FINANCING DECISIONS / COST OF CAPITAL

Cost of Capital → This is the required rate of return by the investors who have provided funds to the company. They include:

a) Cost of Equity.
b) Cost of preference shares
c) Cost of debentures / bond / debt

1. Cost of Equity:

Equity refers to shareholders funds which can be categorized into 2:

(a) Cost of Retained Earnings (Kr)

$$Kr = \frac{Do(1+g)}{Po} + g \quad OR = \frac{D_1}{Po} + g$$

(b) Cost of ordinary shares (Ke)

$$Ke = \frac{Do(1+g)}{Po-F} + g \quad OR = \frac{D_1}{Po-F} + g$$

where Do → Most recent DPS
g → Growth rate
$Do(1+g) = D_1$ = Expected dividend
Po → Market price per share
F → floatation cost

Floatation cost / issuing cost → This is the cost incurred when raising new funds.

NB: for retained earnings, there is no floatation cost

2. Cost of preference shares (Kp)

$$Kp = \frac{\text{Dividend / Interest}}{Vp - F} \times 100\%$$

where Vp - Current value of pref share.

3 Cost of debenture / bond / debt

Debentures can be classified into 2:

a) Irredeemable debentures

They are debentures with no maturity period. They are expected to remain outstanding to infinity.

$$Kd = \frac{\text{Interest}}{Vd}(1-t)$$

where: Vd - current value of debenture
t - tax rate

In presence of floatation cost

$$Kd = \frac{\text{Interest}}{Vd - F}(1-t)$$

NB: Interest is computed based on Par value / Nominal value / Face value

(b) Reedemable debentures

They are debentures with a specific maturity period. The cost of reedemable security is known as Yield to Maturity (YTM)

$$Kd = YTM = \frac{Interest + (MV - Vd)/n}{(MV + Vd)/2}(1-t)$$

where: MV → Maturity value (always par value)
Vd → Current value of debenture
n → Maturity period.

NB: Interest expense on debt is allowable to tax purposes and it will therefore provide the company with Interest tax Shield Benefit (ITSB)

Interest tax shield Benefit = tax rate x Interest expense.

(2) Incase of loan debt, the interest rate is the cost of the debt.

May 2017 Q 4b

Interest = 12% x 1000 = 120
Vd = 1000 x 120% = 1200

In this case tax rate is not provided so ignore it

$$YTM = \frac{Int + (MV - Vd)/n}{(MV + Vd)/2}(1-t)$$

$$YTM = \frac{120 + (1000 - 1200)/3}{(1000 + 1200)/2} = 4.8\%$$

Dec 2012 Q 2e

Interest 11% x 1000 = 110
MV = 1000
Vd = 1200
n = 18 yrs.

$$YTM = \frac{110 + (1000 - 1200)/18}{(1000 + 1200)/2} = 9\%$$

June 2013 Q5 d

(i) Current yield of the bond

$$\frac{Interest}{Vd} \times 100\% = \frac{11\% \times 1000}{1150} \times 100\% = 9.56\%$$

(ii) $$YTM = \frac{Int + (MV - Vd)/n}{(MV - Vd)/2}(1-t) \Rightarrow \frac{110 + (1000 - 1150)/18}{(1000 + 1150)/2}(1 - 0.3) = 6.62\%$$

(iii) Relationship

i) If the coupon rate is greater than current yield, YTM, then the bond normally sell at a premium.
ii) If YTM > Current yield > Coupon rate, the bond sell at a discount.
iii) If YTM = Current yield = Coupon rate, then the bond sell at par value

Weighted Average Cost of Capital (WACC)

This is the overall cost of capital already invested in the company. Its also known as Composite cost of capital. Its relevant in decision making since its used as a discounting rate when evaluating existing projects.
Its calculated as follows.

$$WACC = W_e K_e + W_p K_p + W_d K_d (1-t)$$

where W → weight/proportion.

There are 3 values which can be used to determine the weight/proportion of each security.

a) Book value → They are values which reflects the value of capital when it was acquired in the past. They are therefore historical value which do not reflect the current conditions under which new funds are to be raised.
(b) Target value/Replacement value → these are the projected market prices of the security.
(c) Market values → They are the most popular values used in computing WACC since they reflect the current market condition under which new finances may be raised.

