Chapter-IV
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FINANCIAL ANALYSIS

When mergers and acquisitions take place, the combined entity's financial statements have to reflect the effect of combination. According to the Accounting Standard 14 (AS 14) issued by the Institute of Chartered Accountants of India, an amalgamation can be in the nature of pooling of interests, referred to as "amalgamation in the nature of merger", or acquisition. The conditions to be fulfilled for an amalgamation to be treated as an "amalgamation in the merger" are as follows:

1. All assets and liabilities of the "Transferor Company" before amalgamation should become assets and liabilities of the "Transferee Company".

2. Shareholders holding not less than 90% of shares (in value terms) of the "Transferor Company" should become the shareholders of the "Transferee Company".

3. The consideration payable to the shareholders of the "Transferor Company" should be in the form of shares of the "Transferee Company" only; cash can however, be paid in respect of fractional shares.

4. Business of the "Transferor Company" is intended to be carried on by the "Transferee Company."
The "Transferee Company" incorporates, in its balance sheet, the book values of assets and liabilities of the "Transferor Company" without any adjustment except to the extent needed to ensure uniformity of accounting policies. An amalgamation which does not satisfy all the conditions stated above will be regarded as an "Acquisition".

The accounting treatment of an amalgamation in the books of the "Transferee Company" is dependent on the nature of amalgamation. For a merger, the 'pooling of interest' method is to be used and for an Acquisition the 'purchase' method is to be used. Under 'the pooling of interest' method, the balance sheet of the combined entity is arrived at by a line-by-line addition of the corresponding items in the balance sheets of the combining entities. Hence, there is no asset write-up or write-down or even goodwill. Under the 'purchase' method, however, the "acquiring company" treats the "acquired company" as an acquisition investment and, hence, reports its tangible assets at fair market value. So, there is often an asset write-up. Further, if the consideration exceeds the fair market value of tangible assets, the difference is reflected as goodwill, which has to be amortized over a period of five years. Since there is often an asset write-up as well as some goodwill, the reported profit under the purchase method is lower because of higher depreciation as well as amortization of goodwill.²
TARGET VALUATION

Valuation of the target in an acquisition is an important part of the process of determining the consideration to be offered to the target shareholders. The value that the bidder places on the target sets the maximum or 'walk away' price the bidder can afford to offer the target shareholders. The value of the target from the bidder's point of view is the sum of the pre-bid stand-alone value of the target and the incremental value the bidder expect to add to the target's assets. The latter may arise from improved operation of the target or synergy between the two companies. Added value may also move from profitable target asset disposals, as in a bust-up takeover.

Valuation of the target requires valuation of the totality of the incremental cash flows and earnings. The expected incremental value may be reflected in the earnings and cash flows of both the target and the bidder in the post-acquisition period. The incremental earnings and cash flows may include those arising from reduced corporation tax liability and 'pension holidays'.

Valuation of a target is based on expectations of both the magnitude and the timing of realization of the anticipated benefits. Where these benefit are difficult to forecast, the valuation of the target is not precise. This exposes the bidder to valuation rise. The degree of this risk depends on the quality of information available to the bidder, which in turn, depends upon whether the bid is hostile or friendly the time spent in preparing the bid and the pre-acquisition audit of the target.
There are number of models employed by firms to evaluate targets. These may be broadly divided into those based on (1) earnings and assets and (2) cash flows. The earnings and assets based models are less information intensive than the cash flow models, and less rigorous. In this chapter I describe how these models can be applied in target valuation.

With these models, the earnings or assets of the target are estimated after taking into account any changes, which the acquirer plans to make to the operations and asset structure of the target in the post-acquisition period. The estimated earnings or assets are capitalized into target value using an appropriate benchmark earnings or assets multiplier. The choice of this benchmark multiplier is very important and can present problems where the target is a private company or a multi business firm.

**Price/earnings ratio**

Price/earnings ratio (PER), also known as the earnings multiple, expresses the relationship between a firm. 'S' earnings for equity and its equity market capitalization.

\[
\text{Price/earnings ratio} = \frac{\text{Market value of equity}}{\text{Earnings for equity}} = \frac{\text{Share price}}{\text{Earnings per share (EPS)}}
\]
During takeover bids, the PER is often cited by both offertory and targets to indicate whether the price being offered is generous or inadequate.

Investors generally employ two alternative definitions of the PER: the historic and the prospective. The historic PER relates current market value of equity to the earnings of the most recent accounting year. Prospective PER relates the current market value of equity to the earnings expected to be reported at the end of the current accounting year.

**Interpretation of the PER**

The PER is a function of four factors:

- The level future equity earnings of the firm.
- Investors’ expected return for equity investment in the firm, which in turn rests on the risk ness of the firm’s earnings.
- The expected return on the investments made by firm.
- The length of time the firm can earn returns on its investments in excess of the investor-required return.

The value of a firm comprises two components:

\[
\text{Value of firm} = \text{Level earnings capitalized at the investor-required return} + \text{Value of ‘growth’ earnings}
\]

Level earnings are the stable earnings of the non-growing firm. The historic PER capitalizes last year’s earnings and the prospective PER the forecast earnings for the current year. Neither explicitly allows for growth in earnings. However, the above value relationship shows that a growth firm will valued
higher than a firm with only level earnings in the future, and will be valued higher than a firm with only level earnings in the future, and will command a higher PER. It can also be shown that the higher the risk attached to the earnings of firm, the higher is the investor-required return, and the lower the value of those earnings. Thus the PER will be lower for more risky earning streams.

Estimating target value using the PER model

Application of the PER model proceeds in the following steps:

1. Examine the most recent profit performance of the current target management.

2. Identify those elements of revenue and costs, which will be raised or lowered under the acquirer management.

3. Re-estimate the target’s future post-acquisition earnings for equity shareholders on a sustainable basis. These earnings are known as sustainable or maintainable earnings.

4. Select a benchmark PER.

5. Multiply the sustainable earnings by the benchmark PER to arrive at a value for equity.

Selecting the benchmark PER

As seen in the case of the Kingfisher bid for Saxons, there are alternative PER benchmarks available:

- The target’s prospective PER at the time of the bid.
- The PER of firms comparable to the target.
- The targets sector average PER.
In choosing the benchmark, we must ensure its comparability in terms of risk and growth. It is the risk - growth configuration of the target post-acquisition and not its historic profile, which forms the basis of comparison. The benchmark is normally adjusted to reflect this expected configuration. Such an adjustment is often a matter of subjective judgment, since the relation between PER and risk and growth is in practice, only imperfectly understood. Sustainable earnings estimated in the previous step are then capitalized at the adjusted benchmark PER to give a target value.

Limitations of the PER model

The PER model estimates the post-acquisition earnings for the target for a single period, and assumes that this level will be maintained. There is no explicit recognition of the time pattern of earnings growth. For example, operating profit margin may increase from the current 2.67 per cent to the projected 4 per cent over a five -year period. Moreover, the model does not explicitly consider the investor-perceived risk of the target firm's earnings. Problems also arise in the selection of the benchmark PER, as indicated above. Despite these limitations, the PER model provides a valuation based on the capital market consensus view of the value of earnings. It is widely used by the investment community and markets for ease of communication during a bid.
Asset-based valuation

This model is based on the relationship between the assets of a firm and its market value. The best known of the asset-based models is the Tobin’s Q, which is the ratio of the market value of a firm to the replacement cost of its assets. The replacement cost of assets is the cost of acquiring an asset of identical characteristics, such as the production capacity of a plant.

\[
\text{Tobin's Q} = \frac{\text{Market value of a firm}}{\text{Replacement cost of its assets}}
\]

\[
\text{Firm value} = \text{Replacement cost of assets} + \text{Value of growth options.}
\]

This relationship is similar to the one between firm values, the value of level earnings and the value of growth earnings we discussed above.

