

Answers

**DO NOT TURN THIS PAGE UNTIL YOU HAVE
COMPLETED THE MOCK EXAM**

A PLAN OF ATTACK

We've already established that you've been told to do it 101 times, so it is of course superfluous to tell you for the 102nd time to **Take a good look at the paper before diving in to answer questions**. You are going to remember aren't you; good!

Which order to do the questions

Having **looked through the paper in detail**, you need to have worked out the **order** in which to attempt the questions. You will probably have decided which question looks the easiest and started with that one. Answer plans will help you to decide how to approach each question.

The next step

You're probably thinking that you don't know where to begin or you could answer all of the questions in two hours!

Option 1 (Oh dear)

If you are challenged by this paper, do the **questions in the order of how well you think you can answer them**.

- **Question 1** is a mainly written question but there are some easy calculations to warm up with in part (a). Do a detailed answer plan for part (b) to help you get started.
- **Question 2** may look daunting but there are a number of parts where marks can be scored independent of your ability to do every section.
- **Question 3** is a leasing question which may again look daunting. You can however gain plenty of easy marks if you use a clear format, show all your workings and don't panic!
- **Question 4** requires you to be able to calculate share prices and conversion premium which may be tricky. There are some easy marks for straightforward explanations.

Option 2 (This one's definitely easier)

Are you **sure** it is? If you are then that's encouraging but don't forget to do answer plans to make sure you don't miss the point of the questions.

- Don't just concentrate on the calculations in **Question 1**. Make sure you also write full answers to the discussion parts and remember to use a report format.
- Don't just do a brain dump of everything you know in **Question 2**. Make sure you apply your discussions to the organisation in the question.
- Time management is going to be important in **Question 3** as there are a lot of calculations to get through.
- Work through **Question 4** slowly and carefully making sure you answer each part fully and accurately.

Once more for the road

You must **allocate your time** according to the marks for the question in total, and for the parts of the questions. And you must also **follow the requirements exactly**.

Finished with fifteen minutes to spare?

Looks like you slipped up on the time allocation. However if you have, make sure you don't waste the last few minutes; go back to **any parts of questions that you didn't finish** because you ran out of time.

Forget about it!

Forget about what? Excellent, you already have.

Question 1

Text references. Dividend policy is covered in Chapter 13.

Top tips. This question is mainly a narrative discussion comparing two possible uses of surplus funds: increasing the dividend or repaying loans. Because there are many other potential uses for the money, no final recommendation can be made, but the marks will go for discussing the very important principles which are involved.

This question is a typical question for this subject area; questions might also be set on financing by retained earnings or rights issues, the advantages and disadvantages of debt finance and so on. All of these questions can be answered from the same basic principles of dividend policy, use of debt financing, risk, return and taxation. They are of fundamental importance to the understanding of financial management, but candidates' solutions are usually very limited.

In (b) it is easy to throw away marks by not using the report format. In addition you need to go beyond stating the obvious, and discuss the pros and cons of each proposal in some detail.

Marking scheme

		Marks
(a)	Profit after tax calculation	3
	Payout ratio	2
	Dividend cover	<u>2</u>
		7
(b)	Report format	2
	Discussion of loan redemption proposal	8
	Discussion of dividend proposal	<u>8</u>
		<u>18</u>
		<u>25</u>

(a) Dividend payout ratios and dividend covers

Phoenix Co	20X5-6	20X6-7
	\$m	\$m
Profit before interest and tax	25.00	40.00
Less: interest: \$10m × 7%	<u>0.70</u>	<u>0.70</u>
Profit before tax	24.30	39.30
Tax	<u>7.29</u>	<u>11.79</u>
After tax profit	<u>17.01</u>	<u>27.51</u>
Total dividend: 280m shares × 1.5c	4.20	
\$4.2m + \$10m		14.20
Pay-out ratio (dividend/after-tax profit)	24.7%	51.6%
Dividend cover (after-tax profit/dividend)	4.05	1.94 times

- (b) To: Finance Director
From: Financial Strategist
Date: 15 December 20X7

Report on proposals for using cash surpluses

Under the terms of reference for this report I am required to evaluate two proposals for the use of the company's \$10 million cash surplus:

- **Redeeming** the \$10 million secured 7% loan
- **Increasing** the dividend payout by \$10 million

Before making a final decision, however, other possible uses for the cash should be considered, including:

- **Placing the money on deposit** or in liquid investments
- **Capital investment** for organic growth
- **Acquisition** of other **businesses**
- **Share buyback**

These other alternatives are not specifically discussed in this report.