NB When these values are used, the cost of retained Earnings is ignored since its already included in the market value of the ordinary share

Weighted Marginal Cost of Capital (WMCC)

This is the average overall cost of new funds to be raised. When raising new funds from the capital market, the company will incur additional cost cost known as Floatation cost. Therefore WMCC considers the floatation cost while WACC does not consider floatation cost
- WMCC is computed as follows

$$WMCC = W_e K_e + W_p K_p + W_d K_d (1-t)$$

Since WMCC is the average cost of new funds, its normally used as the discounting rate or cost of capital when evaluating new projects.

Decision criteria

1. If WACC/WOMCC > IRR, Reject the project
2. If IRR > WACC/WOMCC, Accept the project.

THE BREAK POINT / CRITICAL POINT:

This is a point whereby a given source of fund is finished and the investor decides to go for the next expensive source of fund. Break point is usually computed as follows:

$$\text{Break point} = \frac{\text{Amount to Raise}}{\text{proportion of source of finance}}$$

A company that uses debentures/debt in its capital structure will always have a lower WACC/WOMCC due to.

1. Interest on debt is allowable for tax hence it will attract Interest tax shield benefit and hence the cost of the debt will be lower than cost of Equity and preference shares.
2. If the company is liquidated, the debenture holder are the ones to be paid first as per liquidation procedure compared to Equity shareholders.
3. Debenture have a guaranteed constant returns unlike ordinary shares which bears uncertainty of dividend.

Illustrations

Dec 2006 Q 16

Upendo Ltd is in the process of raising additional finance. The company's financial structure comprises ordinary share capital, preference share capital, debenture capital and Retained earnings. Each of these sources of finance is analyzed below:

Ordinary share Capital.

- The current MPS is sh 80
- The company's expects to pay a cash dividend of sh 6 per share in the next financial year
- The annual rate of growth in dividend per share is 6%.
- Floatation costs amount to sh 8 per share.

11% preference share Capital:

- The par value per share is sh 100
- The shares are currently trading at par.
- Floatation costs amount to sh 4 per share.

10% Debenture Capital

- The par value is sh 1000 for each debenture stock.
- The debentures have a ten-year Maturity period.
- The floatation cost for each debenture stock is sh 50

Retained Earnings

- The company expects to have sh 225,000 of retained earnings available for the next financial year.
- Should the Retained Earning be exhausted, the company will use common stock as the form of equity financing.

Additional Information:

1. The target Capital structure is as follows.

Source of Capital	Weight
Debentures	40%
preference shares	15%
Equity	45%
	100%

2. The corporation tax rate is 30%

Required

i) Calculate the cost of Capital for ord shares, pref shares, debenture and Retained Earnings (8mks)

ii) Calculate MCC applying the target Capital proportion and using retained Earnings to represent equity finance (4mks)

iii) Comment on the relevance of MCC in (ii) above. (2mks)

(i) Solution.

$$Kr = \frac{Do(1+g)}{Po} + g = \frac{D1}{Po} + g = \frac{6}{80} + 0.06 = 13.5\%$$

$$Ke = \frac{D1}{Po-F} + g = \frac{6}{80-8} + 0.06 = 14.33\%$$

$$Kp = \frac{Int}{Vp} \times 100\% = \frac{11\% \times 100}{100} \times 100\% = 11\%$$

$$YTM = \frac{Int + (Mv-Vd)/n}{(Mv+Vd)/2}(1-t) = \frac{100 + (1000-950)/10}{(1000+950)/2}(1-0.3) = 7.5\%$$

Interest = $10\% \times 1000 = 100$

$Vd = 1000 - 50 = 950$

(ii) $WMCC = We\,Ke + Wp\,Kp + Wd\,Kd(1-t)$

$= 0.45 \times 13.5 + 0.15 \times 11 + 0.4 \times 7.5$

$= 10.725\%$

(iii) Its used as a discounting rate to evaluate new projects.

