

APV Approach

(Method 3)

Amendment 3

105

$$V_L = V_U + (t \times D)$$

→ P.V of interest tax shield

[MM model on Capital Structure - CA Enter]

Eg:- ABC is a distbess company. Financials for the year just ended are

Revenue :- 500 cr

op Expenses :- 200 cr

EBDIT :- 300

Dep :- 40

t :- 25%

NOPAT :- 195

Capital Spending :- 110

Δ W.C. :- 15

N.I :- 85

F.C.F.F₀ :- 110

→ (Pre tax operating Income)

→ (Post tax op Income)

(Change in working capital)

[C.S - Dep + Δ W.C.]

[NOPAT - N.I.]

g = 4% p.a forever

R_f = 6%

R_m - R_f = 5%

Cash & Marketable Securities = 80

	β _E	D/E	tax	β _U
X	1.6	1.1	25%	0.88
Y	1.9	1.5	30%	0.93
Z	2.5	2.1	22%	0.95

Avg β_U = 0.92

$$\text{Unlevered } K_e = (5 \times 0.92) + 6 = 10.6\% \\ (K_c^*)$$

$$\text{So } \frac{FCFF_1}{K_c^* - g} = \frac{110 (1.04)}{0.106 - 0.04} = 1733.33$$

Unlevered Value of operating assets = 1733.33

Cash & Marketable Securities = 80

Unlevered Value of the firm (V_U) = 1813.33

Here, $APV = V_U + (t \times D) - \text{Expected Bankruptcy Cost}$

Cumulative P.D X P.v of Bankruptcy Cost
↓
Cumulative Probability of Distress

Going Concern Value - Distress Value

Pv of FCFF disc @ k_c

Hint will be given in Question

APV	✓
(-) $\frac{\text{MV of debt}}{\text{Value of Equity}}$	✓
$\div N$	✓✓
IV_0	✓
Compare with Price	✓✓

Summary:-

1. V_U $\begin{cases} \rightarrow \text{Pv of FCFF @ unlevered } k_e \\ \rightarrow (+) \text{ Cash \& M.S.} \end{cases}$ @ k_c^*

2. $t \times D$

3. Exp B.C = Prob of P.D X P.v of Bankruptcy cost
G.C value - Distress value

$1 + 2 - 3 = APV$

(-) M.v of Debt
= Value of Equity
 $\div N = IV_0$