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1) The existing yield on the debt was 68,80 percent. We shall assume new debt can be issued at the same going market rate and that the firm is paying a 25 percent tax. What is the cost of debt?

Answer:

$$K_d \text{ (Cost of debt)} = 68{,}80\ \% \ (1\text{-}0{,}25)$$
$$= 68{,}80\ \% \ (0{,}75)$$
$$= 51{,}6\ \%$$

2) The existing yield on the debt was 45% and tax rate is 25%. What is the cost of debt?

Answer:

$$K_d \text{ (Cost of debt)} = Y(1 - T)$$
$$K_d \text{ (Cost of debt)} = 45\% \ (1 - 0.25)$$
$$= 45\% \times 0.75$$
$$= 33.75\%$$

3) Your company is expected to pay a dividend of $7 per share next year ($D_1$). Dividends have grown at a steady rate of 9% per year and the market expects that to continue (g). The current stock price is $62 ($P_0$). What is the cost of equity?

Answer:

$$K_e \text{(Cost of equity)} = (D_1 / P_0) + g$$
$$K_e = (7 / 62) + 0.09 = 0.202$$

4) Assume that:

$D_1 =$ \$2,

$P_0 =$ \$40, and

g = 7%,

K_e = ?

Answer:

$$K_e = (D_1 / P_0) + g$$
$$= (\$2 / \$40) + 7\% = 5\% + 7\% = 12\%$$

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5) Assume today's stock price is $55, dividend at the end of the year will $5, constant growth rate in dividends is 9%. What is the required rate of return?

Answer:

$$K_e = (D_1 / P_0) + g$$
$$= (\$5 / \$55) + 9\% = 9.09\% + 9\% = 18.09\%$$

6) Assume annual dividend $15; preferred stock $75; flotation or selling cost $8. What is the cost of preferred stock?

Answer:

$$K_p \text{ (Cost of preferred stock)} = D_p / (P_p - F) = \$15 / (\$75 - 8)$$
$$= \$15 / \$67 = \$22.38\%$$

7) Suppose CU Pirates, Inc. is expected to pay a $5 dividend in one year. If the dividend is expected to grow at 10% per year and the required return is 25%, what is the price?

Answer:

$D_1 = \$5.00$

$g = 10\%$

$K_e = 25\%$

$$P_0 = D_1 / K_e - g$$
$$P_0 = 5 / 0.25 - 0.1$$
$$= 5 / 0.15 = \$33.33$$

8) Suppose Big C, Inc. <u>just paid</u> a dividend of $1.5. It is expected to increase its dividend by 3% per year. If the market requires a return of 10% on assets of this risk, how much should the stock be selling for?

Answer:

$D_0 = \$1.5$

$g = 3\%$

$K_e = 10\%$

$$P_0 = D_0(1+g) / K_e - g$$
$$P_0 = 1.5\ (1+0.03) / 0.1 - 0.03 = 1.545 / 0.07 = \$22.071$$

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9) A firm is 40% financed by debt with a yield-to-maturity of 8.5%. The equity has a beta of 1.3, the market risk premium is 8.4% and the risk-free rate is 3.8%. What is the firm's weighted average cost of capital if the tax rate is 21%?

Answer:

Rf= 3.8 %

Rm−Rf = 8.4 %

$\beta = 1.3$

$RE = Rf + \beta\ (Rm - Rf)$

RE = 3.8% + 1.3 (8.4%) = 14.72%

WACC = (1 − 0.40) (0.1472) + 0.40 (0.085) (1 − 0.21) = 0.1152 , or 11.52%

10) What proportion of a firm is equity financed if the WACC is 14%, the before-tax cost of debt is 10.77%, the tax rate is 21%, and the required return on equity is 18%?