Discounted cash flow model

The discounted cash flow (DCF) model is applied in the following steps:

1. Estimate the future cash flows of the target based on the assumptions for its post-acquisition management by the bidder over the forecast horizon.
2. Estimate the terminal value of the target at forecast horizon.
3. Estimate the cost of capital appropriate for the target, given its projected post-acquisition risk and capital structure.
4. Discount the estimated cash flows to give a value of the target.
5. Add other cash inflows from sources such as asset disposals or business divestment’s.
6. Subtract debt and other expenses, such as tax on gains from disposals and divestment's, and acquisition costs, to give a value for the equity of the target.

7. Compare the estimated equity value for the target with its pre-acquisition stand-alone value to determine the added value from the acquisition.

8. Decide how much of this added value should be give away to target shareholders as control premium.

In preparation for the forecast of target cash flows under the bidder's management, the historic cash flow statements of the target must be examined. As with the sustainable earnings forecast discussed earlier, the cash flow forecast is based on assumptions about the changes to the operation of the target to be introduced by the bidder. In particular, these assumptions relate to the value drivers.

**Value drivers and cash flow forecast**

Value drivers are those key revenue, cost or investment variables which determine the level of a firm's cash flows, and hence its value to the shareholders. Rappaport (1986) identifies five key value drivers:

- Forecast sales growth in volume and revenue terms.
- Operating profit margin.
- New fixed capital investment.
- New working capital investment.
- The cost of capital.
The bidder’s post-acquisition management plans normally aims at altering the above value drivers, so that additional value can be created from the acquisition. Alteration of the value driver levels depends upon the value creation logic underlying the acquisition. Changes in the driver levels are often interdependent. For example, higher sales growth may be achieved only by increasing expenditure on marketing, advertising or product development, or by additional investment in fixed assets and current assets. These changes in the value drivers are then translated into a forecast of cash outflows and inflows.

Operating cash inflows, arising from the operations of the firm, are after (corporation) tax cash flows but before payment of interest on borrowing that has been used to finance the target. Cash outflows are due to additional fixed capital and working capital investments. After-tax operating cash flows net of investment cash outflows are called free cash flows (FCF).

Target cash flows are generally forecast for the next five to ten years. In general, the longer the forecast horizon the less accurate the forecast. Whatever the forecast horizon, the terminal value is based on the assumption of perpetual free cash flows based on the same level of operations as in the last year of the forecast period. The level perpetual cash flows are then capitalized at the cost of capital to yield the terminal value.

The forecast free cash flows when discounted provide the acquirer with the value of the target as a whole. From this firm value, debt is subtracted to give the equity value.
The cost of capital is the weighted average cost of capital (WACC), estimated from the target’s pre-acquisition costs of equity and debt. If after the acquisition, the risk profile of the target changes, perhaps due to product or market diversification of the target, the cost of equity and of debt will change. The pre-acquisition cost of capital has, therefore, to be adjusted to reflect this change in risk.

Sensitivity analysis of the DCF valuation

Given the uncertainty surrounding the forecast process, it is sensible that the acquirer examines how sensitive the target value is to any variation in the assumptions. This kind of analysis highlights those critical value drivers, which the acquirer needs to focus on. In particular, the assumptions behind the critical drivers need to demands greater accuracy.\textsuperscript{5}

METHODS OF PAYMENT FOR ACQUISITIONS

Cash is the most common method of paying for acquisitions, followed by share exchange offers. It appears that a bidder’s choice of payment method between cash and shares is sensitive to the stock market condition. Shares seem more likely to be used in bull markets. There are other factors, which may influence the choice of payment method. Accounting, tax and financial strategy considerations may be relevant to this choice. The accounting, tax and financial strategy considerations may be relevant to this choice.

In considering the impact of taxation on the form of payment to target shareholders, the bidder has to take into account both the possible capital gains tax liability at the time of
the takeover and the income tax liability on the dividends or interest paid by the acquirer after the acquisition. The tax issue must also be tackled within the acquirer’s own tax strategy, since interest on loan stock is normally corporation tax deductible, whereas dividend are not.

**Principal methods of payment for acquisitions**

<table>
<thead>
<tr>
<th>Bidder offers</th>
<th>Target shareholders receive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>Cash in exchange for their shares</td>
</tr>
<tr>
<td>Share exchange</td>
<td>A specified number of the bidder’s shares for each target share.</td>
</tr>
<tr>
<td>Cash underwritten share offer (vendor placing)</td>
<td>Bidder’s shares, then sell them to a merchant bank for cash</td>
</tr>
<tr>
<td>Loan stock</td>
<td>A loan stock debenture in exchange for their shares.</td>
</tr>
<tr>
<td>Convertible loan or preferred shares</td>
<td>Loan stock or preferred shares convertible into ordinary shares at a predetermined conversion rate over a specified period.</td>
</tr>
<tr>
<td>Deferred payment</td>
<td>Part of consideration after a specified period, subject to performance criteria.</td>
</tr>
</tbody>
</table>
A company’s financial strategy has many strands. Maintaining a reasonable gearing ratio is one of them. Ensuring adequacy of lines of credit from banks is another. Taking advantage of any tax provisions to reduce the cost of capital is also relevant. Finally, timing of security issues to exploit favorable market conditions is an important consideration. The choice of payment currency for an acquisition is based on a trade off of these often conflicting criteria, which are discussed below.

Where the bidder has an already high gearing ratio, issue of loan stock to pay for the acquisition is less attractive than a share exchange offer, which will reduce that ratio. Moreover, the operating cash flows of the combined entity and its cash flow or earnings cover for the debt interest must be sufficient and sustainable. These considerations also apply when the bidder raises bank finance to make a cash offer.

A share exchange, in contrast to a loan stock or a leveraged acquisition, imposes its own ‘cost’, in that the enlarged shareholder base can lead to a decline in EPS in the year of acquisition or for several years thereafter.

The gain or loss to each shareholder group is

For B: Gain = \( \frac{N_B}{N_{BT}} \times V_{BT} - V_B \)

For T: Gain = \( \frac{N_T \times ER}{N_{BT}} \times V_{BT} - V_T \)

Where \( N_s \) and \( N_T \) are the pre-bid numbers of shares in B and T, and \( V_s \) and \( V_T \) are their pre-bid market values. \( N_{ST} \) and \( V_{ST} \) are the corresponding figures for the post acquisition firm, BY.

The exchange ratio, \( ER \) determines how the overall added value at any PER will be shared between B and T shareholders.
When the bidder expects no synergy, it cannot afford a higher ER than a simple ratio of the targets to the bidders share price, in order to prevent loss of value from the acquisition. This means that no bid premium is paid to the target. The bidder can justify a bid premium only if the acquisition produces some synergy, and if this synergy is credibly translated into a higher PER than the average of the pre bid PERs.

**Financing a cash offer**

- Internal operating cash flow
- A pre-bid rights issue
- A cash underwritten offer, e.g. vendor placing or vendor rights
- A pre-bid loan stock issue.
- Bank credit.