May 2014 Q4b

$$Ke = \frac{Do(1+g)}{Po-F} + g = \frac{4(1+0.05)}{80} + 0.05 = 10.25\%$$

$$Kp = \frac{Int}{Vp-f} \times 100\% = \frac{12}{120-6} \times 100\% = 10.53\%$$

$$YTM = \frac{Int + (Mv-Vd)/n}{(Mv+Vd)/2}(1-t) \Rightarrow \frac{12 + (100-90)/10}{(100+90)/2} \times (1-0.3) = 9.6\%$$

Interest = $12\% \times 100 = 12$

Determining weights / proportions

ordinary shares $\frac{80}{100} \times 80 = 64$

preference shares $\frac{35}{100} \times 114 = 39.9$

Debenture $\frac{27}{100} \times 90 = \frac{24.3}{128.2}$

WACC = weke + wpkp + wdkd(1-t)

$\frac{64}{128.2} \times 10.25 + \frac{39.9}{128.2} \times 10.53 + \frac{24.3}{128.2} \times 9.6 = 10.21\%$

NOV 2019 Q1 c

$D_0 = 6 \times 60\% = 3.6$

$k_e = \frac{D_0(1+g)}{P_0 - F} + g = \frac{3.6(1+0.07)}{50} + 0.07 = 14.7\%$

$k_p = \frac{I_{nt}}{V_p} \times 100\% = \frac{12\% \times 20}{30} \times 100\% = 8\%$

k_d = irredeemable = $\frac{\text{interest}}{V_d}(1-t) \Rightarrow \frac{10\% \times 100}{120}(1-0.3) = 5.83\%$

Weights

Equity	$(30 \div 10) \times 50 = 150$		0.85
pref shares	$(5 \div 20) \times 30 = 7.5$		0.04
Debenture	$(15 \div 100) \times 120 = 18$		0.11
		175.5	

WACC = weke + wpkp + wdkd(1-t)

$0.85 \times 14.7 + 0.04 \times 8 + 0.11 \times 5.83$

$= 13.46\%$

May 2012 Q29

Cum-dividend → means inclusive of dividend.

MPS = 1.55 − 0.09 = 1.46

$g = Rb \Rightarrow 10\% \times 60\% = 6\%$

$k_e = \frac{D_0(1+g)}{P_0 - F} + g = \frac{0.09}{1.46} + 0.06 = 12.16\%$

$YTM = \frac{I_{nt} + (MV - Vd)/n}{(MV + Vd)/2}(1-t) = \frac{13 + (100-105)/5}{(100+105)/2} \times 0.7 = 8.2\%$

Interest = $13\% \times 100 = 13$

Weights = Equity $10 \times 1.46 = 14.6$ 0.67

Debt $(7 \div 100) \times 105 = \frac{7.35}{21.95}$ 0.33

WACC = weke + wdkd(1-t)

$0.67 \times 12.16 + 0.33 \times 8.2 =$

$= 10.85\%$

WMCC

Dec 2009 Q2a

Solution

$Dy = \frac{DPS}{MPS} \Rightarrow MPS = \frac{DPS}{Dy} = \frac{5}{0.0625} = 80$

$Kr = \frac{Do(1+g)}{Po} + g \Rightarrow \frac{5(1+0.1)}{80} + 0.1 = 16.88\%$

$Ke = \frac{Do(1+g)}{Po-F} + g \Rightarrow \frac{5(1+0.1)}{80-(12\%\times80)} + 0.1 = 17.81\%$

$Kp = \frac{Interest}{Vp-F} \times 100\% \Rightarrow \frac{8\%\times100}{80} \times 100\% = 10\%$

$Kd = \frac{Interest}{Vd}(1-t) \Rightarrow \frac{12\%\times1000}{960} \times 0.7 = 8.75\%$

(i) Current mps

$Dy = \frac{DPS}{MPS} \Rightarrow MPS = \frac{DPS}{Dy} = \frac{5}{0.0625} = sh\ 80$

(ii) No of shares to be issued

Proportion

Equity = ord shares + R.E

$360 + 120 = 480 \Rightarrow 480 \div 800 \times 100\% = 60\%$

Preference shares = $120 \div 800 \times 100\% = 15\%$

Debenture $200 \div 800 \times 100\% = 25\%$

100%

Amount to reuse from Equity = $60\% \times 2400 = 1440$

ord shares = $1440 - 36 = 108$

No of shares = $\frac{\text{Amount to reuse}}{\text{Issue price}} = \frac{108}{80-(12\%\times80)} = 1.5341$ M shares