Answer:

Cost of debt (Kd)=Yield (1 – t)
Required return on equity = 18%
WACC = 14%
0.14 = (1 − x)(10.77%)(1 − 0.21) + x(18%)
x = 57.86% or 0.5786

11) Which Project you prefer according to NPV if the initial investment is 100,000TL? (r=10%)

Year	Investment A	Investment B
2015	13.000	80.000
2016	20.000	13.000
2017	33.000	7.000
2018	34.000	6.000
2019	66.000	6.000

Answer:

Year	Investment A	10%	Net present value of cash inflows	Accumulated discounted cash flows
2015	13.000	0.909	11,817	11,817
2016	20.000	0.826	16,520	28,337
2017	33.000	0.751	24,783	53,120
2018	34.000	0.683	23,222	76,342
2019	66.000	0.621	40,986	117,328
NPV A				**17,328**

Year	Investment B	10%	Net present value of cash inflows	Accumulated discounted cash flows
2015	80.000	0.909	72,720	72,720
2016	13.000	0.826	10,738	83,458
2017	7.000	0.751	5,257	88,715
2018	6.000	0.683	4,098	92,813
2019	6.000	0.621	3,726	96,539
NPV B				**-3,461**

I prefer Investment A (Project A) because; Investment A has greater NPV than Investment B (Project B) or

I prefer Investment A (Project A) because; Investment A has positive NPV while Investment B (Project B) has negative NPV.

12) What are the advantages and disadvantages of Payback Period Method?

Answer:

Advantages	**Disadvantages**
Simple to compute	No concrete decision criteria to tell us whether an insvetment increases the firm's value
Provides some information on the risk of the invesment	Ignores cash flows beyond the payback period
Provides a crude measure of liquidity	Ignores the time value of money
	Ignores the riskiness of future cash flows

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13) What is the relationship between capital structure and capital budgeting?

Answer:

A firm must continually evaluate possible investments, capital budgeting is an ongoing process. However, before a firm begins thinking about capital budgeting, it must first determine its corporate strategy — its broad set of objectives for future investment.

Capital budgeting is the process of identifying and selecting investments in long-lived assets, or assets expected to produce benefits over more than one year.

Capital structure shows the result of the process of decision whether firm is financed by debt or equity.

14) The 2021 balance sheet of SAM Ltd, showed long-term debt of 2.225.000 TL, and the 2022 balance sheet showed long-term debt of 2.525.000 TL. The 2022 income statement showed an interest expense of 350.000 TL. what was the firm's cash flow to creditors during 2022?

Answer:

Inputarea:

Dec. 31, 2021 Long-term debt	2.225.000 TL
Dec. 31, 2022 Long-term debt	2.525.000 TL
Interest expense	350.000 TL

Outputarea:

Cash flowtocreditors	**50.000 TL**

Cash flow to creditors = Interest paid – Net new borrowing

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15) Calculate the payback period for each project. Which project has the shortest payback period?

Year	Project A	Project B
Year 0	−20.000	−20.000
Year 1	5.500	7.000
Year 2	5.500	3.000
Year 3	5.500	4.500
Year 4	5.500	2.500
Year 5	5.500	5.000

Answer:

For Project A:

Year	Project A	Accumulated cash flows
Year 1	5.500	5.500
Year 2	5.500	11.000
Year 3	5.500	16.500
Year 4	5.500	22.000
Year 5	5.500	27.500

Payback period for A: 3,64 years

For Project B:

Year	Project B	Accumulated cash flows
Year 1	7.000	7.000
Year 2	3.000	10.000
Year 3	4.500	14.500
Year 4	2.500	17.000
Year 5	5.000	22.000

Payback period for B: 4,60 years

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16) Calculate the Net Present Value of the following Project X and Y for discount rates of 12%. And also calculate the Profitability Index for each investment, Which Project should you take?

