



Revision
CA Final
STRATEGIC FINANCIAL MANAGEMENT
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Head Office

**Shraddha, 4th Floor, Old Nagardas Road,
Near Chinai College, Andheri (E), Mumbai - 400 069.**

 **+91 8070 400 900**

  **/officialjksc**

 **online.jkshahclasses.com**

Chapter 3 : CORPORATE VALUATION

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1. INTRODUCTION

1. The basic purpose of any enterprise is to earn profits in order to sustain itself and promote growth. Managements across the world endeavor in this aspect – be it be a sole proprietorship concern or a multinational giant having its foothold across geographies.
2. Corporate valuation can be traced back to centuries ago when the United East India Company (referred to as ‘Dutch East India Company’) was the first corporation to be valued and an IPO was launched. The East India Company too stands as a fine example of a corporatized way of doing world trade, and perhaps the earliest of institutions to focus on wealth maximization, albeit in unethical ways.
3. The need of a proper assessment of an enterprise’s value can be typically for:
 - a) Information for its internal stakeholders,
 - b) Comparison with similar enterprises for understanding management efficiency,
 - c) Future public listing of the enterprise,
 - d) Strategic planning, for e.g. finding out the value driver of the enterprise, or for a correct deployment of surplus cash,
 - e) Ball park price (i.e. an approximate price) for acquisition, etc.
 - f) For raising funds.
4. Valuation of Business is a complex exercise. Following things should be taken into consideration:
 - a) Purpose of Valuation
 - b) Methodology to apply for valuation
 - c) Cash flows of the business
 - d) Economic circumstances
 - e) Industry conditions
 - f) Capital structure of the business.



2. ASSETS BASED MODEL

This approach is the standard asset value based approach where the starting point is the latest set of financial statements. A perusal of the same would help form an opinion on the type of the assets held by the enterprise and the book value of same. The assets can be tangible or intangible, and will be referred to as 'Non-Current assets' in the financials. A part of the assets would always be residing in the working capital cycle referred to as 'Net current assets', - the current assets needs to be net off with current liabilities.

The asset – oriented method is also known as Net Asset Value Method. In this method, company's valuation is deemed to be equal to the book value of the net assets on the date of valuation. This method is unrealistic because it does not take into consideration current values.

Adjusted Net Asset Value Method: The fair market value of the net assets can also be used to determine the value of the company, which is also known as adjusted net asset value method. Under this method, items listed on the business's balance sheet are adjusted to bring them in line with current market values.

This can help us in determining the best possible price for each asset and all the liabilities to be paid off with the proceeds as on a particular date.

There are two approaches to determine the book value:

a) Asset Side Approach:

Net Assets Value = Total Assets (Excluding Miscellaneous Expenditure not written off & Debit Balance in Profit and loss A/c) **Less:** Total Liabilities.

b) Liabilities Side Approach:

Net Assets Value = Share Capital **Add:** Reserves & Surplus (excluding Revaluation Reserve)
Less: Miscellaneous expenditure not written off **Less:** Debit Balance in Profit and Loss a/c.

Net Assets Method **can** be adopted in the following cases:

1. In case of capital intensive **start - up companies** where the commercial production is yet to start.
2. In case of Companies which **do not have sustainable track records** of profits and future profits cannot be predicted.
3. In case of **manufacturing companies** where fixed assets have greater relevance for earning revenues.
4. In case of companies where there is an **intention to liquidate** and to realize the assets to distribute the net proceeds.



