

Financial Management.

1 SE-E-7

20BCE296

Q-1. Parix Projects Pvt. Ltd is considering two projects A & B. The cash flows are.

Year	A	B
1	24K	40K
2	28K	32K
3	32K	20K
4	40K	28K

PBP - A

Cash Flow	CCF	
y-1 = 24K	y-1 = 24K	PBP = year-3
y-2 = 28K	y-2 = 52K	
y-3 = 32K	y-3 = 84K	
y-4 = 32K	y-4 = 116K	

B.

Cash Flow	CCF	
y-1 = 20K	y-1 = 20K	PBP = year-3
y-2 = 40K	y-2 = 60K	
y-3 = 28K	y-3 = 78K	
y-4 = 32K	y-4 = 110K	

For discounted PBP.

For project-A

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DCF

CDCF

$$y-1 = 21878.18$$

$$y-1 = 21878.18$$

$$y-2 = 23140.50$$

$$y-2 = 44958.68$$

PIBP = year 3

$$y-3 = 27931.03$$

$$y-3 = 72889.71$$

$$y-4 = 24685.54$$

$$y-4 = 97575.25$$

for project - B

DCF

CDCF

$$y-1 = 28781.82$$

$$y-1 = 18181.82$$

$$y-2 = 38699.42$$

$$y-2 = 56881.24$$

PIBP = year = 3

$$y-3 = 15069.52$$

$$y-3 = 71950.96$$

$$y-4 = 22396.90$$

$$y-4 = 94347.66$$

for project A NPV = Rs. 27575.25

for project B NPV = Rs. 34347.66

Project B should be selected

Q-2. The returns on 4 stocks A, B, C, D over period of 6 years have been as follows

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Q-2 Portfolio	1	2	3	4	5	6
A	10%	12%	-8%	15%	-2%	20%
B	8%	4%	15%	12%	10%	6%
C	7%	8%	12%	9%	6%	12%
D	9%	9%	11%	4%	8%	16%

★ Return on Portfolio of one Stock at a time

$$\Rightarrow A = (10\% + 8\% + 7\% + 9\% + 6\% + 9\%) / 6 = 8.5\%$$

$$B = 10.5\%$$

$$C = 5.83\%$$

$$D = 11.67\%$$

★ Portfolio of two stocks at a time

$$AB = (0.5 \times \text{return on A}) + (0.5 \times \text{return on B}) = 9.5\%$$

$$AC = 7.17\%$$

$$AD = 10.08\%$$

$$BC = 8.27\%$$

$$BD = 12.08\%$$

$$CD = 8.75\%$$

★ Portfolios of three Stocks at a time

$$ABC = \left(\frac{1}{3} \times \text{return on Stock A} \right) + \left(\frac{1}{3} \times \text{return on Stock B} \right) + \left(\frac{1}{3} \times \text{return on Stock C} \right)$$

$$= 8.28\%$$

$$ABD = 10.57\%$$

$$ACD = 9.44\%$$

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$$BCD = 9\%$$

★ Portfolio of all four stocks

$$ABCD = 9.25\%$$

Q-3. Equity beta = 1.1, Risk-free rate: 8%
Market risk premium = 7%, debt equity 1:2

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WACC?

$$\begin{aligned} \text{Cost of equity} &= 0.08 + 1.1 * 0.07 \\ &= 15.5\% \end{aligned}$$

$$\begin{aligned} \text{Cost of debt} &= \text{pre tax cost} * (1 - \text{tax rate}) \\ &= 0.10 * (1 - 0.30) \\ &= 7\% \end{aligned}$$

$$\text{WACC} = (\text{Cost of equity} * \text{equity weight}) + (\text{Cost of Debt} * \text{Debt weight})$$

$$\begin{aligned} \text{WACC} &= (0.155 * 1/3) + (0.07 * 2/3) \\ &= 0.053 + 0.047 \\ &= 10\% \end{aligned}$$

Weighted Average Cost of Capital is 10%

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- 2) Earnings per share: Rs 3, IRR = 15%,
Cost of Capital: 12%

Price per share?

$$P = D(1-b) / (r-g)$$

- ⇒ for 50% $b = 1 - 0.5 = 0.5$, $P = -25$.

Since the P is negative, Walter's model can't be used to value the stock when the dividend payout ratio is 50%.

- ⇒ for 75% $b = 0.25$, $P = 37.5$.

$$P = 3 * (1 - 0.25) / (0.12 - 0.15)$$

$$P = 37.5$$

- ⇒ for 100% $b = 1 - 1 = 0$

$$P = 3 * (1 - 0) / (0.12 - 0.15) = -25$$

⇒ Similarly, this can't be used to value the stock.