Use of a pre-bid loan stock issue or bank credit gives rise to a leveraged bid or leverage buyout (LBO). The bidder's internal operating cash flow is perhaps the cheapest and easiest source, since it avoids both the transaction cost of raising finance and the delay in doing so. However, except for relatively small acquisition targets, a bidder is unlikely to have enough internal cash flow.

A conventional rights issue is often made by firms with a well-defined acquisition program. The cash underwritten offer is somewhat similar to a rights issue, but it may be more flexible in that the underwriting fails, the bidder is not left with a surplus of cash.
Another advantage of a cash underwritten offer is that the early shut off can add to the pressure on target shareholders to accept the offer thus improve the chance of a successful bid. Further, such an offer is much more tax efficient from the target shareholders. Further, it serves as a signal to the market that the bid is supported by financial institutions.

**Leveraged cash financing**

One of the most important considerations in this form of financing is the ability of the bidder to service the debt obligations. That is, periodic interest payments and capital repayment. The bidder may rely on two alternative sources of cash flows for this purpose.

- Operating cash flows.
- Cash proceeds from sales of the target's assets.

A careful forecast of the future operating cash flows from the target under the bidder’s management must be made to assess the debt-servicing capacity.

The high gearing that results from this method of financing may be of concern to the bidder. There have been numerous cases of highly leveraged acquisitions causing the decline and downfall of acquirers. One attraction of leverage is that the related interest payment is tax deductible, thus enhancing future EPS. This compares well with a share offer or a cash offer financed by a rights issue.
Financing with loan stock

This differs from the leveraged cash offer in that the loan stock is the consideration for the bid and is offered to the target shareholders. They swap their shares in the target for the loan stocks of the bidder. As noted earlier, such a loan stock may be construed as a qualifying corporate bond, with a certain tax disadvantage compared to a share offer.

To the target shareholders, a loan stock minimizes the problem of information asymmetry, since as in a cash offer; they are assured of a definitive sum on redemption of the stock. For some target shareholders, accepting loan stock may mean an unwanted shift of their portfolio weighting against equity. Further, acceptance of loan stock means loss of control over their company.

Financing with Convertibles

Use of convertibles in acquisition financing is less common than that of straight loan stock. Convertibles may be preferred stock (CPS) or loan stock (CLS). They represent a bundle of two underlying security the straight preferred or loan stock, and an option on the shares of the company. Target shareholders can, therefore, roll over their capital gains and avoid immediate CGT.

Deferred consideration financing

Both bidders and target shareholders face valuation risk in negotiating a price and the payment currency in a takeover. One way of mitigating this risk is to make the consideration payable to the vendor's contingent upon the future performance of the target
under their own management. In such companies, in an earn out, consideration to the vendor is made up of the following:

- An immediate payment in cash or shares of the acquirer.
- A deferred payment contingent upon the target turned subsidiary achieving certain predetermined performance levels.

Earn-outs are not free of problems. The culture shock of transformation from owning and managing an independent company to running a subsidiary under the control of a larger firm may be quite traumatic. For the buyer, an earn out is a way of retaining the vendors talents. However, the vendor may lack motivation or try to maximize short-term profits to the detriment of the long-term interests of the buyer.

The most popular mode of financing M&A activities in India is through internal accruals of the bidder company. This is primarily because of two reasons.

Firstly? Risk adverse nature of Management’s in India because internal accruals are cheaply available and involved little or no risk.

Secondly, Non availability of other roots of financing, due to hesitation on pact of Banks and FI’s towards financing of M&A activities, and the regulation governing their activities toward M&A.
The other frequently used route is:

**Deferred payments:** That is you first take over the assets of the firm. Then, beverage than for loans. The meager route involving share swap rather than cash deals is also used.

One new mode that has recently been available to corporate is through Euro Issues According to the ECB guidelines about 10% of funds generated from Euro -issues can be used @ fund takeovers and manger.  

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**STRUCTURE AND INSTRUMENTS FOR FUNDING ACQUISITIONS**

The key distinguishing factor regarding funding negotiated vs. hostile takeovers is the **level of certainty** relating to the funds requirement in the two cases. In negotiated takeover of an asset, the exact quantum of funds requirement is known. Even in the case of negotiated deal for the purpose of acquisition of shares, a reasonably accurate estimate of the funds requirement can be had as the existing promoters stake being acquired is known and a reasonably accurate estimation of the public subscription can be made on the basis of the attractiveness of the offer. Thus, the funds requirement has an element of certainty. On the other hand; a hostile takeover involves great uncertainty on factors such as:

**Its success:** A bid could be thwarted by a counter offer, refusal of institutional support or due to some legal glitch.

**Proportion of capital acquired:** A hostile bid may require a promoter to strike a negotiated deal with the existing promoter
and/or the financial institutions. This adds to uncertainty in funds requirement.

**Counter offer:** A counter offer may require the company to revise its offer price upwards. On account of the certainty in the funds requirement for a negotiated takeover, a company can seek to fund the acquisition on the basis of its long term gearing ratio. This would ensure that the funds are raised at lower costs and there is no timing mismatch of the funds as is a risk in bridge financing. Due to the uncertainty involved in a hostile bid, it makes sense for the bidder to raise funds through short-term sources, which could then be substituted by longer term instruments such as term loans and equity capital.

**Timing of the funds requirements:** An open offer would require funds in two branches - first when the offer is announced and the second when the issue closes - which could involve a time period of 75 - 110 days from announcement of the offer, depending upon the urgency with which the company pursues the matter.

**The methods through which funds could be raised in case of a negotiated acquisition (long term sources):**

**Rights Issue:** A rights issue could be made in conjunction with the issue of the open offer document for the acquisition of shares. The rights issue would need to open for 15 days and would therefore be ideal to meet the funds requirement arising on the closure of the issue.

**Debenture Issue:** A private placement of debentures could be made by the company, which would be subscribed to by a host of banks and institutions. The debenture issue could be rated by CRISIL within a period of 4 weeks and the placement could be
completed within another month, thereby raising funds in time for the purpose of the open offer. The debentures could be securities against the existing fixed assets of the company (provided they have sufficient margin for the financial institutions to issue an NOC) or against the fixed assets being acquired. Although security does not determine the rating of a debenture issue, Indian lending has essentially been security backed and it would be difficult to place even a well rated paper if it were not backed by security.

**Term loan:** A company could also raise a term loan from organisations such as Citibank and ICICI on the security of the existing fixed assets, future cash flows or the assets of the company being acquired, provided there is sufficient margin on those assets. These loans could be for 3-5 year tenure and would carry an interest rate slightly higher than a similar loan for project finance.

**STAND OF FINANCIAL INSTITUTIONS**

This section analyses the concerns of the key institutions and draws conclusions on the success factors to be kept in mind in the event of a **hostile takeover**.

The financial institutions can be divided into two classes for the purpose of understanding the behavior while voting on hostile bid. These classes are **lending institutions** such as IDBI, ICICI, and the IFCI and the **investment institutions** such as UTI, LIC and the GIC.

All these institutions form a joint committee to make a decision on which to support in the event of a hostile bid. A
leader amongst these is the IDBI whose nominee generally chairs such a committee.