Cash Flows	Investment X	Investment Y
Year 0	−2000 TL	−1000 TL
Year 1	1200	200
Year 2	800	600
Year 3	1000	1300

Answer:

For Investment X:

Cash Flows	Investment X	12%	Net present value of cash inflows
Year 1	1200	0,893	1.071,6
Year 2	800	0,797	637,6
Year 3	1000	0,712	712

NPV_X= –2000 + 1200 / (1 + 0,12) + 800 / $(1 + 0,12)^2$+ 1000 / $(1 + 0,12)^3$ = 490,96

Profitability Index for X: NPV/Investment

PI_X= 2.490,96/2000=1,21

For Investment Y:

Cash Flows	Investment Y	12%	Net present value of cash inflows
Year 1	200	0,893	178,6
Year 2	600	0,797	478,2
Year 3	1300	0,712	925,6

NPV_Y= –1000 + 200 / (1 + 0,12) + 600 / $(1 + 0,12)^2$+ 1300 / $(1 + 0,12)^3$ = 582,20

PI_Y=1.582,20/1000=1,58

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17) Medco Corporation has a systematic risk of 0,9. The market risk premium is 7% and the risk-free rate is 8%. The yield on the company's debt is 5%, and the firm has a 21% marginal tax rate. Long term debt of firm is 4,000,000 TL and equity is 8,000,000 TL. What is the Weighted Average of the company?

Answer:

$R_f = 0,08$

$R_m - R_f = 0,07$

$R_m = 0,15$

$\beta = 0,9$

$R_E = R_f + \beta (R_m - R_f)$

$= 0,08 + 0,9 \times 0,07 = 0,143$

$K_d = \text{Yield} (1 - T)$

$= 0,05 (1 - 0,21) = 0,0395$

Weights: for equity = 8000000/(4000000+8000000)=0,67

For debt = 4000000/(4000000+8000000) = 0,33

WACC = (0,67 x 0,143) + (0,33 x 0,0395) = 0,108845 = 10,88 %

18) Which capital budgeting methods consider time value of money?

Answer:

- Discounted Payback Period
- Net Present Value
- Profitability Index
- Internal Rate of Return

19) The 2021 balance sheet of SAM Ltd, showed long-term debt of 1.250.000 TL, and the 2022 balance sheet showed long-term debt of 1.600.000 TL. The 2022 income statement showed an interest expense of 90.000 TL. what was the firm's cash flow to creditors during 2022?

Answer:

Inputarea:

Dec. 31, 2021 Long-term debt	1.250.000 TL
Dec. 31, 2022 Long-term debt	1.600.000 TL
Interest expense	90.000 TL

Outputarea:

Cash flowtocreditors	**−260.000 TL**

Cash flow to creditors = Interest paid – Net new borrowing

20) Calculate the Net Present Value of the following Project X and Y for discount rates of 12%. And also calculate the Profitability Index for each investment, Which Project should you take?

Answer:

Cash Flows	Investment X	Investment Y
Year 0	−1000 TL	−500 TL
Year 1	700	200
Year 2	300	400
Year 3	300	100

For Investment X:

Cash Flows	Investment X	12%	Net present value of cash inflows
Year 1	700	0,893	625,1
Year 2	300	0,797	239,1
Year 3	300	0,712	213,6

$NPV_X = -1000 + 700 / (1 + 0{,}12) + 300 / (1 + 0{,}12)^2 + 300 / (1 + 0{,}12)^3 = 77{,}8$

Profitability Index for X: NPV/Investment

$PI_X = 1.077{,}8/1000 = 1{,}077$

For Investment Y:

Cash Flows	Investment Y	12%	Net present value of cash inflows
Year 1	200	0,893	179
Year 2	400	0,797	319
Year 3	100	0,712	71

$NPV_Y = -500 + 200 / (1 + 0{,}12) + 400 / (1 + 0{,}12)^2 + 100 / (1 + 0{,}12)^3 = 69$

$PI_Y = 569/500 = 1{,}13$

21) Suppose the stock of Stansfield Enterprises, a publisher of online presentations, has a beta of 1.6. The firm is 100% equity financed. Assume a risk-free rate of 7% and a market risk premium of 13%. What is the appropriate discount rate for an expansion of this firm?