(iii) WMCC

Breeak point = $\frac{\text{Amount to Reuse}}{\text{weight/proportion}}$

$R.E = \frac{36}{0.6} = 60$

0 – 60 Equity Kr = 16.88%

60 & Above Equity Ke = 17.81%

WMCC = weight × cost + weight(1-t)

0–60 : $0.6 \times 16.88 + 0.15 \times 10 + 0.25 \times 8.75 = 13.82\%$

60 & above : $0.6 \times 17.81 + 0.15 \times 10 + 0.25 \times 8.75 = 14.37\%$

Assignments = Nov 2017 Q3b
May 2017 Q1c
May 2019 Q3a
Nov 2018 Q4b
May 2018 Q3b

Disadvantages of WACC/WMCC

1. It assumes that the company's dividend policy remains constant in the future however in practice the dividend payout ratio keeps on changing.
2. When WACC is used as discounting rate, it assumes that the company's ~~mix of the~~ capital structure will remain constant however in practice, the capital structure do change
3. It assumes that the projects to be undertaken in the future will have same risks as the company's current risk.

Differences btw WACC & WMCC

	WACC	WMCC
1	It the average cost of existing funds	1. Is the average cost of new funds to be raised.
2.	Its used as a discounting rate when evaluating existing project.	2 Its used as discounting rate when evaluating new projects
3	It does not consider floatation cost	3. It takes into account floatation cost.
4	It uses market values to determine proportions	4 It uses optimal or target capital structure to determine proportions
5	It does not consider the cost of retained earnings	5. It takes into account the cost of returned Earnings.

CAPITAL STRUCTURE OF THE COMPANY

Capital structure refers to the long term sources of finance to the company. eg Equity, preference share capital, debentures or bond. Financial structure on the other hand comprises both short term and long term sources of capital.

Factors to Consider when making Capital structure decisions

1. The component cost of each source of financing. If the cost of debt is less than the cost of equity, the company will use more debt in the capital structure.
2. Business / total risk → A company with a higher business risk may have lower gearing level in order to reduce its financial risk
3. Size of the company → A large company which is well established have a wider access to capital market and can borrow funds more easily compared to the small companies.
4. Corporate tax rate → In the economy where the tax rates are high, companies are encouraged to use more debt in their capital structure so as to enjoy interest tax shield benefit
5. Management and ownership → Companies where the owners and management require to maintain their ownership, they will not issue new equity to avoid dilution of ownership
6. Industrial Norms - A company will adopt a capital structure which is similar to the industry where it operates.

- Optimal Capital structure is where the value of the company is maximum and WACC is minimum.
- A company which uses only equity finance in its capital structure is said to be ungeared / unlevered.
- The company with both equity and debt in its capital structure is said to be geared / levered.

SPECIAL TOPICS IN FINANCING

1. Leverage

Leverage refers to the use of debt in the capital structure.
→ Its the use of fixed cost in the form of interest and preference dividend in order to improve the productivity of the company. The company will in turn improve profitability in the form of total revenues.

There are 3 forms of leverage

(a) Operating Leverage

This is the use of operating cost in order to improve the profitability of the company. It shows the % change in the EBIT as a result of changes in sales.

Its computed as follows:

$$\text{Degree of operating leverage (DOL)} = \frac{\%\text{ change in EBIT}}{\%\text{ change in sales}}$$

OR

$$DOL = \frac{Q(p-v)}{Q(p-v)-F}$$

OR

$$DOL = \frac{Q}{Q - Q_{BEP}}$$

$$\text{BEP units} = \frac{F}{cm} = \frac{f}{p-v}$$

(b) Financial leverage

Is the use of financial cost in order to improve the EPS of the company. It shows the % change in the EPS as a result of changes in EBIT. Its measured using Degree of financial leverage (DFL)

$$DFL = \frac{\%\text{ change in EPS}}{\%\text{ change in EBIT}}$$

OR

$$DFL = \frac{Q(p-v)-F}{Q(p-v)-F-\text{interest expense}-\frac{\text{Preference Dividend}}{1-t}}$$

(c) Combined / total leverage

This is the use of both operating and financial leverage in order to increase profitability of the company. Its measured using Degree of Combined leverage (DCL)