**IDBI** prefers to back the existing promoters in the event of their having rendered satisfactory performance in the past. This is so because it wants to build relationship with the existing promoters and does not want to be seen as ditching the existing promoters to cash in on short-term gains. Another reason which makes them take this stand is that if institutions start supporting hostile bidders, it would unleash a regime of fear in which all promoters would feel the need to hike their stake to 51% in order to ensure that they retain their management control. They may not have the funds to do so which would lead to undesirable situation in which promoters would have to withdraw money from their own companies in order to increase their holdings therein.

**Investment institutions** on the other hand are in the business of investing to generate profitable returns for the unit/policyholders. They are answerable to the individual investors and are responsible for realising the value of their investments. It therefore becomes extremely difficult for these institutions not to subscribe to an open offer if the company making the offer also possesses sufficient industry expertise to run the unit profitably. Hence the promoter has to make a counter offer not much lower than that of the hostile bidder.

In short, the **key success parameter** for the hostile bidder is **pricing**. A price at a very high premium can win the support of the investment institutions.
PLAYERS IN THE INDIAN FINANCIAL MARKET

- PSU banks such as SBI, PNB and BoB
- Lending institutions such as IDBI, ICICI, IFCI
- Foreign banks such as Citibank and ANZ
- Investment institutions like UTI, LIC and the GIC
- NBFCs such as GE Capital
- Newly set up private sector banks such as HDFC Bank and Indus Ind Bank.

Lending Institutions:

**Industrial Development Bank of India:**

IDBI’s reasoning against funding of acquisitions is that in a growing economy such as India, an institution such as IDBI would prefer to use its limited funds for the purpose of capacity creation rather than exchange of assets. Further being an organisation directly answerable to the government, it is averse to taking aggressive steps in funding an activity on which there are no specified government guidelines. This reasoning prevents IDBI from entering into takeover funding in a big and publicised manner.

**ICICI:**

The institution is looking at acquisitions as a means of lowering or preventing further rise in NPA. These measures are taken at the asset reconstruction cell and they regard acquisitions as a means of restructuring their portfolio and recovering their money. This can be achieved by facilitating mergers of companies showing bad results or poor management ability. They have already reported a recovery of Rs.300 crores.
On another level ICICI is looking at acquisitions as a profitable lending activity. However it has not evolved any specific policies for this purpose. The company would be willing to look at any proposal whether hostile or negotiated as long as it feels that the acquiring company would be in a position to add greater value to the operations of the company being taken over.

ICICI is willing to look at **medium term loans** for duration ranging from a year to 5 years. ICICI is willing to look at any kind of tailor made or standard instrument for the purpose of funding once convinced of its viability.

The institution does not lend without **security**. The securities it would be willing to consider for funding acquisitions are existing fixed assets (if they have to sufficient margins on their existing assets), securitisation of the future cash flows and also security of the assets being taken over. However, the most important consideration would be the cash flows of the future operations through which the loans would have to be repaid.

**Investment Institutions**

**Unit Trust of India:**

The largest investor in the Indian financial markets, the UTI does not look forward to subscribing to any special instruments for the purpose of funding acquisitions. UTI would emerge as an important source of funds for companies seeking to take out bridge loans by means of an equity issue. The institution is a large investor in companies’ equity and would be willing to take up a preferential issue of equity shares should it be convinced of the viability of the acquisition in the long run. This would be
possible only if the institution does not already hold a substantial portion of the acquiring company's equity.

**Banks**

Banks are specifically prohibited from funding for the purpose of acquisition of shares vide. The RBI circular no. DBD - FOL .BC.100/C.249-83 dated December 1983. This prevents them from entering into funding of acquisitions in a big manner. However, it is believed that at a recent meeting of the RBI governor with the heads of large PSU banks and financial institutions, the governor had stated that funding of acquisitions could be undertaken on a selective basis by the star PSU banks and financial institutions.

The banks covered for the purpose of this study can be broadly classified into three categories for the purpose of this study - (Citibank, Bank of America, ANZ, and Deutsche Bank), PSU banks (SBI and BoI) and the newly set up private sector banks (GTB and Indus Ind).

**Public sector banks:**

SBI, the leader amongst the PSU banks has approached the RBI with a request to evolve guidelines on the funding of acquisitions. Thus, none of the PSU banks are willing to look at acquisition funding till the RBI evolves guidelines thereon.

The bank could be convinced by a client with extremely good banking relations to extend short term funding in the form a working capital loan or by allowing the client to draw down upon the existing cash credit limits, but would not be willing to step out of line beyond that point.
The other PSU banks are looking towards the SBI to first commence the funding of acquisitions and would only then be willing to look at such funding activities.

**Smaller private banks**

The smaller private banks actually have tremendous potential as fund suppliers for deals involving small parties and which have a fund size of around Rs. 10 - 20 crores. Although banks such as Global Trust and Indus Ind were contacted, they do not presently fund any such deals due to the absence of RBI guidelines. However, it is possible that such banks may be willing to look at such deals if they are approached and assured reasonably high rates of returns.

**Foreign Banks**

**ANZ Grindlays Bank**

Although the oldest foreign bank in the country with the strongest balance sheet, it is conservative on the compliance front. However, it admits to have lent money in the form of a corporate loan for a short term. A few takeovers were witnessed where the acquirer (obviously a big account having good relations with the bank) provided only the rating of the target company without naming it. Decisions in such cases have to be taken in hours and takes the form of unsecured lending.

ANZ is looking into the possibility of setting up a separate fund for the purpose of funding takeovers. Alternatively it could use the resources of it's emerging off-shore markets fund for the purpose of funding acquisition deals. However, these private equity funds typically have hurdle rates of around 35% making it
prohibitively expensive for the party raising funds and may not be preferable if other domestic sources of funds were available.

**Bank of America**

Managerially Bank of America is known to be one of the most aggressive multinational banks in the Indian market. It makes an attempt to get around RBI restrictions by lending funds as bridge loans against a proposed share issue or by lending for a short period as a corporate loan.

Bank of America has an **equity investment fund** in the form of the global equity investment group. This fund has funds set aside on regional basis for the purpose of the bank taking up equity exposures for higher returns on the strengths of its own balance sheet. Thus a company could look forward to placing equity shares privately for the purpose of setting right the debt equity ratio and retiring some of the more expensive short-term funds raised at the time of the acquisition.

**Citibank**

Citibank is currently looking at negotiated takeovers. It is also looking at entering into these transactions through its finance company, which is not subject to the RBI regulations against funding of share acquisition by banks. Thus use of the finance company by banks for side stepping these regulations is a possibility that needs to be explored for other banks as well.

Citibank may use mezzanine floor instruments i.e. instruments between debt and equity and would consider lending for 3-5 years. The mezzanine instruments could be secondary rated securities and preference shares which would yield a higher rate of return for the transactions while assuming higher risks.
It is believed that Citibank (not the Finance company) had extended a short-term unsecured loan against a proposed equity issue in the case of India Cements Limited.

**Deutsche Bank**

Deutsche Bank has participated in negotiated takeovers and does not intend to get into hostile bids. Having faced problems in a case it wants to step into it only after the other players have established the rules successfully. It will lend against encashable securities like promoters’ equity or units of mutual funds etc.