PRACTICAL PROBLEMS

- Q1.** AB Ltd., is planning to acquire and absorb the running business of XY Ltd. The valuation is to be based on the recommendation of merchant bankers and the consideration is to be discharged in the form of equity shares to be issued by AB Ltd. As on 31.3.2006, the paid up capital of AB Ltd. consists of 80 lakhs shares of ₹ 10 each. The highest and the lowest market quotation during the last 6 months were ₹ 570 and ₹ 430. For the purpose of the exchange, the price per share is to be reckoned as the average of the highest and lowest market price during the last 6 months ended on 31.3.2006. XY Ltd.'s Balance Sheet as at 31.3.2006 is summarized below :

SOURCES OF FUNDS	₹ IN LAKHS
Share Capital	
- 20 lakhs equity shares of ₹10 each fully paid	200
- 10 lakhs equity shares of ₹ 10 each, ₹ 5 paid up	50
Loans	100
Total	350
APPLICATION OF FUNDS	₹ IN LAKHS
Fixed Assets (Net)	150
Net Current Assets	200
Total	350

An independent firm of merchant bankers engaged for the negotiation, have produced the following estimates of cash flows from the business of XY Ltd. :

Year ended	By way of	₹ lakhs
31.3.07	after tax earnings for equity	105
31.3.08	Do	120
31.3.09	Do	125
31.3.10	Do	120
31.3.11	Do	100
	Terminal value estimate	200

It is the recommendation of the merchant banker that the business of XY Ltd., may be valued on the basis of the average of (i) Aggregate of discounted cash flows at 8% and (ii) Net assets value.

Present value factors at 8% for years.

1 - 5 :	0.93	0.86	0.79	0.74	0.68
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You are required to :

- (i) Calculate the total value of the business of XY Ltd.
- (ii) The number of shares to be issued by AB Ltd.; and
- (iii) The basis of allocation of the shares among the shareholders of XY Ltd.





3. CASH FLOW BASED MODELS

In the case of dividend discounting valuation model (DDM) the cash flows are dividend which is to be distributed to equity shareholders. This cash flow does not take into consideration the cash flows which can be utilised by the business to meet its long term capital expenditure requirements and short term working capital requirement. Hence dividend discount model does not reflect the true free cash flow available to a firm or the equity shareholders after adjusting for its capex and working capital requirement.

Free cash flow valuation models discount the cash flows available to a firm and equity shareholders after meeting its long term and short term capital requirements. Based on the perspective from which valuations are done, the free cash flow valuation models are classified as:

- Free Cash Flow to Firm Model (FCFF)
- Free Cash Flow to Equity Model (FCFE)

In the case of FCFF model, the discounting factor is the cost of capital (K_o) whereas in the case of FCFE model the cost of equity (K_e) is used as then discounting factor.

FCFE along with DDM is used for valuation of the equity whereas FCFF model is used to find out the overall value of the firm.

Free Cash Flow to Equity Model (FCFE):

Free Cash flow to equity is used for measuring the intrinsic value of the stock for equity shareholders. The cash that is available for equity shareholders after meeting all operating expenses, interest, net debt obligations and reinvestment requirements such as working capital and capital expenditure.

Income Statement Format:

Particulars	₹
Sales	XX
Less: Variable Cost	XX

Contribution	XX
Less: Fixed Cost	XX
EBIT	XX
Less: Interest	XX
EBT	XX
Less: Tax	XX
EAT / NPAT	XX
Add: Depreciation	XX
Less: Preference Dividends	XX
Less: Repayment of Debt	XX
Add: Debts Taken	XX
Less: Redemption of Preference Shares	XX
Add: Issue of Preference Shares	XX
Less: Purchase of Fixed Assets	XX
Add: Sale of Fixed Assets	XX
Less: Increase in Working Capital (Non Cash)	XX

FCFE on per Share Basis:

$$\text{FCFE} = \text{EPS} - (\text{Investment in Fixed Assets net of Depreciation}) - (\text{Investment in working capital.}) - (\text{Repayment of Loan} + \text{New Debt}) - (\text{Redemption of Preference Share} + \text{Fresh Issue of Preference share})$$

Free Cash Flow to Firm Model (FCFF):

It represents a company's ability to pay dividends, conduct share repurchases, or pay back debt holders. Any investor looking to invest in a company's corporate bond or public equity should check its FCFF.