Answer:

$R_i = R_f + \beta_i (R_m - R_f)$

$R_i = 7\% + (1.6 \times 13\%)$

$R_i = 27.8\%$

22) Suppose that:
Company's equity beta = 1.4
Current risk-free rate = 9%
Expected market risk premium = 7% What is the cost of equity capital?

Answer:

$R_i = R_f + \beta_i (R_m - R_f)$

$R_i = 0.09 + (1.4 \times 0.07) = 18.8\ \%$

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23) During the year, the company had gross sales of $865,000. the firm's cost of goods sold and selling expenses were $455,000 and $210,000, respectively. The company also had notes payable of $680,000. these notes carried an interest rate of 4 percent. Depreciation was $105,000. the tax rate was 21 percent.

a) What was the company's net income?
b) What was the company's operating cash flow?

Answer:

Input area:		Output area:	
Sales	$ 865.000		Income Statement
Cost of goods sold	$ 455.000	Sales	$ 865.000
Selling expenses	$ 210.000	Cost of goods sold	455.000
Notes payable	$ 680.000	Selling expenses	210.000
Interest rate	4%	Depreciation expense	105.000
Depreciation expense	$ 105.000	**EBIT**	**$ 95.000**
Tax rate	21%	Interest expense	27.200
		EBT	**$ 67.800**
Answer a) $53.562		Taxes (21%)	14.238
Answer b) $185.762		**Net income**	**$ 53.562**
		EBIT	$ 95.000
		Depreciation	105.000
		Taxes	(14.238)
		Operating cash flow	**$ 185.762**

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24) Calculate the Canadian Enterprises' Operating Cash Flow.

CANADIAN ENTERPRISES

2015 Income Statement ($ millions)

Net sales		$ 1,509
Cost of goods sold		750
Depreciation		65
Earnings before interest and taxes		$ 694
Interest paid		70
Income before taxes		$ 624
Taxes		250
Net income		$ 374
Addition to retained earnings	$309	
Dividends	65	

Answer:

Operating Cash Flow = EBIT + Depreciation – Taxes

= 694 + 65 – 250 = $509 millions

25) A company has net working capital of $3.570. If all its current assets were liquidated, the company would receive $7.880. What are the company's current liabilities?

Answer:

Net working capital = Current Assets – Currrent Liabilities

3.570 = 7.880 – CL

CL= 4.310TL

26) Reliable Electric is a regulated public utility, and it is expected to provide steady dividend growth of 5% per year for the indefinite future. Its last dividend was $5 per share; the stock sold for $60 per share just after the dividend was paid. What is the company's cost of equity?

Answer:

D1 = D0 x (1+g) = 5 x (1+0,05) = 5,25

Ke = (D1 / P0) + g = (5,25 / 60) + 0,05 = 13,75 %

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27) Suppose you are offered $10,700 today but must make the following payments:

Year 0	− $10.700
Year 1	$4.900
Year 2	$3.900
Year 3	$2.300
Year 4	$2.800
Year 5	$1.500

a. What is the NPV of the offer if the appropriate discount rate is 20 percent?

b. What is the NPV of the offer if the appropriate discount rate is 10 percent?

Answer:

- And we assume that the discount rate is 20 %. In this case;

NPV= -10,700 + 4,900/ (1 + 20%) ^{1} + 3,900/(1 + 20%) ^{2} + 2,300/ (1 + 20%) ^{3} + 2,800/ (1 + 20%) ^{4} + 1,500/ (1 + 20%) ^{5} = − 624,19

Reject the project.

- And we assume that the discount rate is 10 %. In this case;

NPV= -10,700 + 4,900/ (1 + 10%) ^{1} + 3,900/(1 + 10%) ^{2} + 2,300/ (1 + 10%) ^{3} + 2,800/ (1 + 10%) ^{4} + 1,500/ (1 + 10%) ^{5} = 1,549.53

Accept the project.

28) Given the following information, calculate the weighted average cost of capital for ABC Company. Line up the calculations in the order shown in the Table.