**ROLE OF A VALUE CONSULTANT**

Role of a Value Consultant

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Clients who use a valuation consultant can be corporations, investor groups, or individual investors. They can be looking to buy or sell a division, a subsidiary, or a stand-alone firm.
The **three roles** of a value consultant is explained as under:

**First**, negotiation support i.e. to make sure that the client understands the value of the subject company before sitting down at the negotiating table. If on the buy side has to work out defensive pricing i.e. buyer wants to pay a price that minimises risk .If on the sell side, the seller might want to know the high highest possible selling price - known as pricing on the bubble.

**Second**, is deal structuring and financing: The valuation specialist must also be cognizant of the bigger picture and serve the client’s interest .The problems generally faced could be combining financing decisions with valuation. They either take all the financing cash flows or they attempt to build a moving capital structure into the discount rate. Mixing investment and financing decisions can result in a good financial package, making an over priced .On the other hand, others attempt to look at valuation question in a vaccum and ignore the bigger context within which a deal is taking place. Hence the value consultant should be able to see if the timings of the cash flows matches the financing package that’s being put together and also ascertaining if the debt could be paid off in a reasonable amount of time and also look at tax consequences.

**Third**, role of the valuation consultant is negotiation leverage. Helping the client to get a fair price by negotiating with the buyer can be an added function.⁸
TRADITIONAL APPROACH TO VALUATION

There are three approaches to valuations, which are used most widely for the valuation of traditional business namely:

The Income Based Approach

The fundamental to income-based approach is the belief that the value of the business must be related to the profits it will earn and the cash it will generate in the future. Consistent with this belief, the two most commonly used methods are the capitalization of the past earnings method and the discounted cash flow method. The capitalization of earnings method uses the past earning patterns to make a judgment regarding the future maintainable profits. The starting point is an understanding of the business and the identification of the major drivers. In some companies, the growth of profits may be attributable to the growth in turnover, in others it may be increasing margins or the reductions in the costs of inputs or the growth in exports and so on. The identification of these factors is not complete unless the sustainability of the factor is determined.

It is also necessary to identify non-recurring or exceptional transaction, which have contributed to profits or losses in the past and not likely to occur in the future.

Identification of following factors is also paramount importance before considering valuations:

- Changes in the nature of the business.
- Assets and liabilities not integral to business.
One test of identification of such assets and liabilities is whether that an asset can be disposed off without an impact on the continuity of the business.

- Period over which past earnings should be analyzed

Period should be of relative stability. Period should be long enough to give confidence regarding maintainability of the earnings but not so long that past earnings become irrelevant. Period must encompass at least one full business cycle if possible.

- Selection of the appropriate capitalization rate.
- Other external as well as internal factors

Whether business is diversified or concentrated.

- Other tangible or intangibles factors
- Industry and macroeconomic factors
- Competition level, Patents, Government regulations.

**Price to Earning Ratio**

Often the price /earning ratio (P/E) of the industry provide an indication of the appropriate capitalization factor. However these ratios have to be applied with caution. As these ratios are affected not only by the companies’ performance but also by the sentiment in the market. The ratios to be considered at a single point in time but must be considered over an appropriate period with suitable adjustments for changes in capital structure. However, greater the volatility in the market, the greater will be the volatility in the P/E ratios over a period. It is also necessary to
benchmark appropriate the company in the industry and with which the business to be valued considered comparable. Finally consideration should be given to the fact that published P/E are not adjusted for exceptional items in earnings.

**Discounted Cash Flow Method**

The discounted cash flow (DCF) method is based on the premise that value of a business is the sum total of the present value of all future cash flows. In that sense it overcomes the effect of the capital structure on the business value. The method estimates the free cash flows for each financial period included in the discreet period and discounts this to its present value of at weighted average cost of capital (WACC). Aggregate of the present values so determined may be termed as the enterprise value.

The free cash flow is defined as the profit before depreciation, interest and taxes as reduced by adjusted tax, additional capital expenditure and changes in working capital.

Starting point is therefore the estimate of future PBDIT. This is often a difficult exercise, which involves a clear understanding of the key value drivers of the business as also consideration of a number of critical factors. Assumptions are made based on an analysis of company’s economics, the dynamics of the competition in the industry and the underlying demand for the company’s product. A single set of projections may not be sufficient and several scenarios need to be developed considering the potential for the new products and technologies which will affect the demand, differentiation with competitors, changes in the govt. policies, changes in consumer
tastes, availability, price of raw materials, likely changes in tariffs and so on.

Final value determined under DCF valuation is largely influenced by the continuity value. In case of cyclical industries the discreet period should at least encompass the whole business cycle.

The Market Related Approach to Valuation

Under the market related approach, the value of a business is determined by a comparison of relevant accounting ratios computed for the business with the ratios of publicly traded companies in similar lines of business. The ratios normally used are Price/Earnings (P/E), Price/Book value (P/BV), and Price/Turnover (P/T).

Another market related approach is to identify actual sale transaction, which has taken place, and to benchmark these. In both the approaches the major difficulty arises in identifying a company, which can be considered as comparable with the business, which is being valued. As no two businesses are identical, it becomes necessary to apply the discount or premium for the dissimilarity and the subjectivity involved in the selecting an appropriate rate of discount and premium could significantly affect the value of a business.

In the underlying asset approach, three methods are generally used namely

- The liquidation value method
- The replacement value method
- The net asset value method
The first two are rarely used but the net asset value method is often used in conjunction with the earning based methods. It proceeds on the premise that operating assets do not have a value different from the capitalized value of the profits they can generate and since under the earnings methods, depreciation and interest are calculated on book value of fixed assets, these values cannot be changed when the asset based method is used in conjunction with the earning based methods. However, since the non-operating assets do not influence the value determined under the earnings based methods, these can be valued at their net realizable value.

**Methodology of the valuation**

Price of the merged entity is arrived by two different valuation techniques:

- Discounted earnings method
- Market based approach

These techniques have been discussed above in detail.

After receiving two different prices both of them have been averaged to reduce the impact of overpricing which could have come as the market based approach. Is based on standard P/E multiples.17
DCA NORMS

DCA drafts norms for merger valuations

The department of company affairs has decided to bring transparency in regulations governing mergers and amalgamations of companies by stipulating standardized guidelines to be followed statutorily by companies planning such mergers.

The guidelines, to be notified under the Companies Act, will prescribe rules to be followed for the valuation of shares of merging entities. At present, under Sections 391-394 of the Act, high courts enjoy discretion over clearances for M&As and there is no prescribed formula or method for valuation.

Top DCA officials said that the absence of statutory guidelines made the issue vexed with different companies employing different assumptions for arriving at valuations of shares.

Explained a top DCA official: "When a scheme of arrangement is filed with the regional director (RD) for a merger between two companies, one company pays another by way of its shares for their merger, it has come to the notice of the department that the valuation of these shares for such transactions is inappropriate and tailored to suit the promoters."

"Shares of companies that have a heavy promoter stake are assigned high values and those of companies with heavy
public holdings are assigned low values. The broad guidelines will specify how the RD should handle the situation so that the small investor does not get fooled."

The official further said that the decision was taken after the department received a complaint of under valuation of the shares of RPL for its proposed merger with RIL. He, however, clarified that the proposed merger had already been approved by the High Court. 38

FIRM VALUATION

The difficulty in analysing and bringing about a merger is the process of placing a Value on the Acquired (vendor firm) firm. The value of the firm not only depends on its earning capabilities but also upon the operating and financial characteristics of the acquiring firm. As a result no single dollar or rupee value exists for a company. Instead a range of values is determined that would be economically justifiable to the prospective acquirer. The final price within this range is then negotiated by the firm’s managements.

