DEPARTMENT OF COMMERCE AND FINANCIAL STUDIES
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MBA (Financial Management)

Course Code and Name: FMFC1/24 – CORPORATE FINANCE

Unit – III/ Topic: CORPORATE VALUATION

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SCHEME OF PRESENTATION

- Approaches to Valuation:
- Adjusted Book Value Approach,
- Stock and Debt Approach,
- Direct Comparison Approach and Discounted Cash Flow Approach,
- Approaches to Facilitate Value Based Management,
- Marakon Approach,
- Alcar Approach,
- McKinsey Approach,
- EVA and BCG approach

Three business valuation approaches

- That said, there are three_fundamental_ways to measure what a business is worth:
- Asset Approach
- Market Approach
- Income Approach

What is the 'Adjusted Book Value'

- Adjusted book value is the measure of a company's valuation after liabilities, including off-balance sheet liabilities, and assets are adjusted to reflect true fair market value. The potential downside of using an adjusted book value is that a business could be worth more than its stated assets and liabilities because it fails to value intangible assets, account for discounts or factor in contingent liabilities. It is not often accepted as an accurate picture of a profitable company's operating value; however, it can be a way of capturing potential equity available in a firm.

Stock & Debt approach

- When the securities of a firm are publicly traded its value can be obtained by merely adding the market value of all its outstanding securities. This simple approach is called the stock and debt approach by property tax appraisers. It is also referred to as the market approach.

Discounted cash flow approach

- Valuing a firm using the discounted cash flow (DCF) approach is conceptually similar to valuing
- a capital project using the present value method. The DCF approach involves forecasting future
- cash flows (for all time to come) and discounting the same to the present point of time, using cost
- of capital that reflects, inter alia, the firm’s capital structure and business risk.
- There are several models of DCF valuation
  - Enterprise DCF model
- Equity DCF model
- Adjusted present value model
- Economic profit model

Relative valuation approach

- Common sense and economic logic tells us that similar assets should trade at similar prices.
- Based on this principle, one can value an asset by looking at the price at which a comparable
- asset has changed hands between a reasonably informed buyer and a reasonably informed seller.
- Also referred to as the direct comparison approach or the multiples approach, this approach uses a simple valuation formula.
- VT = XT (VC / XC)

Marakon approach

- Key steps

  Specify the financial determinants of value

  Understand the strategic drivers of value

  Formulate higher value strategies

  Develop superior organizational capabilities

Specify the financial determinants of value:

- Marakon approach is based on market-to-book ratio model
- According to this model shareholder wealth creation is measured as the difference between the market value and the book value of a firm's equity.
- The book value of equity, B, measures approximately the capital contributed by the shareholders, whereas the market value of equity , M, reflects how productively the firm has employed the capital contributed by the shareholders, as assessed by the market
- Hence the management creates value for shareholders if M exceeds B, decimates value if M is less than B, and maintains value if M is equal B
- According to Marakon model, the market-to-book values ratio is a function of the return on equity, the growth rate of dividends (as well as earnings), and the cost of equity

Alcar approach

- The Alcar Group Inc. a management education and Software Company, developed an approach to VBM which is based on discounted cash flow analysis
- Determinants of shareholder value:
- According to Alfred Rappaport author of creating shareholder value; a guide to managers and investors, who is regarded as father of shareholder value, the following seven factors called “value drivers” affect shareholder value
- 1. Rate of sales growth
- 2. Operating profit margin
- 3. Income tax rate
- 4. Investment in working capital
- 5. Fixed capital investment
- 6. Cost of capital
- 7. Value growth duration

Mckinsey approach

- A leading international consultancy firm has developed an approach to VBM.
- According to them “Properly executed, value based management is an approach to management
- whereby, the company’s overall aspirations, analytical techniques and management processes are all aligned to help the company maximize its value by focusing decision-making on the key drivers of value”
- The key steps are as follows:
- 1. Ensure the supremacy of value maximization
- 2. Find the value drivers
- 3. Establish appropriate managerial processes
- 4. Implement value-based management properly

EVA and BCG approach

- The economic value added (EVA) approach is primarily a performance metric rather than a wealth metric. Stern Stewart & Co, the management consultancy that has trademarked EVA and is credited with popularizing the concept, describes EVA as ‘a simple financial measure of performance’.

- EVA is the residual income that remains after net operating profit after tax (NOPAT) has been reduced by an additional charge; this charge is based on the return investors can be expected to require, given the amount of capital they have tied up in the business. Note that interest charges are not deducted to arrive at NOPAT, as financing costs are incorporated into the capital charge. Therefore we have:

  EVA = NOPAT minus a capital charge
  = NOPAT minus (capital x cost of capital)

  It is therefore very clear if profits are sufficient to cover the cost of capital. This link can be made more explicit by rewriting EVA, using the ‘spread method’ as:

  EVA = (ROI - cost of capital) x capital, where ROI = NOPAT/capital

- **EXAMPLE 2**
  Using the same information as in Example 1, calculate the EVA for each year.
  Solution
  In this example, a more complex calculation must be made to obtain the capital figure as depreciation must be deducted from the running total, and any further investment (IWCI, RFCI, IFCI) added:

£m	1	2	3	4	5	6 onwards
EconomicvalueFig3	3	3.1	3.17	3.3	3.39	3.43
RFCI	5	5	5	5	5	5
Depreciation	(5)	(5)	(5)	(5)	(5)	(5)
IFCI	0.02	0.02	0.04	0.03	0.01	0
IWCI	0.08	0.05	0.09	0.06	0.03	0
Capital c/f	3.1	3.17	3.3	3.39	3.43	3.43

The profit after tax figures obtained in **Example 1** can then be used to calculate the EVA™:

Profit after tax	1.51	1.59	1.44	1.35	1.13	0.94
Cost of capital at 14% (Note)	(0.42)	(0.43)	(0.44)	(0.46)	(0.47)	(0.48)
EVA™	**1.09**	**1.16**	**1.00**	**0.89**	**0.66**	**0.46**

Note: cost of capital has been calculated using the capital b/f figures.