Income Statement Format:

Particulars	₹
Sales	XX
Less: Variable Cost	XX

Contribution	XX
Less: Fixed Cost	XX
EBIT	XX
Less: Tax	XX
EAT / NPAT	XX
Add: Depreciation	XX
Less: Purchase of Fixed Assets	XX
Add: Sale of Fixed Assets	XX
Less: Increase in Working Capital (Non Cash)	XX
Less: Repayment of Debt	XX
Add: Debts Taken	XX
Less: Redemption of Preference Shares	XX
Add: Issue of Preference Shares	XX
Less: Increase in Working Capital (Non Cash)	XX

In other words, free cash flow to the firm is the cash left over after a company has paid its operating expenses and capital expenditures.

Capital Expenditure or Capex for a single year is calculated as Purchase of Fixed Asset current year - Sale of Fixed Asset current year taken from Cash Flow from Investing Activities.

Change in Non- Cash Working Capital is calculated as:

Step 1: Calculate Working Capital for the current year: Working Capital = Current Asset - Current Liability

Step 2: Calculate Non-Cash Working Capital for the current year: Working Capital - Cash and Bank Balance

Step 3: In a similar way calculate Working Capital for the previous year

Step 4: Calculate change in Non-Cash Working Capital as: Non-Cash Working Capital for the current year - Non-Cash Working Capital for the previous year

Step 5: If change in Non-Cash Working Capital is positive, it means an increase in the working capital requirement of a firm and hence is reduced to derive at free cash flow to a firm.

PRACTICAL PROBLEMS

Q2. Adonis Ltd., makes thermal clothing for winter sports and outdoor work, and is considering acquiring Sking Ltd. which manufactures and sells ski clothing. Sking Ltd. is about one quarter of Adonis size and manufactures its entire product line in a small rented factory on a mountaintop in Manali. It costs about 10,00,000 a year in overhead to operate in the factory. Adonis Ltd. produces its output in a less popular in North but more popular north - east locations. Its factory has at least 50% excess capacity. Adonis plan is to acquire Sking Ltd., and combine production operations in its north - eastern factory, but otherwise run the companies separately. Sking Ltd. beta is 2.0, Treasury bills currently yield 5% and the Nifty Index is yielding 9%. The corporate income tax rate for both firms is 40%. Because Sking Ltd. will no longer be maintaining its own production facilities, it can be assumed that only a minimal amount of cash will have to be reinvested. This amount is estimated at 1,00,000 per year.

The financial information for Sking Ltd. is as follows:

Revenue	₹ 1,25,00,000
EAT	₹ 13,00,000
Depreciation	₹ 6,00,000

- Calculate the appropriate discount rate for evaluating the Sking Ltd. acquisition.
- Determine the annual cash flow expected by Adonis Ltd. from Sking Ltd. if the acquisition is made (considering the synergy).
- Calculate the value of the acquisition to Adonis Ltd. assuming the benefits last for (1) five years, (2) 10 years, and (3) 15 years.
- Sking Ltd. has 2,50,000 shares outstanding. Calculate the maximum price Adonis Ltd. should be willing to pay per share to acquire the firm under the three assumptions in part C.
- If Adonis Ltd. is willing to assume the benefits of the Sking Ltd. acquisition will last indefinitely without growth, what should it be willing to pay per share?

- (f) Assume that the cash flow from the Sking Ltd. acquisition grows at 10% from its initial value for one year and then grows at 5% indefinitely (starting in the third year). Calculate the value of the firm and the implied stock price under these conditions. Use a terminal value at the beginning of the period of 5% growth. What price premium is implied in Rupees and as a percent of market price if Sking Ltd. stock is currently selling at ₹ 62?

Q3. Timby Ltd. is in the business of making sports equipment. The company operates from Thailand. To globalize its operations, Timby has identified Find Toys Ltd. an Indian Company, as a potential takeover candidate. After due diligence of Find Toys Ltd. the following information is available.