To determine an acceptable price for a corporation, a number of factors are carefully evaluated. The objective of the acquiring firm is usually to maximise the shareholders wealth (Stock Price). However, quantifying the relevant variables for the purpose is a difficult task. For instance, the primary reason for a merger might be to acquire managerial talent or to complement a strong sales force with an excellent production department. The potential synergistic effect is difficult to measure using the
historical data of the companies involved. But in order to place a value on the firms however arbitrary they happen to be, the following methods are used: -

**Book Value (BV)**

The BV of a firm’s net worth is the balance sheet amount of the assets less its outstanding liabilities, or, in other words, the owner’s equity. For example if a firm’s historical cost less accumulated depreciations Rs. 10cr and the debt totals Rs. 4cr, the aggregate BV is Rs. 6cr. If 100000 shares are outstanding, the BV per share is Rs. 60 (6,000,000 / 100,000). BV does not measure the true market value of a company’s Net Worth because it is based on the historical cost of the firm’s assets. Seldom do such costs bear a relation to the value of the firm or its ability to generate earnings. Although the BV of a firm is clearly not the most important factor, it should not be completely overlooked. It can be used as a starting point to be compared with other analyses, also a standing of the firm’s working capital is particularly important & necessary in acquisitions involving a business consisting primarily of liquid assets such as Financial Institutions. Furthermore, in Industries where the ability to generate earnings requires large investments in such items as steel, & petroleum the BV could be a critical factor, especially where P & M are new.

**Appraisal Value (AV)**

An AV of a company may be acquired from an independent Appraisal Firm. The techniques used by appraisers vary widely, however the value is closely tied with replacement costs. The
method of analysis is not adequate by itself, since the value of individual assets may have little relation to the firm’s ability to generate profits & the going concern value. However, the AV of the enterprise may be beneficial when used in Organisations with other valuation methods. Also, AV may be an important factor in special situations such as Financial Companies, Natural Resource enterprises or organisations that have been operating at a loss.

The use of AVs does yield certain other advantages. The appraisal by independent appraisers may permit the reduction of accounting Goodwill by increasing the recognised worth of specific assets. Goodwill results when the purchase price of the firm exceeds the value of individual assets.

Suppose a company having a BV of Rs. 60000 is purchased for Rs. 100000 (Rs. 40000 is Goodwill). The Rs 60000 BV consists of Rs. 20000 in Working Capital and Rs. 10000 in fixed assets. However, an appraisal might suggest that the current values of the assets are Rs. 25000 & Rs. 55000 respectively. The Rs. 15000 (55000 - 40000) in fixed assets permits the acquiring firm to record a larger depreciation expense than would otherwise be possible, thereby reducing taxes.

A second reason for the appraisal is to provide a test for the reasonableness of results obtained through methods based upon the going concern concept.

Another reason for AV is that the appraiser may uncover strengths and weaknesses that otherwise might not be recognised, such as in the valuation of patents, secret processes & partially completed R&D experiments.
The AV procedure is generally worthwhile when performed in conjunction with other evaluation processes. In specific instances, it may be an important instrument for value a corporation.

Stock Market Value (SMV)

The SMV as expressed by the stock market quotations comprises another approach for estimating the net worth of a business. If the stock was listed on a major stock exchange, such as BSE, and is widely traded, an appropriate value can be established as the basis of Market Value. The justification is based upon the fact that the market quotations indicate the census of investors as to a firm's earning potential & corresponding risk.

The SMV approach is one of the most frequently used in valuing large corporations. But this value can abruptly change. Therefore computations by market analysis are not the sole determinant of value. Analytical factors compete with purely speculative factors and are subject to people's sentiments and personal beliefs. The market is not a weighing machine, on which the value of each issue is recorded by an exact and impersonal mechanism, in accordance with specific qualities. It is in fact a voting machine, where countless individuals register their choices, which are in part a result of their reason and emotion.

In conclusion the SMV approach is the most widely used method for determining the worth of the firm, with 10 - 20% premium above the MP often being required as an inducement for the current owners to sell their stock. Even so, executives who place their entire reliance on this method are subject to an
inherent danger of market psychology especially in a yet to mature market like India.

Factors affecting the Value of a Firm
1. General Market Factors
2. Individual Factors
   A. Speculative Factors
      a. Technical
      b. Manipulative
      c. Psychological
   B. Investment
      a. Future Value factors
         i. Management & regulation
         ii. Competitive Conditions
         iii. Possible changes in volumes, price & costs
      b. Intrinsic Value Factors
         i. Earnings
         ii. Dividends
         iii. Assets
         iv. Capital structure
         v. Terms of Issue
         vi. Others

All these factors shape the overall attitude of the public towards the issue, based on which bids and offers are made, which intern determines the market price.\textsuperscript{23}
FINANCING DECISION

Promoters are known to resort to mergers in order thwart takeovers. The mergers are potent shields for this purpose. The era of the 80's prompted many companies to dilute their holdings in order to obtain cheap capital and this was an extremely valid option as long as the threat of takeovers was not a large one.

In the changed environment of today, companies are becoming increasingly insecure about their control and especially so after the entry of multinationals. This has fuelled the ongoing drive to strengthen the hands of the promoters and thereby give them management control. The increased market capitalization will therefore serve as the first line of defense such that the cost of equity is raised in a single stroke as well as the company emerges as a more powerful one in terms of financial muscle. An example which can be considered in this regard is the merger in the Jindal group. The merger raised the share price of the merged company and the equity base of the merged company was raised to substantial levels.

The second line of defense that the company can build up is through the swap ratio such that the promoters can significantly gain and thereby raise the level of their holdings in this manner. This is especially true of the Nanda family, which has gained control of Escorts in a firmer manner following the merger. This was also resorted to by the Ambani family in order to raise their stake in the Reliance industry.

So far we have talked of mergers benefiting promoters. This makes us consider the question as to whether the merger benefits shareholders. Mergers enable a company to correct it's
equity to debt ratio and thereby achieve the correct leverage ratio in order for it to fund new projects. Mergers enable a company to raise its ratios to desirable level and the impact of this is shown in the price of the shares of the merged entity. The P-E multiple of the company tends to rise with the EPS not affected negatively by the move. This also enables the company to draw greater funds from the market, as the company is now able to attain critical mass. Such has been the motive behind the BPL group companies merging.

No merger can be successful unless the synergy between the merging companies is missing. The merger can also fail incase the companies lose focus of their core competencies and diversify to an extent they lose control. The cultural fit of companies which propose to merge is essential as this can decide whether the merger succeeds or fails. Mergers however should not be used to hide inefficient units and merely divert cash flow from cash rich companies to bank roll projects, which have become unviable but are close to the management’s heart. Another factor that has been relatively down played during the course of the discussion is the labour factor. Disparity in compensation, productivity can lead to problems, which the company must sort out in the pre-merger phase.

Another thing that must be kept in mind is that the merging companies must make it extremely clear the labour policies that they intend to follow and the number of workers that they intend to keep and thus also the number of workers they intend to layoff. This shall prevent unnecessary legal and labour hassles from taking place. This was witnessed in the HLL-BBIL merger where
the BBIL union protested against the merger. This was however sorted out later by the company.\textsuperscript{16}

**VALUATION OF M&A**

**Valuation**

There are several approaches to valuation. The important ones are the discounted cash flow approach, the comparable company approach, and the adjusted book value approach. Traditionally, the comparable company approach and the adjusted book value approach were used more commonly. In the last few years, however, the discounted cash flow approach has received greater attention, emphasis, and acceptance. This is mainly because of its conceptual superiority and its strong endorsement by leading consultancy organizations.