$DCL = DOL \times DFL$ OR $\frac{\%\text{ change in EPS}}{\%\text{ change in sales}}$

June 2013 Q2c

(i) BEP units = $\frac{F}{CM} = \frac{F}{P-V} = \frac{40{,}000}{20-15} = 8000$ units

(ii) $DOL = \frac{Q(P-V)}{Q(P-V)-F} = \frac{20{,}000(20-15)}{20{,}000(20-15)-40{,}000} = 1.67$

(iii) $DFL = \frac{Q(P-V)-F}{Q(P-V)-F-Int-\frac{Pref\ dividend}{1-t}}$

$= \frac{20{,}000(20-15)-40{,}000}{20{,}000(20-15)-40{,}000-10{,}000-\frac{5000}{0.7}} = 1.4$

(iv) $DTL = DOL \times DFL$

$1.67 \times 1.4 = 2.33$

May 2015 Q5c

(i) ~~DOL~~ = NB = EBIT = $Q(P-V)$

$DOL = \frac{EBIT}{EBIT-Fixed\ cost} = \frac{4480}{4480-2800} = 2.667$

(ii) $DFL = \frac{EBIT-Fixed\ cost}{PBT} = \frac{4480-2800}{1280} = 1.3125$

(iii) $DCL = DOL \times D.FL$

$2.667 \times 1.3125 = 3.5$

(iv)

NOV 2018 Q1c

Fixed cost = 5.8m.

Interest = $8\% \times 2m = 0.16m$

Preference dividend = $30{,}000 \times 2 = 0.06m$.

Variable cost = $0.2 \times 8 = 1.6$.

(i) $DOL = \frac{Q(P-V)}{Q(P-V)-F} = \frac{Total\ Revenue - Total\ variable\ cost}{T.R - T.V.C - F.C}$

$= \frac{8-1.6}{8-1.6-5.8} = 10.67$

(ii) DFL

$= \frac{8-1.6-5.8}{8-1.6-5.8-0.16-\frac{0.06}{0.7}} = 1.694$

(iii) $DCL = DOL \times DFL \Rightarrow 10.67 \times 1.694$

$= 18.1$

2. Point of Indifference / Indifference point

This is a point where EBIT and EPS of all available financial options are equal. i.e

$EBIT_1 = EBIT_2$

$EPS_1 = EPS_2$.

EPS is computed as follows depending with nature of financing.

(a) For all Equity Financed Company

$$EPS = \frac{EBIT(1-t)}{No \text{ of ord shares}}$$

(b) For Debt and Equity financed

$$EPS = \frac{(EBIT - Interest)(1-t)}{No \text{ of ord shares}}$$

(c) For Equity, Debt and preference share financed

$$EPS = \frac{(EBIT - Interest)(1-t) - preference\ dividend}{No \text{ of ordinary shares}}$$

(d) For Equity and preference shares

$$EPS = \frac{EBIT(1-t) - pref\ dividend}{No \text{ of ord shares}}$$

Dec 2013 Q 4b

Plan I All Equity Financed.