- **Problem**

Miocon Limited is considering a capital project for which the following information is available.

Initial outlay	:	50000	Depreciation method	:	Sinking fund
Project life	:	5 years	(for tax purposes)		
Salvage value	:	0	Tax rate	:	30 %
Annual revenues	:	60000	Debt-equity ratio	:	1 : 1
Annual costs (excluding depreciation, interest, and taxes)	:	30000	Cost of equity	:	14%
			Cost of debt (post-tax)	:	6%

Calculate the EVA of the project over its life.

Solution:

- **Solution**

Sinking Fund Depreciation

A x PVIFA (10%, 5years) = 50,000

A x 3.791 = 50,000 $\Rightarrow$ A = 13,189

Depreciation Schedule

	1	2	3	4	5
• Investment (beginning)	50,000	41,811	32,803	22,894	11,994
• Depreciation	8,189	9,008	9,909	10,900	11,994
• 10% capital charge	5,000	4,181	3,280	2,289	1,199
• Annuity	13,189	13,189	13,189	13,189	13,189
1. Revenues	60,000	60,000	60,000	60,000	60,000
2. Costs	30,000	30,000	30,000	30,000	30,000
3. PBDIT	30,000	30,000	30,000	30,000	30,000
4. Depreciation	8,189	9,008	9,909	10,900	11,994
5. PBIT	21,811	20,992	20,091	19,100	18,006

- **Problem**

Janbaz Limited is considering a capital project for which the following information is available.

Initial outlay	: 200,000	Depreciation method	: Sinking fund
Project life	: 4 years	(for tax purposes)	
Salvage value	: 0	Tax rate	: 30%
Annual revenues	: 250,000	Debt-equity ratio	: 1:1
Annual costs	: 160,000	Cost of equity	: 15%
		Cost of debt (post tax)	: 7%

The initial outlay is entirely for acquiring fixed assets.

Calculate the EVA of the project over its life.

- **Solution**

Sinking Fund Depreciation

A x PVIFA (11 %, 4yrs) = 200,000

A x 3.102 = 200,000 A = 64475

		Depreciation Schedule			
	1	2	3	4	5
• Investment (beginning)	200,000	157,525	110,378	58,045	
• Depreciation	42,475	47,147	52,333	58,090	
• 11% Capital charge	22,000	17,328	12,142	6,385	
• Annuity	64,475	64,475	64,475	64,475	
	1	2	3	4	5
1. Revenues	250,000	250,000	250,000	250,000	
2. Costs	160,000	160,000	160,000	160,000	
3. PBDIT	90,000	90,000	90,000	90,000	
4. Depreciation	42,475	47,147	52,333	58.090	
5. PBIT	47,525	42,853	37,667	31,910	
6. NOPAT (5) x (0.7)	33,268	29,997	26,367	22,337	
7. Capital at charge	200,000	157,525	110,378	58,045	
8. Capital charge (7 x 0.11)	22,000	17,328	12,142	6,385	
9. EVA	11,268	12,669	14,225	15,952	

- **Problem**

Simtek Limited is considering a capital project for which the following information is available.

Investment outlay fund	:	8000	Depreciation method	:	Sinking
Project life	:	5 years	(for tax purposes)		
Salvage value	:	0	Tax rate	:	30 %
Annual revenues	:	10000	Debt-equity ratio	:	0.6 :1
Annual costs (excluding depreciation interest, and taxes)	:	6400	Cost of equity	:	15%
			Cost of debt (post-tax)	:	7%

- (i) What will be the depreciation charge for year 3?
- Solution

Solution:

Post-tax cost of capital: $\frac{6}{16} \times 7 + \frac{10}{16} \times 15$

$2.63 + 9.37 = 12.00$ percent

Sinking Fund Depreciation

$A \times PVIFA(12\%, 5yrs) = 8000$

$A \times 3.605 = 8000 \Rightarrow A = 2219$

Depreciation Schedule

	1	2	3
• Investment (beginning)	8000	6741	5331
• Depreciation	1259	1410	1579
• 12 percent charge	960	809	640
	2219	2219	2219

(ii) What will be the EVA for year 3?

Solution:

1. Revenues	10000
2. Costs	6400
3. PBDIT	3600
4. Depreciation	1579
5. PBIT	2021
6. NOPAT	1415
7. Capital at charge	5331
8. Capital charge	640
9. EVA	775

- (iii) Over time will the EVA of this project, increase, decrease or remains unchanged?

Solution

- The book capital decreases over time, thanks to depreciation. Hence the capital charge decreases. This leads to an increase in EVA over time.

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