(a)

Year	Cash Flow Forecasts (₹ in crore):									
	10	9	8	7	6	5	4	3	2	1
Find Toys Ltd.	24	21	15	16	15	12	10	8	6	3
Timby Ltd.	108	70	55	60	52	44	32	30	20	16

- (b) The net worth of Find Toys Ltd. (₹in lakhs) after considering certain adjustments suggested by the due diligence team reads as under:

Tangible		750
Inventories		145
Receivables		75
		970
Less: Creditors	160	
Bank Loans	250	(410)
Represented by equity shares of 1,000 each		560

Talks for takeover have crystallized on the following:

- Timby Ltd. will not be able to use Machinery worth ₹75 lakhs which will be disposed of by them subsequent to take over. The expected realization will be ₹50 lakhs.
- The inventories and receivables are agreed for takeover of values of 100 and 50 lakhs respectively which is price they will realize on disposal.

3. The liabilities of Find Toys Ltd. will be discharged in full on take over along with an employee settlement of ₹ 90 lakhs for the employees who are not interested in continuing under the new management.
4. Timby Ltd. will invest a sum of 150 lakhs for upgrading the Plant of Find Toys Ltd. on takeover. A further sum of 50 lakhs will also be incurred in the second year to revamp the machine shop floor of Find Toys Ltd.

5. The Anticipated Cash Flows (in crore) post takeover are as follows:

Year	1	2	3	4	5	6	7	8	9	10
	18	24	36	44	60	80	96	100	140	200

You are required to advise the management the maximum price which they can pay per share of Find Toys Ltd. if a discount factor of 20 per cent is considered appropriate.

- Q4.** (Nov – 18 - New Course - 12 marks)

Following details are available for X Ltd.

Income Statement for the year ended 31st March, 2018

Particulars	Amount
Sales	40,000
Gross Profit	12,000
Administrative Expenses	6,000
Profit Before tax	6,000
Tax @ 30%	1,800
Profit After Tax	4,200

Balance sheet as on 31st March, 2018

Particulars	Amount
Fixed Assets	10,000
Current Assets	6,000
Total Assets	16,000
Equity Share Capital	15,000
Sundry creditors	1,000
Total liabilities	16,000

The Company is contemplating for new sales strategy as follows :

- (i) Sales to grow at 30% per year for next four years.
- (ii) Assets turnover ratio, net profit ratio and tax rate will remain the same.
- (iii) Depreciation will be 15% of value of net fixed assets at the beginning of the year.
- (iv) Required rate of return for the company is 15% .

Evaluate the viability of new strategy.

- Q5.** ABN Ltd.'s most recent FCFF is ₹ 50,00,000. ABN's target debt to equity ratio is 0.25. The market value of firm's debt is ₹ 1,00,00,000 and ABN has 20,00,000 equity shares out- standing. The tax rate is 40%. Shareholders require a return of 16%. Before tax cost of debt is 8%. Expected long term growth rate in FCFF is 5%. Calculate value of the firm and value per share of the equity.



4. BOOK VALUE AND MARKET VALUE WEIGHTS

There are two ways to calculate the overall cost of the capital for the company (K_o). Such a K_o can be used as a capitalization rate to calculate the overall value of the firm.

a) Book Value Weights:

As per this method we need to calculate the overall cost by considering book values or balance sheet values of every financial instrument available. This method also includes reserves and Surpluses for considering weights.

b) Market Value Weights:

This method will consider Market Values of every financial instrument. It will not include reserves and surpluses because market value of equity shares will always be after considering the impact of Reserves and Surplus. This is a better method as compared to book value weights because an investor always invests in the company by considering market values.

PRACTICAL PROBLEMS

Q6. The valuation of Hansel Limited has been done by an investment analyst. Based on an expected free cash flow of ₹ 54 lakhs for the following year and an expected growth rate of 9 percent, the analyst has estimated the value of Hansel Limited to be ₹ 1800 lakhs. However, he committed a mistake of using the book values of debt and equity. The book value weights employed by the analyst are not known, but you know that Hansel Limited has a cost of equity of 20 percent and post tax cost of debt of 10 percent. The value of equity is thrice its book value, whereas the market value of its debt is nine-tenths of its book value. What is the correct value of Hansel Ltd?