The discounted cash flow approach to corporate valuation involves four broad steps:

- Forecast the free cash flow
- Compute the cost of the capital
- Estimate the continuing value
- Calculate and interpret results

This section makes an attempt to highlight the special issues in valuing takeovers and determining how to optimise the value generated. The idea behind is that the acquisition must
enable the company to achieve the same objectives as it intended to with its strategies.

The use of M&A as a corporate strategy for restructuring acts as a tool for increasing value through efficiency gains, and move resources to their best users.

The management challenges for any corporation is to optimise the allocation of scarce and expensive resources such as capital, labour, research, training and time in order to increase productivity. Among the various options available, the management must assess the viability of each option to achieve long-term profitability. As with any form of restructuring, M & A too should be placed within the framework of long range strategic planning.

**Rule of thumb:** buying and selling businesses, and bringing in accompanying changes in the management should be undertaken if m & a will yield value to the respective companies.

Post M&A economic gain, or synergy, will be generated only if the two companies are worth more together than apart.

The Discounted Cash Flow model (DCF) capture all additional future value. The basic motives can be considered as an attempt to create value.

**The equation:**

\[
\text{Synergy} = \text{Combined Value of Post -m&A & B} - (\text{Value of the company A + Value of company B})
\]

The merger is economically justified only if the synergy is positive.
There are certain costs to an M&A maneuver: the price, the opportunity the cost of acquisition and softer issues such as culture clashes, integration friction et al, all of which leads to a price having to be paid by the companies coming together. While it’s not easy to factor these in, a realistic assumption can be made and the cost of acquisition can be worked out

**Premium = Price over market value + other costs of integration**

Therefore, actual value derived from the acquisition

**Net Value gain = Synergy - Premium**

This explains that mergers will fail if the expected synergy does not exceed the premium, thereby creating no value for the bidder:

The additional value from synergy can come from a variety of sources:

**Operational Synergy**

The key to the existence of synergy is that the target firm controls a specialized resource that becomes more valuable if combined with the bidding firm’s resources. The specialized resource will vary depending on the type of merger.

**In horizontal mergers:**

When two firms in the same line of business merge, the synergy gains come from some form of economies of scale, which reduce costs, or from increased market power, which increases profit margins and sales. Examples of horizontal merger would include some mergers in the financial sector - Bank of America and Security Pacific.
In vertical mergers:

When a firm acquires a supplier of inputs into its production process or a distributor or retailer for the product it produces, it is involved in a vertical merger. The primary source of synergy comes from controlling the chain of production. Synergy can be valued. While it is true that valuing synergy requires assumptions about future cash flows and growth, the lack of precision in the process does not mean that an unbiased estimate of value cannot be made to value synergy. Two fundamental questions need to be answered in as much detail as possible. These are:

1. What form the synergy is expected to take? Will it reduce costs as a percentage of sales and increase profit margins (as is the case when there are economies of scale)? Will it increase future growth (as is the case when there is increased market power)?

2. When can the synergy be reasonably expected to start affecting cash flows (will the gains from synergy show up instantaneously after the takeover? If it will take time, when can the gains be expected to start showing up)?

If these questions are answered, the value of synergy can be estimated using an extension of DCF techniques in the following sequential procedure.

First, the firms involved in the merger are valued independently by discounting expected cash flows to each firm at WACC for that firm.
Second, the value of the combined firm, with no synergy, is obtained by adding the values obtained for each firm in the first step.

Third, the effects of synergy are built into expected growth rates and cash flows, and the combined value is revalued with synergy. The difference between the value of the combined firm with synergy and the value of the combined firm without synergy provides a value for synergy.

Financial Synergy:
Financial synergy leads to channeling of cash/resources from unattractive to attractive industries. Also rising marginal revenue can be measured by improved return on investment.

1. Diversification: A firm can reduce the variability in its earnings by diversifying into other industries. And a lower variability in earnings can increase debt capacity and thus value.

2. Cash slack: Some managers may reject profitable investment opportunities if they have to raise new capital to finance them. It may make sense, therefore, for a company with excess cash and no investment opportunities to take over a cash-poor firm with good investment opportunities, or vice-versa. The additional value of combining these two firms lies in the present value of the projects that would not have been taken if they had stayed apart but can now be taken because of the availability of cash.
3. **Tax Benefits:** There are several possible tax benefits that may accrue from takeovers. First, if one of the firms has tax deductions that it cannot use because it is losing money, while the other firms has income on which it pays significant taxes the combining of the two firms can lead to tax benefits that can be shared by the two firms. The value of this synergy is the present value of the tax savings that accrue because of mergers, leading to higher tax savings from depreciation in future years.

4. **Debt Capacity:** If the cash flows of the firms are less than perfectly correlated, the cash flow of the combined firm will be less variable than that of the individual firms. This, it is argued will lead to an increase in debt capacity and an increase in the value of the firm. This however has to be weighed against the immediate transfer of wealth that occurs to existing bondholders in both firms from the stockholders. This is so because the bondholders in the pre-merger firm’s find themselves lending to a safer firm after the takeover. The coupon rates that they are receiving are based upon the riskier pre-merger firms. If the coupon rates are not renegotiated, the bonds will increase in price, making the bondholders wealthier at the expense of the stockholders.

**Valuing a business acquisition opportunity**

The acquisition price is driven by: sales growth rate, operating profit margin, income tax rate, fixed capital investment, working capital investment, hurdle rate, and residual value.\textsuperscript{19}
METHODS OF VALUATION

Primary methodology
Earnings based
- Discounted cash flow
- Dividend yield
Asset based
- NAV
- Replacement cost
Market based
- Comparable multiples (price -earnings, price-sales, price-book value)

In valuing firms the tool used most frequently is the discounted cash flow method, which is discussed below.

Discounted cash flow method

This is the most accepted method of valuation of a company. The DCF model values the equity of a company as the value of company’s operations (the entity value that is available to all investors) less the value of debt and other investor claims that are superior to common equity (such as preferred stock). The values of the operations and debt are equal to their respective cash flows discounted at rates that reflect the riskiness of these cash flows.
Steps in a Valuation

Analyse historical performance
- Calculate Noplat and Invested Capital
- Calculate value drivers
- Develop an integrated historical perspective
- Analyse financial health

Forecast Performance
- Understand strategic position
- Develop performance scenario
- Forecast individual line items
- Check overall forecast for reasonableness

Estimate Cost of Capital
- Develop target market value weights
- Estimate cost of non-equity financing
- Estimate cost of equity financing

Estimate continuing value
- Select appropriate technique
- Select forecast horizon
- Estimate the parameters
- Discount continuing value to present

Calculate and interpret results
- Calculate and test results
- Interpret results within decision context

Value = Present value of cash flow explicit + Present value of cash flow after explicit
## Computation of Free Cash Flow

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<td><strong>Net operating profit less adjusted taxes (NOPLAT)</strong></td>
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<td><strong>Gross cash flow</strong></td>
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<td>Change in working capital</td>
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<td><strong>Gross Investment</strong></td>
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<td>Cash flow from non operating investments</td>
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Computation of the cost of Capital

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<td>WACC</td>
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</table>

Two discounted Cash Flows Models for Takeover valuation:

The two most prevalent forms of DCF analysis applied to company valuation are

(i) Free cash flows, weighted average cost of capital

(ii) Equity residual cash flows cost of equity.