Percent of capital structure:

Preferred stock	20%
Commone quity	40
Debt	40

Additional information:

Corporate tax rate	25%
Dividend, preferred	$6.50
Last Dividend, expected common	$2.00
Price, preferred	$110.00
Growth rate	6%
Bond yield	8.5%
Flotation cost, preferred	$4.20
Price, common	$80.00

Answer:

ABC Company

K_d = Yield $(1 - T)$
= 0.085 (1 – 0.25)
= 0.085(0.75)
= 6.38 %

$K_p = D_p/(P_p - F)$
= \$6.50/(\$110 – 4.20) = \$6.50/\$105.8= 6.14%

D_0 = 2.00
$D_1 = D_0$ (1+g) = 2.00 (1+0.06) = 2.12
$K_e = (D_1/P_0) + g$
= (\$2.12/\$80) + 6% = 2.65% + 6% = 8.65%

	Cost (aftertax)	**Weights**	**Weighted Cost**
Debt (K_d).....	6.38%	40%	2.55%
Preferred stock (K_p).....	6.14	20	1.23
Common equity (K_e) (retained earnings)	8.65	40	3.46
Weighted average cost of capital (K_a).....			7.24%

29) Schwert Corporation shows the following information on its 2022 income statement: sales=\$800,000; costs=\$250,000; other expenses=\$10,000; depreciation expense=\$40,000; interest expense=\$30,000; taxes=\$35,500; dividends=\$15,500. In addition, you're told that the firm issued \$10,000 in new equity during 2022 and redeemed \$8,000 in outstanding long-term debt.

a. What is the 2022 operating cash flow?
b. What is the 2022 cash flow to creditors?
c. What is the 2022 cash flow to stockholders?
d. What is the 2022 cash flow from assets?

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Answer:

Input area:	
Sales	$ 800,000
Costs	$ 250,000
Other expenses	$ 10,000
Depreciation expense	$ 40,000
Interest expense	$ 30.000
Taxes	$ 35,500
Dividends	$ 15,500
New equity	$ 10,000
Net new long-term debt	$ (8,000)

Output area:	
Income Statement	
Sales	$ 800,000
Costs	$ (250,000)
Other expenses	$ (10,000)
Depreciation expense	$ (40,000)
EBIT	**$ 500,000**
Interest expense	$ (30,000)
EBT	$ 470,000
Taxes	$ (35,500)
Net income	$ 434,500
Dividends	$ (15,500)
Addition to retained earnings	$ 419,000

a) Operating cash flow = EBIT + Depreciation – Taxes

Operating cash flow = 500,000 + 40,000– 35,500= $ 504,500

b) Cash flow to creditors = Interest paid – Net new borrowing

Cash flow to creditors = 30,000 – (– 8,000) = $ 38,000

c) Cash flow to stockholders = Dividends paid – Net new equity

Cash flow to stockholders = 15,500 – 10,000 = $ 5,500

d) Cash flow from assets = CF to creditors + CF to stockholders

Cash flow from assets = 38,000- 5,500 = $ 32,500

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30) Explain distinctions between Fixed Assets and Current Assets.

Answer:

Distinction between Fixed Assets and Current Assets

Basis	Fixed Assets	Current Assets
1.Nature	Fixed Assets are long-term resources of a business.	Current Assets are short-term resources of a business.
2.Purpose	Fixed Assets are hold for the purpose of running business to earn profit.	Current Assets are hold for the purpose of running business for day to day operation and sales.
3.Valuation	Fixed Assets are valued at cost less depreciation.	Current Assets are valued at cost or market price whichever is less.
4.Sources of Funds	Fixed Assets are acquired out of long-term funds.	Current Assets are acquired out of short-term funds.
5.Subject to Change	Fixed Assets are not usually subject to change.	Current Assets are usually subject to change.
6.Type of Profit	Fixed Assets if sold, results in capital profit.	Current Assets if sold, results in trading or revenuer profit.