Q7. (RTP NOV – 18 – NEW COURSE)

Yes Ltd. wants to acquire No Ltd. and the cash flows of Yes Ltd. and the merged entity are given below:

Year	1	2	3	4	5
Yes Ltd.	175	200	320	340	350
Merged Entity	400	450	525	590	620

Earnings would have witnessed 5% constant growth rate without merger and 6% with merger on account of economies of operations after 5 years in each case. The cost of capital is 15%.

The number of shares outstanding in both the companies before the merger is the same and the companies agree to an exchange ratio of 0.5 shares of Yes Ltd. for each share of No Ltd.

CALCULATE:

- (i) The Value of Yes Ltd. before and after merger.
- (ii) Value of Acquisition and
- (iii) Gain to shareholders of Yes Ltd.



5. ECONOMIC & MARKET VALUE ADDED INFLOWS.

Economic Value Added (EVA) is a holistic method of evaluating a company's financial performance, which means that EVA is used not only as a mere valuation technique, but also to find the economic contribution of a company to the society at large. The core concept behind EVA is that a company generates 'value' only if there is a creation of wealth in terms of returns in excess of its cost of capital invested. So if a company's EVA is negative, it means the company is not generating value from the funds invested into the business. Conversely, a positive EVA shows a company is producing value from the funds invested in it.

The answer to the above is the way EVA looks at performance of the 'management' of a company. To elaborate, all the approaches seen up to now were just a function of 'number-crunching'. But EVA tries to make management more accountable to their individual decisions and the impact of decisions on the path to progress of the company. The efficiency of the management gets highlighted in EVA, by evaluating whether returns are generated to cover the cost of capital.

EVA is a performance measure for management of the company, and this is as evident in its calculation formula as 'the excess of returns over the weighted average cost of invested capital'. The formula is as

below –

$$\text{EVA} = \text{NOPAT} - (\text{Invested Capital} * \text{WACC})$$

OR

$$\text{NOPAT} - \text{Capital Charge}$$

The concept NOPAT (net operating profit after tax) is nothing but EBIT LESS TAXES PLUS NON CASH EXP. The logic is that we are trying to find out the cash returns that business operations would make after tax payments.

Note that we have left depreciation untouched here – it being an operational expense for the limited purposes of EVA. From this NOPAT we need to further identify the non-cash expenses and adjust for the same to arrive at the ‘actual’ cash earnings. One common non-cash adjustment would ‘provision for bad and doubtful debts’, as this would just be a book entry.

After arriving at the correct NOPAT, the next step would be finding the capital charge. This would involve finding out

- (a) **Invested Capital** – Which would be easy from published financials, as it would be the difference between total assets subtracted by the non-interest bearing current liabilities, like sundry creditors, billing in advance, etc. Care should be taken to do the adjustments for non-cash elements like provision for bad and doubtful debts.
- (b) **Applying the company’s WACC** on the invested capital arrived in step (a)

Finally the EVA is computed by reducing the capital charge as calculated by applying the WACC on the invested capital from the adjusted NOPAT.

The ‘MVA’ (Market Value Added) would simply be the current market value of the firm subtracted by the invested capital that we obtained above. Let the current MV of the firm be 1000 AND capital employed be 920 . Hence MVA will be –
 $1000 - 920 = 80$.

The MVA is also an alternative way to gauge performance efficiencies of an enterprise, albeit from a market capitalization point of view, the logic being that the market will discount the efforts taken by the management fairly. Hence, the MVA of 80 arrived in example above is the true value added that is perceived by the market. Companies with a higher MVA will naturally become the darlings of the share market, and would eventually become ‘pricey’ from a pure pricing perspective.

PRACTICAL PROBLEMS

Q8. Compute EVA of A Ltd. with the following information:

Profit and Loss Statement		Balance Sheet	
Revenue	1000	PPE	1000
Direct Costs	-400	Current Assets	300
SGA	-200		1300
EBIT	400	Equity	700
Interest	-100	Reserves	100
EBT	300	Non Current Borrowings	100
Tax Expense	-100	Current Liabilities & Provisions	400
EAT	200		1300

Assume bad debts provision of 20 is included in the SGA, and 20 reduced from the trade receivables in current assets.