(i) **Background**

The cash surplus has arisen because of a marked **expansion** in the **volume** of our business as the economy emerged from the recession. We should, however, bear in mind that ours is an industry which suffers from volatile fluctuations in demand and in future years we might suffer cash shortages.

(ii) **Proposal to redeem the \$10 million secured 7% loan**

If the loan is redeemed, eliminating future interest payments, then future **dividends** can be increased. Because share prices of quoted companies reflect expectations of future dividend payouts, the company's share price should increase.

Impact on shareholders

Thus, from the shareholders' point of view, the effect of the loan redemption can be seen as a sacrifice of a potentially large dividend now in return for an **increased 'ex div' share price**. Shareholders seeking capital gains as opposed to cash dividends (usually for tax reasons) will prefer this option.

Risk reduction

Eliminating debt also means that the shareholders will suffer less risk: the volatility of their earnings ('**financial risk**') will decrease and the chances of bankruptcy or financial distress are lessened.

Arguments against redemption of the loan

(1) **Gearing levels**

The **company's gearing is very low** compared with the sector average. This implies that the bankruptcy risk mentioned above is not significant. Gearing (debt/shareholders funds) at present is $\$10\text{m}/\$200\text{m} = 5\%$ compared with the sector average of 45%, and interest coverage is $\$25\text{m}/\$0.7\text{m} = 35.7$ times at the moment compared with the sector average of 6.5 times.

(2) **Taxation**

Loan interest is an **allowable expense** against tax on profits. The return on shareholders' investment is increased by this tax saving if loan finance is used. The benefits of this tax reduction (known as the '**tax shield**') will be lost if the loan is redeemed.

(3) **Shareholder viewpoint**

If not properly explained to the market, the **loan repayment** may be **interpreted** by shareholders as a sign that there are difficult times ahead. This may cause the share price to fall, rather than rise.

Interest rate comparisons

An important point when deciding whether to redeem a fixed interest loan is its **interest rate compared with expected future market interest rates**. For example, if the loan is redeemable now *at par* but to borrow in future would cost more than 7% then redemption would probably be unwise. However, if the loan notes are quoted with a market value, the price at which it can be purchased and cancelled will adjust to take account of this effect.

(iii) **Proposal to increase the equity dividend by \$10 million**

This proposal is the extreme alternative to the previous one: a large dividend is paid immediately but future dividends cannot be as large as if the loan were repaid; hence there will be no increase in 'ex div' share price.

Views of shareholders

This proposal will be preferred by those shareholders who want a **large immediate cash distribution** and will not suffer any adverse tax consequences if it is received as a dividend. Such shareholders are often tax-exempt institutions. However, higher rate tax payers may regard the increased dividend as very unwelcome if they were looking for share price growth rather than a taxed dividend. These shareholders may sell their shares, assuming that the company had changed its dividend policy to one of high taxable dividend payouts.

Taxation

If the loan is not repaid, the advantage of the **tax shield** from loan interest is retained.

Dividend signalling

The main problem with the proposed increase in dividend is that it is **very large** in percentage terms (a 238% increase). Unless the reasons for the increase are carefully explained to the market, the wrong signals can be picked up. Some shareholders may assume that dividends in **future years** will continue to increase at the same rate, whereas others may assume the company has run out of investment ideas and is signalling an end to growth. It is best to avoid confusion of this sort, as it can have an adverse effect on the share price. Companies wishing to pay large increases in cash to shareholders have avoided this confusion either by announcing 'one-off' **special dividends** or by making **share buy-backs**.

Dividend management

Most finance directors tend to believe that dividend policy should be **managed** in such a way that dividends show a **steady rate of increase** over time, rather than just being a residual balancing figure after investment and financing decisions have been made. This positive management of dividend policy is said to increase investor confidence, though the matter is far from proved.

(iv) **Making the choice**

As stated at the outset, the choice is not a simple alternative between paying a \$10 million dividend and repaying the \$10 million loan. There are several alternatives which must be discussed carefully, each of which could merit a report longer than this one. The end result is likely to be a combination of several applications for the money. We cannot at this stage, therefore, make any recommendations.

Question 2

Text references. Working capital management is covered in Chapters 4, 5 and 6.

