates of return. It served as a tool to control and direct business operations for the fulfilment of financial targets. Figures alone are hard to succeed without head and heart of the management. Every expenditure has to account for its effects on investors’ welfare.
Investors are interested in the value of the firm. Traditionally, value of the firm is the aggregate value of stocks in the market. Market value would be up when the firm shows growth better than other firms do in the industry. Change in the attitude of investors about value of stockholdings created pressure on the minds of management to choose the projects that would have the potentials of adding to stock values.

Determinants of stock values are not substantially different. Current income and capital gains should be combined with growth over a series of years of the life of the project to become value of a stock in the
hands of stockholders. It is expressed as follows:

\[ V = D + G + R \]

- \( V \) signifies value of stocks with stockholders.
- \( D \) signifies dividend income.
- \( G \) signifies capital gains.
- \( R \) signifies growth potential of the project.

Each and every variable has significant implications in investment decisions. Fluctuations in current income from dividends or in market prices of stock can make investors apprehensive. Downward trend in dividend or sluggish amount of dividend relative to similar firms in the industry force investors to resort to switching over of stocks. It explains the need for transparency in
reporting ultimate results about earnings with split value of the stocks.

Depression in stock market has roots in expectations of investors about performing assets of the firms that have been acquired in the course of new projects. Shortfalls in fulfilment of expectations would be reflected in the potential growth that is one of the determinants of the value of stocks.

All the determinants are not controllable by the management. Exogenous factors lie outside the control of internal environment. It is well-established view about changes in rates of interest and the values of stocks. There is inverse relationship between them. It
implies appreciation in the value of stocks with every decrease in rates of interest, and vice-versa. To keep the values moored on performance, monetary policy must support stable interest rate at low level over a long period of time. The fiscal and monetary authorities should not overlook its impact on the value of firms and the attitude of investors before going to change interest rates to resolve short term problems of liquidity. Liquidity should be generated by the business to match with the growth of its volume.

The monetary theories do support the view related to expectations of investors as a potent factor of growth. Velocity in its pure
sense is the rapidity of use of money in transactions or exchange. High or low velocity is the function of ebb and flow of expectations of consumers about changes in prices, high or low expectations of investors about income from investments in projects.

Much time has been given to resolve the riddle of hidden hands in swerving business cycles. One of the important conclusions of great significance is sluggish movement of interest cost that obstructs automatic adjustments between cost, income and return.

Techniques to find a way out of vortex of expectations of investors took the cue from the discussion of economists to assess net
value of investment over time to stay stable on shifting sand surface of international investments. Any method must incorporate the following variables:

- Time of income flows
- Pattern of income flows
- Quantum of income flows on time scale
- Changes in interest rates on time scale
- Changes in price level on time scale
- Changes in exchange rates on time scale
- Changes in dividend policy over time
- Changes in capital gains over time
- Changes in growth rate over time.

The study does not claim to have exhausted all the factors of changes in the net value of investments. However, it would be useful to specify quantitative expression
that is easy to take care of. Following is the mathematical expression of the technique that meets the demand of investors in deciding projects worth investing:

\[ NPV = \frac{(D+G)k}{r}K \]

NPV denotes net present value of foreign investments; f signifies function; D denotes current income from dividends to stockholders; G stands for Gains from capital transactions; r is the internal rate of return; k is the industry's rate of return; and K is the discount factor for taking care of changes in interest rate, the opportunity cost, the exchange rate, the taxation rates and other exogenous determinants.

Any value of income slated along the expression would represent real income free from risks relative to industry and the stock market as a whole.
Investors would like to be satisfied that time value must represent future equivalent income. Any income is net addition to the real income that promises to flow from investments net of loss of purchasing power, loss of interest income, loss from low exchange rates and shortfall in actual and internal rates of return. In truth, foreign investors grow pessimistic when prices begin to increase. Similar attitude develops among foreign investors when interest rates are pegged up.

Higher interest rates fleece investors doubly ~ first by pushing up the opportunity cost and also by raising the cost of investible
funds. Positive difference between actual and internal rates of return is used by foreign investors to capitalise earnings for the purpose of evaluating their stocks upward, vice-versa happens when it is negative difference. Capital flight takes place in case of smaller actual rate of return than the internal rate of return. Such a firm has to apply high gearing ratio so long it suffers from over-capitalisation, and \( r > k \).