Also assume the Cost of debt is 12% and tax rate of 33.33%, and Cost of equity (i.e. the expected shareholder's return) is 8.4%.

Q9. (MAY – 18 – NEW COURSE – 5 MARKS)

Herbal World is a small, but profitable producer of beauty cosmetics using the plant Aloe Vera. Though it is not a high-tech business, yet Herbal's earnings have averaged around ₹ 18.5 lakh after tax, mainly on the strength of its patented beauty cream to remove the pimples.

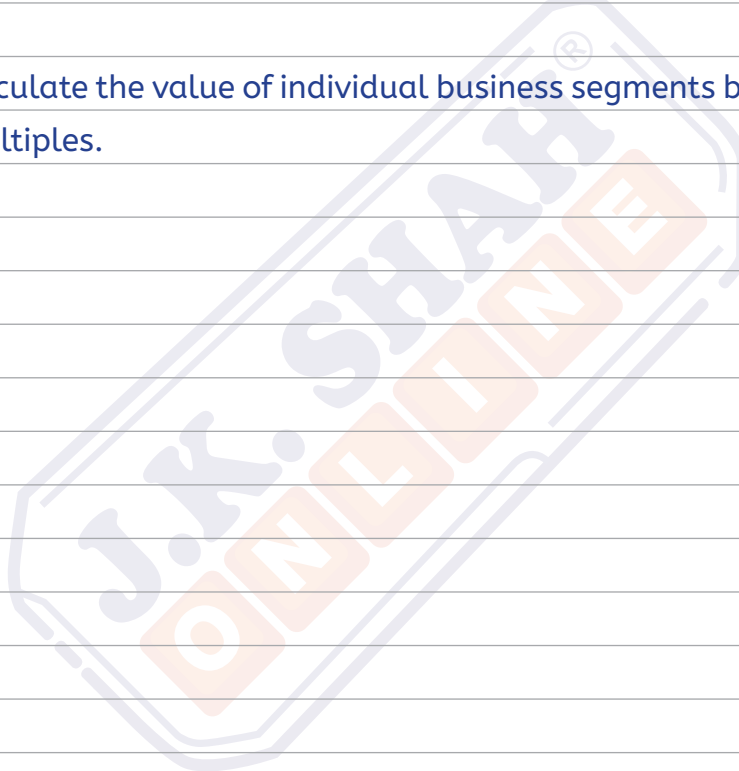
The patent has nine years to run, and Herbal has been offered ₹ 50 lakhs for the patent rights. Herbal's assets include ₹ 50 lakhs of property, plant and equipment and ₹ 25 lakhs of working capital. However, the patent is not shown in the books of Herbal World. Assuming Herbal's cost of capital being 14 percent, calculate its Economic Value Added (EVA)



6. CHOP SHOP METHOD

This method is used when a company has multiple businesses. As per this method we need to calculate the value of the company by considering the summation of the values of individual business. Value of individual business segment can be calculated with the help of industry standard data pertaining to various multiples. Eg: sales, NOPAT, Working capital , Asset turnover, Capital employed Turnover , etc.

We can calculate the value of individual business segments by considering the average of such multiples.



PRACTICAL PROBLEMS

Q10. A Ltd. Wants to value T Ltd. in accordance with Chop Shop method. T Ltd. is carrying out 3 streams of business namely telecom, real estate, toys. The market capitalization of equity shares of T Ltd. is ₹ 15,200 crores. The other financial details of T Ltd. are as follows :

Particulars	Telecom	Real Estate	Toys	Total
Turnover	5000 cr.	4000 cr.	1000 cr.	10000 cr.
Assets	1250 cr.	2000 cr.	1000 cr.	4250 cr.
Net operating profits after tax	1000 cr.	500 cr.	400 cr.	1900 cr.
Industry Statistics				
Market Capitalization to Sales	1.65	1.40	0.7	
Market Capitalization to Assets	3	4	2	
Market Capitalization NOPAT	12	9	11	