$$EPS = \frac{EBIT(1-t)}{No \text{ of ord shares}}$$

a) 1m

$EPS = \frac{1(1-0.3)}{5} = 0.14$

b) 2m

$EPS = \frac{2(1-0.3)}{5} = 0.28$

c) 4m

$EPS = \frac{4(1-0.3)}{5} = 0.56.$

d) 6m

$EPS = \frac{6(1-0.3)}{5} = 0.84$

e) 10m

$EPS = \frac{10(1-0.3)}{5} = 1.4$

Plan 2: Equity & Debt Financed

$$EPS = \frac{(EBIT - Int)(1-t)}{No \text{ of ord shares}}$$

a) 1m $Int = 8\% \times 25 = 2$

$EPS = \frac{(1-2)0.7}{25} =$ ignore

b) 2m

$EPS = \frac{(2-2)0.7}{25} =$ ignore

(c) 4m

$EPS = \frac{(4-2)0.7}{25} = 0.56.$

(d) 6m

$EPS = \frac{(6-2)0.7}{25} = 1.12$

(e) 10m

$EPS = \frac{(10-2)0.7}{25} = 2.24$

Plan 3 Debt Equity and pref share

Preference dividend 8% × 25 = 2

EPS = $\frac{EBIT(1-t) - \text{pref dividend}}{\text{No of shares}}$

1m
$\frac{(1 \times 0.7) - 2}{25}$ = ignore

2m
$\frac{(2 \times 0.7) - 2}{25}$ = ignore

4m
$\frac{(4 \times 0.7) - 2}{25} = 0.32$

6m
$\frac{(6 \times 0.7) - 2}{25} = 0.88$

10m
$\frac{(10 \times 0.7) - 2}{25} = 2.$

(ii) Average

Plan 1 = $(0.14 + 0.28 + 0.56 + 0.84 + 1.4) \div 5 = 0.644$

2 = $(0.56 + 1.12 + 2.24) \div 3 = 1.31$

3 = $(0.32 + 0.88 + 2) \div 3 = 1.07$

Underwriter plan 2

May 2015 Q 4c

Expected EBIT = $250 \times 0.1 + 450 \times 0.3 + 540 \times 0.5 + 630 \times 0.1$
= 493

Plan A Equity and Debt financed

EPS = $\frac{(EBIT - Int)(1-t)}{\text{No of ord share}}$

Interest = $50 + (15\% \times 160) = 74$

EPS = $\frac{(493 - 74)0.7}{50} = 5.866$

Plan B

No of shares = 50 + 10 = 60

EPS = $\frac{(493 - 50)0.7}{60} = 5.17$

Assign June 2007 Qus

RIGHTS ISSUE

This is a method of raising additional equity finance by issuing shares to the existing shareholders at a discount.

→ The price as to which these shares are issued is known as offer price or subscription price.

The market price per share after the rights issue announcement but before the right issue takes place is known as **Cum-right MPS** and is calculated as follows

Cum right MPS = MPS before the right issue + NPV per share.

The market price of the share after the right issue is known as **Theoretical Ex-right MPS** and its calculated as follows

$$\text{Theoretical (Ex-right MPS (Pex)} = \frac{\text{Current market value of existing equity} + \text{New funds to be raised through right issue}}{\text{Existing number of ord shares} + \text{New shares to be issued}}$$

$$\text{Current mkt value of existing equity} = \text{Existing no of ord shares} \times \text{Current mps}$$

$$\text{New funds to be raised} = \text{No of new shares to be issued} \times \text{offer price}$$

$$\text{No of new shares to be issued} = \frac{\text{Amount to Raise}}{\text{offer price}}$$

The opportunity to acquire one new share through right issue is known as **the right** hence this will ~~depedent~~ depend on the number of shares the investor has before the right issue. The number of rights is calculated as follows

$$\text{No of rights} = \frac{\text{No of existing ord shares}}{\text{No of new shares to be issued}}$$

The opportunity to acquire one new share through the right issue has a value and this value of the right is calculated as follows:

i) $Vr = MPS - Pex$

ii) $Vr = \frac{MPS - \text{offer price}}{\text{No of right} + 1}$

iii) $Vr = \frac{Pex - \text{offer price}}{\text{No of the right}}$

NOV 2011 Q3C

Laura Ltd intends to raise sh 25 million to finance a new project through a right issue. The project has a 10 year economic life with no salvage value and is expected to generate annual cash inflows of sh 7,372,280. The company has 4 million issued and fully paid shares. The cost of capital is 15% and before the announcement of the right issue, the market price per share was sh 18.

Required.

The cum-right market price per share (5 mks)

Solution:

Cum right mps = mps by right issue + NPV per share.

NPV = PVCIF − PVCOF

PVCIF = 7372 280 × 5.0188 = 37,000,000 PVCIF

(25 000,000) PVCOF

12,000,000 NPV

NPV per share = $\frac{12m}{4m}$ = sh 3

Cum-right mps = 18 + 3 = 21

June 2010 Q4a

(ii) Cum right mps = mps by the right issue + NPV per share.

