1- Company ABC wants to issue more common stock face value Rs.10. Next year the Dividend is expected to be Rs.2 per share assuming a Dividend growth rate of 10%pa. The lawyers' fee and stock broker commission will cost Rs.1 per share. Investors are confident about company ABC so the common share is floated at market price of Rs.16 (i.e. Premium of Rs.6). If the capital structure of company ABC is entering common equity then what is the company **WACC**? Use Retained Earning Approach to calculate the result. (Marks=5)

Calculate Required ROR for Common Stock using Gordon's Formula

r = (DIV1/Po) + g

Po = market price = 16

Div1 = Next Dividend = 2

G = growth rate = 10%

r = (2/16)+10% = 22.50%

Now If company wanted to issue the stock via new float then it has to pay the lawyer fee and broker commission which 1 Rs.

Net proceed = 16 – 1 = 15

r = (2/15)+10% = 22.50% = 23.33%

1- If the Capital Asset Pricing Method Approach is appropriate, compute the required rate of return for each of following stocks. Assume a risk free rate of 0.09 and expected return for the market portfolio of 0.12. (Marks=10)

Stock	A	B	C	D	E

Beta	2.0	1.5	1.0	0.7	0.2
Required rate of return = risk free rate of return + (market risk- risk free rate or return) * beta Rf + (Rm-Rf)*B Rm = .12 Rf = .09	0.09+(0.12-0.09)*2 = 15%	0.09+(0.12-0.09)*1.5 = 13.5%	=0.09+(0.12-0.09)*1 12%	=0.09+(0.12-0.09)*.7 = 11.10%	=0.09+(0.12-0.09)*.2 =9.6%

1- **Longstreet Communication Inc.(LCI)** has the following capital structure which is consider to be optimal.

Debt	Preferred Stock	Common Stock	**Total Capital**
25%	15%	60%	**100%**

LCI's net income expected this year is $17,142.86, its established dividend payout ratio is 30%, its tax ratio is 40%, and investor expect earning and dividend to grow at a constant rate of 9% in the future. LCI paid a dividend of $3.60 per share last year(D_0) and its stock currently sells at a price of $60 per share. Treasury Bond yield 11% and average has a 14% expected rate of return and LCI beta is 1.51. The following terms apply to new security offering.

Common: New common stock would have floatation cost of 10%.

Preferred: New preferred stock could be sold to the public at price of $100 per share, with a dividend of $11.

Debt: Debt could be sold at interest rate of 12%.

(A)- Find the Component Cost of Debt, Preferred Stock, Retained Earning and New Common Stock? (Marks=7)

LCI's net income expected this year is $17,142.86, its established dividend payout ratio is 30%, its tax ratio is 40%, and investor expect earning and dividend to grow at a constant rate of 9% in the future. LCI paid a dividend of $3.60 per share last year(D_0) and its stock currently sells at a price of $60 per share. Treasury Bond yield 11% and average has a 14% expected rate of return and LCI beta is 1.51. The following terms apply to new security offering.

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Debt: Debt could be sold at interest rate of 12%.

(A)- Find the Component Cost of Debt, Preferred Stock, Retained Earning and New Common Stock? (Marks=7)

Cost of Debt

T = 40% Tax Rate

Rd = 12% interest Rate of debt

After-tax cost of debt:

Rd(1 - T) = 12%(1 - 0.40) = 12%(0.60) = 7.20%.

Cost of preferred stock:

Div = 11

Price = 100

Kps = Div/price of share

Kps = 11/100 = 11%

Cost of retained earnings (using CAPM method)

Re = Rf + (Rm-rf) * beta = 11% + (14% - 11%)1.51 = 15.5%.