In both cases, a finite horizon is chosen with a terminal value estimate proxying for value at the end of the planning horizon.
Free cash flows, weighted average "cost" of capital:

\[
V_f = \sum_{t=1}^{n} \frac{FCF_t}{(1 + Kw)^t} + \frac{TVF}{(1 + Kw)^n}
\]

Where

- FCF = Free cash flow prior to debt service
- Kw = Weighted average cost of capital
- TVF = Terminal value of entire firm
- \( n \) = planning horizon in years
- \( V_f \) = value of the firm

The free (operating) cash flow approach focuses on incremental cash flows prior to debt service and estimates the value of the entire firm \( V_f \). As a result, the value of the equity (\( V_E \)) is determined by subtracting the value of debt (\( V_d \)) from the total firm value: \( V_E = V_f - V_d \). The appropriate discount rate is a weighted average cost of capital (\( K_w \)) appropriate for business risk and financial structure of the cash flows offered by the target. The target's cost of capital (not the buyer's) is typically a useful starting point for estimating \( K_w \), but the analyst faces challenges in that the prospective cash flows may incorporate operating synergies (perhaps different in prospective risk than the target's existing operations). Furthermore, proposed changes in capital structure can affect \( K_w \). The logic of free cash flow
approach is to handle financing issues in the discount rate and focus on the value of the entire firm. Given possible wealth transfers one must be specially careful in valuing the debt being subtracted from \( V_f \) if a reasonable estimate of the equity value is to be obtained. A market value of debt must be subtracted.

**Equity residual cash flows, “cost” of equity:**

\[
Ve = \frac{ECF}{(1+Ke)^t} + \frac{TVE}{(1+Ke)^n}
\]

- **ECF** = Equity cash flow, after debt service
- **TVE** = Total Value of Equity
- **Ke** = Cost of equity capital
- **Ve** = Value of equity = \( V_f - V_d \)

This approach focuses directly on the residual cash flows to equity. Such an approach therefore looks at equity cash flows after debt service and is particularly suitable to situations where capital structure is intimately linked to the proposed transaction (such as an LBO). Discounting these equity residual cash flows by a cost of equity appropriate for the business and financial risk of the residual flows gives a direct estimate of the value of equity. A particularly nettlesome challenge is appropriately adjusting the cost of equity for risk as more debt is used under ideal conditions and consistent assumptions, the free cash flow and equity residual approaches will yield the same value of equity, but in
practice, they both pose substantial and slightly different challenges.

Key issues for both are: (i) the estimation of terminal values, (ii) the nature of incremental flows, (iii) the value of future options and (iv) the choice of currency to be used.

DCF Business Valuation - An iterative Process

Valuation Model

- Projection (Range of assumptions)
- Residual value (Range of going out multiples)
- Discount rate (range)

Indicated value

Valuation Crosschecks

- Implied Going-in multiples
- Implied Payback period
- Going-in vs Going-out multiples
The first step is the valuation model, with projection based on a range of assumptions on margins, growth, capital expenditures etc. A discount rate range derived from any number of techniques; and a residual value based on a range of going out multiples. The lines indicate that each of the variables, while developed thorough independent analysis, is also related to the other variables. The three variables are combined in a way that is consistent with both the independent analysis and their interrelationships, resulting in an initial value indication.

Step 2 tests the reasonableness of this value indication. Three valuations crosschecks are utilised: implied going in multiples, implied payback periods, and the relationship between going in and going out multiples. A going in multiple relates the value indicated by the discounted cash flow model to a current earnings stream. Implied payback periods are one of the most pervasive guidelines used today; as investors are at risk and want their money out in a reasonable period of time. A going-out multiple is the multiple implied by the assumed residual value.

One must vary the three valuation model variables within their ranges, perhaps re-evaluate the derivation of these ranges, and often rethink assumptions regarding reasonable values for each cross check variable. This process continues until all the 6 boxes, each of the relationships within the valuation model and valuation crosschecks, and connection between the model and the cross checks all make sense at the same time. After getting to this point some additional sensitivity analysis is done to come
up with what a reasonable range of value might be. This is the discounted cash flow approach viewed as an iterative process.

**Calculation Of the Terminal Values**

The **assumptions** of the terminal value are critical because it depends on **two factors**:

1. The life of the business acquisition “project” is essentially infinite
2. When a growing business is acquired, the cash flows are often relatively small (sometimes even negative) for the 5-15 year planning horizon usually used in a capital expenditure analysis

In a business acquisition terminal value should represent not less than a majority of the total present value of the transaction.

**Approach 1:**

**Terminal value as a growing perpetuity cash flow**

**Assumptions**

Cash flows for five years are worked out
Cash flows grow at 5%
C 5 cash flow to capital for the 5th year
r -cost of capital / rate of return
g-growth rate

**Present value to capital** for the first five years (assuming there is no growth after the first five years.)

**Terminal Value (TV) =** \( \frac{C5 \times (1+g)}{(r - g)} \)
Present Value of the TV = \( TV \times \frac{1}{(1+r)^5} \)

Total present value for the capital = PV to capital for first five years + PV of the invested in the business TV

Approach 2

Terminal Value as a Stable perpetuity cash flow

If we assume no growth in sales after the fifth year NPV changes (rises)

The difference arises in the terminal value calculation. With no growth, cash flow to capital for each year beyond the fifth year will exactly equal depreciation. Total capital will not need to grow anymore.

Note that when forecasting a rate of sales growth different in the future from that of immediate prior, a new cash flow to capital figure (reflecting the changed growth assumption for the terminal year) must be calculated.

Approach 3

Terminal value for a business can be calculated by

Forecasted terminal -year book value of invested capital * appropriate market value/book value

Unless the profitability of the business is expected to change over time, the current market value/book value for the business is generally utilised.
Total present value = PV of total invested capital in the fifth year + PV of the cash flows to capital during the five year period
If we expect a significant shift in the spread separating the firm’s profitability from it’s capital cost overtime, the market value / book value ratio would be revised accordingly

Approach 4
This method assumes a liquidation of assets of the business at the end of last year of the planning horizon. Percentage of the recovery in liquidation should be discounted to arrive at PV of the terminal value. Add PV of the cash flows for the five-year period.
While most businesses are not acquired with liquidation in mind, it is important to compare the liquidation scenario and the strategy of operating the business beyond the planning horizon.

Conclusion
This chapter has described different techniques for the valuation of target companies. All valuation models suffer from varying degrees of imprecision and unreliability. One of the important consideration in choosing the method is its impact on the reported profits of the group after the acquaint.
So this chapter has examined the alternative methods of financing an acquisition. Historically, cash has been generally the most popular method; although when the stock market is high there is a shift to share exchange. Use of debt securities is not very popular.
The choice of payment currency depends upon a variety of considerations, including the tax implication, Concern about earnings dilution and the impact on financial risk. Deferred
payment as a way of overcoming some of the problems associated with a cash or share offer has been discussed, and its own shortcomings have been highlighted.

In the next chapter SEBI’s guidelines on M & A has been discussed.

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