The quantitative expression of net present value of income to foreign investors has yielded very significant results about the persisting sluggish trend in foreign investments in India. A few modifications
seem to be permissible to overcome practical problem of covering all the foreign investors. A few leading countries of the investors have been selected to analyse the trend. The selected group of countries represents major share in investments in India and other Asian countries, viz., USA, UK, Germany and Japan. Together the group holds 45 per cent of the total investments in India in pre-liberalisation policy. The following table makes evident changes during the block period, 1991–98, in India vis-à-vis the foregoing investing nations.
<table>
<thead>
<tr>
<th>Investors' Determinants in US $</th>
<th>Country</th>
<th>EPS</th>
<th>GPS</th>
<th>k/r</th>
<th>K</th>
<th>NPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. USA</td>
<td>0.25</td>
<td>0.02</td>
<td>0.20</td>
<td>0.10</td>
<td>0.29</td>
<td></td>
</tr>
<tr>
<td>2. UK</td>
<td>0.4</td>
<td>0.05</td>
<td>0.16</td>
<td>0.15</td>
<td>0.45</td>
<td></td>
</tr>
<tr>
<td>3. Germ</td>
<td>0.30</td>
<td>0.1</td>
<td>0.14</td>
<td>0.1</td>
<td>0.44</td>
<td></td>
</tr>
<tr>
<td>4. Japan</td>
<td>0.33</td>
<td>0.02</td>
<td>0.2</td>
<td>0.25</td>
<td>0.35</td>
<td></td>
</tr>
</tbody>
</table>

Source: Computed by Research Scholar from table 1, op.cit

The table makes it evident that UK investors have realised highest real gains in terms of net present value per US $ of investments in India. Germany takes the next position followed by Japan and USA. It is costlier US $ that is responsible for reversal of positions of investors after conversion of current income into net present value and real gains.
It would be interesting to go into the question of real gains to foreign investors in China. It is worth recalling that China is not a member of World Trade Organisation. Its currency (Yuban) is not traded in the world money markets. The following table presents facts for analysis of NPV in China.

**TABLE 5: NET PRESENT VALUE OF FOREIGN INVESTORS’ INCOME IN CHINA**

<table>
<thead>
<tr>
<th>Investors’ country</th>
<th>EPS</th>
<th>GPS</th>
<th>k/r</th>
<th>K</th>
<th>NPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. USA</td>
<td>0.4</td>
<td>0.6</td>
<td>0.25</td>
<td>0.12</td>
<td>0.41</td>
</tr>
<tr>
<td>2. UK</td>
<td>0.5</td>
<td>0.56</td>
<td>0.33</td>
<td>0.2</td>
<td>0.83</td>
</tr>
<tr>
<td>3. Germany</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.48</td>
<td>0.45</td>
<td>0.2</td>
<td>0.4</td>
<td>0.46</td>
</tr>
<tr>
<td>4. Japan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.34</td>
<td>0.22</td>
<td>0.1</td>
<td>0.05</td>
<td>1.12</td>
</tr>
</tbody>
</table>

*Source: Computed from table 1–2, op.cit.*
Comparative statement of net present value in India and China would be helpful for further evaluation of real gains to foreign investors.

**TABLE 6 – COMPARATIVE STATEMENT SHOWING NET PRESENT VALUE OF FOREIGN INVESTORS’ INCOME IN INDIA & CHINA**

<table>
<thead>
<tr>
<th>Investors’ country</th>
<th>India</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. USA</td>
<td>0.29</td>
<td>0.41</td>
</tr>
<tr>
<td>2. UK</td>
<td>0.45</td>
<td>0.83</td>
</tr>
<tr>
<td>3. Germany</td>
<td>0.44</td>
<td>0.46</td>
</tr>
<tr>
<td>4. Japan</td>
<td>0.35</td>
<td>1.12</td>
</tr>
</tbody>
</table>

*Source: Compiled & computed from tables 1–2, Ibid.*

Table shows that foreign investors have realised more gains from investments in China than in India.

In conclusion, the foreign investors find India less attractive than China. India
has an edge over China in terms of strong technological base and skilled manpower besides rich endowments and equally vast market. Nevertheless, India has vast potentials for long term gains to foreign investors. It is evident from the facts of analysis ~ the free economy, membership of the World Trade Organisation, direct convertibility of Re and global operations of the Indian corporate sectors. China is a volatile country without ideological commitment to free economy and democracy. It gives India an edge over china. Foreign investors have share their confidence by mutually agreeing to making substantial investments in new areas including
hotel and tourism, communication and energy. It behoves to the investing nations to take long term perspective of real gains from investment in India.
References


Bhattacharya, B., Foreign Direct Investment in India, Foreign Trade Review, pp.308–329.