Cost of new common stock

F = .10 flotation cost

Do = 3.60 last year dividend

Po = 60 – 6 = 54 Price of share. After flotation cost

G= 9% growth rate

Div1 = Next year dividend we can get it by this formula = Do(1+g)

Ke = (Div1/ Po)+ g

Ke = (Do(1+g)/Po)+g

By adding values in formula

Ke= (3.60(1+.09)/54)+.09 = 16.26%

(B)- How much new capital could be raised before LCI must sell new equity? (Marks=3)

Company ABC issues a 2 Year Bond of Par Value Rs 1000 and a Coupon Rate of 10% pa (and annual coupon payments). Company ABC pays an Investment Bank Rs 50 per Bond to structure and

market the bond. They decide to sell the Bond for Rs 950 (i.e. At a Discount). At the end of the first year, Company ABC's Income Statement shows the Coupon Interest paid to Bondholders as an expense.

Interest represents a Tax Saving or Shield. Based on the Net Income and Industry Standard, the Marginal Corporate Tax Rate is 30% of Net Income. Assuming that the 2 Year Bond represents the ONLY form of Capital, calculate the After-Tax Weighted Average Cost of Capital (WACC) % for

Solution

Calculate Required ROR using Bond Pricing or PV Formula

PV = 100/ (1+r*) +100/ (1+r*) ^2 +1000/ (1+r*)^2

= 100/ (1+r*) + 1100/ (1+r*)^ 2

= Net Proceeds = NP = Market Price -Transaction Costs

= 950 - 50 = Rs 900

= 100/(1+r*)+ (100/(1+r*)^2)+ (1000/(1+r*)^2)- 900

Solve the Quadratic Equation for Pre-Tax Required ROR = r*

Using the Quadratic Formula: r* = 16% AND r = - 5 %

Calculate After Tax Cost of Debt

rD = rD* (1 - TC)

T = 30%

= 16%(1-.30) = 11.20%

Calculate Weighted Cost of Capital (WACC)

WACC = rD XD. + rP XP + rE XE .

= rD XD + 0 + 0

= 11.2 (1) = 11.2 %

Find the Beta on a stock given that its expected Return is 16% the Risk free rate is 4% and the Expected return on the Market portfolio is 12% (Marks 5)

Solution

r = rRF + Beta (rM - rRF).

r=16%

Rf=4%

rM=12%

B=?

16% = 4% + Beta (12% - 4%).

16%-4%=Beta*8%

12%/8%=Beta

1.5=Beta

EBIT of a firm is Rs. 100, Corporate Tax is 35%

a) Equity is 100% and rE is 20%

b) Debt is 100% and Interest is 10%

Find WACC. Marks**10**

a) WACC = rD XD. + rP XP + rE XE .

WACC=0+0+20%(100)

WACC=20%

b) When 100% debit

rD(1-t)

10%*(1-.35)

=0.065

=6.5%

WACC = rD XD. + rP XP + rE XE .

WACC=6.5%(100) + 0 + 0 = 6.5%

rD= Rate of Debt

XD= weighted average of debt

rP= rate of Proffered Shares

XP= weighted average of preferred shares

rE= Rate of equity (common shares)

XE= weighted average of equity

EBIT=Earning before Interest & taxes (gross profit)

1. Risk free Rate is 15% and expected Market Return is 20%. FM Corporation has a bet of 1.9 and Gold Corporation has beta of 1.5. Find Expected Return on FM Corporation and Gold Corporation.

r = rRF + Beta (rM - rRF).

B=1.9

rM=20%

rRF=15%

r=15%+1.9(5%)

Gold Company:

B=1.5

rM=20%

rRF=15%

r = rRF + Beta (rM - rRF).

r=15%+1.5(5%)

EBIT of a firm is Rs. 200 and corporate tax rate, Tc is 30 %. If the firm is 100% Equity and rE is 20%. Then calculate WACC.

WACC = rD XD. + rP XP + rE XE **.**

WACC=0+0+20%(100)

WACC=20**%**

Explain the equation of EBIT when it is equal to Break Even Point. MARKS-5

An indicator of a company's profitability, calculated as revenue minus expenses, excluding tax and interest. EBIT is also referred to as "operating earnings", "operating profit" and "operating income", as you can re-arrange the formula to be calculated as follows:

EBIT = Revenue - Operating Expenses

Also known as Profit Before Interest & Taxes (PBIT), and equals Net Income with interest and taxes added back to it.