∴ the price per share using Walter's valuation formula will be 37.5 Rs. when the dividend payout ratio is 75%

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g-4
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Gordon valuation model :-

$$\text{Market price per share} = \frac{\text{Dividend per share}}{\text{Cost of equity} - \text{Growth rate}}$$

Dividend payout ratio of 40%

$$\text{Dividend per share} = 0.4 * 5 = 2$$

$$\begin{aligned} \text{Growth rate} &= \text{retention ratio} * \text{rate of return on}^{\text{investment}} \\ &= 0.6 * 20\% \\ &= 12\% \end{aligned}$$

$$\text{Market price per share} = 2 / (16\% - 12\%) = 50$$

Dividend payout ratio of 50%

$$\text{Dividend per share} = 0.5 * 5 = 2.5$$

$$\text{Retention ratio} = 1 - 0.5 = 0.5$$

$$\text{Growth rate} = 0.5 * 20\% = 10\%$$

$$\begin{aligned} \text{Market price per share} &= 2.5 / (16\% - 10\%) \\ &= 41.67 \end{aligned}$$

the market price of the company as per the Gordon valuation model would be Rs. 50/share for a dividend payout ratio of 40% and Rs. 41.67/share for a dividend payout ratio of 50%.

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Depreciation: 3 Million Rs. EBIT = 15 Mil. Rs.
Interest: 4M Rs., Tax rate: 50%. Loan
repayment instrument: 2.5 M Rs.

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$$\begin{aligned}\text{EBIT} &= \text{EBIT} + \text{Depreciation} - \text{Interest} \\ &= 24 \text{ M Rs}\end{aligned}$$

$$\begin{aligned}\text{OCF} &= \text{EBIT} + \text{Depreciation} - \text{Taxes} \\ &= 6.5 \text{ M Rs}\end{aligned}$$

$$\begin{aligned}\text{Interest coverage ratio} &= \text{EBIT} / \text{Interest} \\ &= 25 / 4 = 3.75\end{aligned}$$

$$\begin{aligned}\text{Cash Flow coverage ratio} &= \text{OCF} / \text{Loan repayment} \\ &= 6.5 / 2.5 \\ &= 2.6\end{aligned}$$

It indicates that enough operating income is being generated to cover interest payment but a higher ratio would be better as well as for the cash flow coverage ratio.

Q-5-1) Various short term as well as long term sources are available for business justify

⇒ There are several options available for businesses to raise capital such as:

Short-term:- Bank overdraft, Trade credit, Factoring, commercial papers

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Long-term :- Equity shares, Debentures, Bonds, Bank loans, Venture capital, Public deposits.

⇒ The choices of the Source of Finance depends on various factors such as the nature of business, amount of capital, duration of investment, the risk involved and market conditions.

⇒ Short term sources of Finance are generally used to meet the immediate financial requirements of a company such as paying salaries, raw materials. On the other hand, long-term sources of Finance are utilized for long-term investment.

⇒ Hence, business have the flexibility to choose from a range of sources of Finance based on their requirements.

2> There are various factors that affect capital structure decision of a firm justify.

⇒ Yes, There are various factors such as

1> Business risk :- The higher the business risk the lower the debt-to-equity ratio should be.

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- 2) Tax :- Debt financing provides tax benefits as the interest on debt is tax deductible.
 - 3) Cost of capital :- The cost of debt and equity capital also affects the capital structure decision of a firm.
 - 4) Financial flexibility :- The need for financial flexibility is also a major factor.
 - 5) Market condition :- In times of tight credit, firms may have to rely more on equity financing.
 - 6) Size of the firm :- Smaller & younger firms can also have an impact on its capital structure decisions.
- ⇒ It is a complex process that involves considering various factors. The optimal capital structure for a firm is one that balances the advantages and disadvantages of debt & equity financing while taking into account the specific circumstances of the firm.

Q-6. Prepare statement showing surplus/deficit in relation to the min. cash balance

	Jan	Feb	Mar	Apr	May	June
Est. Sales	250K	250K	250K	200K	200K	200K
Cash sales	45K	45K	45K	60K	60K	60K
Credit sales	105K	105K	105K	140K	140K	140K
Cash receipt	42K	63K	77K	84K	98K	112K
from Credit						
Miscellaneous	-	-	-	70K	31K	-
receipts						
Total receipts	87K	108K	122K	154K	163K	172K
purchases	60K	60K	60K	60K	80K	80K
payment for	60K	60K	66K	80K	80K	80K
purchases						
wage	25K	25K	25K	25K	25K	25K
man. Expenses	32K	32K	32K	32K	32K	32K
Tax payments	-	-	-	-	-	35K
loan payments	-	-	-	-	-	250K
Total payments	122K	122K	122K	157K	187K	408K
NCF	-35K	-14K	0	-3K	13K	-236K
opening balance	25K	-7K	-22K	-22K	-24K	-107K
closing balance	-7K	-22K	-22K	-24K	-110K	-343K
Surplus /	-22K	-42K	-34K	-27K	-24K	-313K
deficit						