$Ke = \frac{Do(1+g)}{Po - F} + g = \frac{2.83(1+0.06)}{30} + 0.06 = 16\%$

PVAα = $\frac{A}{r} = \frac{16.8}{0.16}$ = 105 PVCIF

(120) PVCOF

(15m) NPV

NPV per share $\frac{-15}{24} = -0.625$

No of shares = $\frac{\text{Mkt value of Equity}}{\text{mps}} = \frac{720}{30} = 24m.$

Cum-right mps = 30 + −0.625 = 29.375

(ii) Theoretical ex-right mps (Pex)

$Pex = \frac{\text{Current value of Equity + New funds to be raised}}{\text{Existing No of ord shares + New shares to be issued}}$

$Pex = \frac{720 + 120}{24 + 4.8} = 29.17$

No of shares to issue = $\frac{\text{Amount to raise}}{\text{offer price}} = \frac{120}{25} = 4.8$

OR

No of rights = $\frac{\text{Existing no of shares}}{\text{New shares to be issued}} = \frac{24}{4.8} = 5$ shares

Pex = for 5 share each at 30 = 150
1 share each at 25 = 25
175

$= Pex = \frac{175}{6} = 29.17$

(iii) Value of the right

$Vr = mps - Pex = 30 - 29.17 = 0.83$

OR

$Vr = \frac{mps - offer\ price}{No\ of\ right + 1} = \frac{30-25}{5+1} = 0.83$

OR

$Vr = \frac{Pex - offer\ price}{No\ of\ right} = \frac{29.17-25}{5} = 0.83$

Assign May 2015 Q 1 b.
May 2017 Q 2 b

Options during rights issue

1. To exercise the right
In this case the shareholder will acquire the right issue shares and keep them.
2. Sell the rights
In this case the shareholders will acquire the right issue shares and sell them at the open market;
3 Ignore the right issue or Do nothing
In this case, during the right issue the shareholder will not participate in the right issue activities.

When evaluating this 3 alternatives, the investor should consider:
1. His wealth before and after the right issue.
2. His percentage of ownership before and after the right issue.

NOV 2017 Q 2 b

NOV 2020 Q2

(i) P/E ratio = MPS / EPS

EPS = 21 ÷ 240 = 0.0875

MPS = P/E ratio × EPS

MPS = 6 × 0.0875 = 0.525

offer price = 0.525 × 70% = 0.3675

theoretical ex-right MPS

5 shares	@	0.525	= 2.625
1 share	@	0.3675	= 0.3675
6			2.9925

Pex = 2.9925 / 6 = 0.499

(ii) offer price = 0.3675

(iii) Before the rights issue

% of ownership = 10,000 / 240,000,000 × 100% = 0.00417%

Wealth status = 10,000 × 0.525 = 5250

After the rights issue

No of new shares to be issued.

5 → 1 x = 48,000,000 shares total.

240m → x

5 → 1

10,000 − x x = 2000

- Exercise the right

% of ownership = (10,000 + 2000) / 288,000,000 × 100% = 0.00417%

Wealth status =

12000 × 0.499 = 5988	5988
less: cost of right 2000 × 0.3675	(735)
	5253

- Sell the right

% of ownership = 10,000 / 288,000,000 × 100% = 0.00347%

Wealth status

Remaining shares	10,000 × 0.499 =	4990
add: sell the rights	2000 × 0.499 =	998
less: cost of the right	2000 × 0.3675 =	(735)
		5253

- Do nothing / ignore

% of ownership = 10,000 ÷ 288,000,000 × 100% = 0.00347%

Wealth status = 10,000 × 0.499 = 4990

(iv) Investor should exercise the right since % of ownership & value is higher.

Advantages of Right issue

1. It involves less floatation cost since shares are issued to the existing shareholders who already knows the company.
2. It involves less formalities and administrative procedures as compared to IPO i.e there is no need to prepare prospectus since shares are sold to existing shareholders.
3. Ownership and control of the company will not be diluted since the shares are issued to existing shareholders
4. There are minimum legal and adm measures compared to public issue method
5. It increases the equity capital of the company and thereby gearing level will decrease.
6. It enables the shareholders to enjoy discount offered by the company when buying the shares

Disadvantages

1. If the shares are not correctly valued, shareholders may end up paying amount above the true value (overvalued).
2. If the shareholder ignores the right issue, his % of ownership decreases.

The success of right issue depends on the following factors

1. Current market price per share.
2. The offer price.
3. Efficiency of the stock market.
4. The number of rights.

Methods of issuing ordinary shares

1. Right issue
2. Bonus issue
3. Public issue / offer
4. Employee stock option
5. Private placement → shares issued to private individuals.