Breakeven Point: Quantity of Sales at which EBIT = 0

EBIT = Op Revenue - Op Costs = Op Revenue - Variable Costs – Fixed Costs

= PQ - VQ - F. Where P= Product Price (Rs), Q= Quantity

or

#Units Sold, V= Variable Cost (Rs), F= Fixed Cost (Rs). So IF EBIT = 0

then PQ-VQ-F = 0 so Breakeven Q = F / (P - V)

Calculate the market value of equity for a 100% equity firm using the following information extracted from its financial statements:

EBIT = Rs. 50, 000, return on equity is 12%, amount of equity is Rs. 100, 000. tax rate is 35%.

Soultion

First all all we net to calculate Net income

Net income = EBIT – Interest – tax

Net income = 50,000 – 0 – (.35* 50,000) = 32,500

Now to calculate the market value of firm

Net income/ return on equity

= 32500/.12 = 270833.3

market value of unleveraged frim (100% equity firm) equity + debit

= 270833.3 + 0

= 270833

Earnings before interest and taxes (EBIT) of Firm is Rs.1000 and Corporate Tax Rate, Tc is 30%

a. If the Firm is 100% Equity (or Un-Levered) and r_E = 30% then what is the $WACC_U$ of Un-levered Firm?

Ans.....

1) Net income = EBIT - I - Tax
= 1000 - 0 - 30% (0.3)
= 700
2) Equity (Un-L) = NI/Re
= 700/30% (0.3)
= 2334
3) WACC(Un-L) = Equity + Debt
= 2334 + 0 So
= 2334 Here is note that wacc is equal to equity
= 30% Jitna equity k rate hoga otahi WACC ho of Un-levered firm.....

b. If the Firm takes Rs.1000 Debt at 10% Interest or Mark-up then what is the $WACC_L$
of Levered Firm? (There is no change in return in equity)

Ans......

1)Net income = EBIT - I - Tax
= 1000 - .1(1000) - 30% (900)

= 630
2) Equity (Un-L) = NI/Re
= 630/30% (0.3)
= 2100
3)WACC (L) = Equity + Debt
= 2100 + 1000
= 3100
Formula:...

WACC = Rd*(1 - tc)Xd + Re*Xe
= .1*(1 - 0.3)*(1000/3100) + 0.3*(2100/3100)
= 0.225806
= 22.5806%

A 100% Equity (un – levered) firm as total Assets of Rs. 50000 weighted average cost of capital for an un – levered firm (WACCU) is 35% and cost of debt for un – levered firm (r d u) of 20% it then adds Rs. 20000 of debt financial Risk increases cost of debts (r d L) of leverd Firm to 18% (Marks 5)

Required

What is levered firms Cost of equity (r e L)?

What will be the WACC L of levered Firm

Assuming Pure MM View - Ideal Markets: Total Market Value of Assets of Firm (V) is

UNCHANGED. Value of un levered firm = Value of levered firm. Also, WACC remains

UNCHANGED by Capital Structure and Debt.

- WACCU = WACCL = 35%

Re = cost of equity
Rd = 18 % cost of debt
E = market value of the firm's equity
D = market value of the firm's debt =
V = E + D
E/V = percentage of financing that is equity

D/V = percentage of financing that is debt
T = corporate tax rate

Re = ?

WACCu = 35%

rE,L =WACC + Debt/Equity (WACCL - rD,L)

Re = 35% + 2000/48000(35%-18%) 35.70%

WACC = E/V *Re + D/V * Rd * (1- T)

Now by plugging values

V= E+D = 48000+2000 = 50000

35% = (48000/50000) * Re + (2000/50000)* 18%

by rearranging equation

35% = 9.6 Re + .0072

.96Re = 35% - .0072

Re = (35%-.0072) / .96 = 35.70%

Cost of Equity for Levered Firm

= rE,L = Risk Free Interest Rate + Business Risk Premium + Financial Risk Premium.

BC industries have a beta of 1.5. The risk free rate is 8% and the expected return on the market portfolio is 13 %.

The company presently pays a dividend of $5 a share, and investors expect it to experience a growth in dividends of 10 percent per

annum for many years to come.
a. What is the stock's required rate of return according to the CAPM?
b. What is the stock's present market price per share, assuming this required return?

A)

Beta = 5%

Rf = 8%

R m= 13%

Requried rate of return = Rf + (Rm – Rf) * beta

Required rate of return = 8%+(13%-8%)*1.5 = 15.5%

B)

G = 10%

Div1 = 5

Re = (Div1/ Po)+ g

Re = (5/Po)+ 10%

15.5% - 10% = 5/Po

Po = 5/15.5% = 32.50 Rs

Stock L and the "market" has the following rates of returns over the past four years.

Year	Stock L	Market
2005---	12.00%-----	14.00%
2006---	5.00% ---	2.00%
2007---	11.00%------	14.00%
2008---	-7.00% ------	-3.00%

Additional Information:

60% of your portfolio is invested in Stock L and the remaining 40% is invested in Stock Y. The risk-free rate is 6% and the market risk premium is also 6%. You estimated that 14% is the required rate of return on your portfolio. While Stock L has the beta of 0.9484.

Required:

You are required to calculate the beta of Stock Y?

Beta of portfolio

Requried rate of return = Rf + (Rm – Rf) * beta

14% = 6% + 6% beta

6% beta = 8 %

Beta of portfolio = 8/6 = 1.33

The beta of a portfolio is simply the weighted average of the betas of the stocks in the portfolio

Beta of portfolio = weighted average of L (beta of L) + weighted average of Y (beta of Y)

1.33 = .6(.9484) + .4 (beta of Y)

1.33 - .56904 = .4 beta of Y

Beta of Y = .76/.4 = 1.90

Explain the following conditions:

IRR <WACC

IRR >WACC> SML

IRR <SML

IRR <WACC< SML

Soultion

IRR <WACC
you should not invest in this project as rate of return is less then WACC. other words you can you your returns are less the cost of capital.

IRR >WACC> SML
we should take this project as its rate of rerun is higher then the WACC and it offers better rate or return then Efficient market offers.

RR <SML
is showing rate of return which is
lower than SML the company will not invest because it is not giving as much rate of return as efficient market is offering

RR <WACC< SML
IRR lower than WACC and SML company should not invest as IRR is not enough to cover the WACC plus its returns are lower then returns offered by efficient market.

Firms A and B are identical except their use of debt and the interest rates they pay. Firm A has more debt and thus must pay a higher interest rate.
Requirement:
Based on the data given below, how much higher or lower will be the A's ROE that of B, i.e., what is $ROE_A - ROE_B$?

Applicable to Both Firms	**Firm A's Data**	**Firm LD's Data**
Assets Rs. 3,000,000	**Debt ratio 70%**	**Debt ratio 20%**
EBIT Rs.500, 000	**Int. rate 12%**	**Int. rate 10%**
Tax rate 35%		

For company A 70% leverage so equity will be 30% of 3,000,000 = 900000
EBIT = 500,000
Interest (12% of 500,000) = (6000)
EBT 494,000
Tax (35% of EBT) (148200)
Net income 345,800
Expected ROE (=NI/Equity) 345,800/ (900000) = 38.42%

For company B 20% leverage so equity will be 80% of 3,000,000 = 2400000

EBIT = 500,000
Interest (10% of 500,000) = (5000)
EBT 495,000
Tax (35% of EBT) (148500)
Net income 346,500
Expected ROE (=NI/Equity) 346500/ (2400000) = 14.43%

$ROE_A - ROE_B$ = 38.42 – 14.43
=23.99