Top tips. In (a)(i) it is helpful to explain the components of working capital and their inter-relationships linking working capital with cash.

In (a)(ii) you should consider not only the direct costs and dangers of reliance on trade credit, but also some of the potential dangers that it entails in terms of threat to supplies of goods and the potential to obtain credit from new suppliers in the future.

It is possible to have negative working capital, so don't get distracted in (b) and make the mistake of adding payables to the other elements of working capital. The question leads you through what you have to do, and you shouldn't assume that there will be a significant change in every figure. The twist comes at the end with the increased capital gearing. Make sure you use the right figures in the calculation, distinguishing between the **changes** in figures (the extra interest charge for example) and the new totals.

Your discussion needs to stress that the gearing deterioration outweighs significantly any potential benefits. However as the company seems to be in good shape, its chances of obtaining long-term loan finance (and thus having a better **match** of funds) appear to be good.

In (c) the key elements are contribution and cost of receivables.

Marking scheme

		Marks
(a)	Up to 2 marks for each point	8
(b)	Working capital cycle	2
	Interest cover	2
	Profits after tax	2
	Earnings per share	2
	Return on equity	2
	Capital gearing	<u>2</u>
		12
(c)	Calculation	4
	Explanation	<u>1</u>
		<u>5</u>
		<u>25</u>

(a) (i) **Working capital**

The net working capital of a business can be defined as its current assets less its current liabilities. The management of working capital is concerned with ensuring that **sufficient liquid resources** are maintained within the business. For the majority of businesses, particularly manufacturing businesses, trade payables will form the major part of the current liabilities figure, and will be a significant element in the make-up of the working capital balance.

Trade credit period

It follows that the trade credit period taken will be a major determinant of the working capital requirement of the company. This is calculated (in days) as the total value of trade payables divided by the level of credit purchases times 365. The actual length of the period will depend partly on the credit terms offered by suppliers and partly on the decisions made by the company. For example, the company may choose to negotiate longer terms with its suppliers although this may be at the expense of any available settlement discounts.

Working capital cycle

The longer the payable days, the shorter the working capital cycle. This can be defined as the receivable days plus the inventory holding days less the payable days.

(ii) For many firms, trade payables provide a very important source of short-term credit. Since very few companies currently impose interest charges on overdue accounts, taking extended credit can appear to be a very cheap form of short-term finance. However, such a policy entails some risks and costs that are not immediately apparent, as follows.

- (1) If discounts are being forgone, the **effective cost** of this should be evaluated – it may be more beneficial to shorten the credit period and take the discounts.
- (2) If the company gains a reputation for slow payment this will **damage its credit references** and it may find it difficult to obtain credit from new suppliers in the future.
- (3) Suppliers who are having to wait for their money may seek recompense in other ways, for example by raising prices or by placing a lower priority on new orders. Such actions could do **damage** to both the **efficiency and profitability** of the company.

- (4) Suppliers may place the company 'on stop' until the account is paid. This can jeopardise supplies of essential raw materials which in turn could cause production to stop: this will obviously provide the company with a high level of unwanted costs.

(b) **Working capital cycle**

Receivable days:	$\$0.4\text{m} \times 365/\10m	14.6 days
Inventory holding days:	$\$0.7\text{m} \times 365/(\$10\text{m} - \$2\text{m})$	31.9 days
Payable days:	$\$1.5\text{m} \times 365/(\$10\text{m} - \$2\text{m})$	68.4 days
Working capital cycle		(21.9 days)

This is a remarkably short working capital cycle which suggests that Keswick is unusually efficient in its management of working capital. The effect of the proposal by the supplier would be to reduce the payable period for 50% of the purchases from 68.4 days to 15 days. The new payable days figure would therefore fall to:

$$(68.4 \times 50\%) + (15 \times 50\%) = 41.7 \text{ days}$$

The working capital cycle will therefore rise to:

$$14.6 + 31.9 - 41.7 = 4.8 \text{ days}$$

Interest coverage

Interest coverage can be defined as EBIT (earnings before interest and tax) divided by annual interest payments. The current figure for Keswick is four times ($\$2.0\text{m}/\0.5m) which for the majority of companies would be quite reasonable. The effect of the proposal made by the supplier will be to reduce the cost of sales, and therefore increase EBIT, but at the same time increase the level of interest since the company will have to finance the reduction in the working capital cycle. These elements can be calculated as follows.

$$\text{Improvement in EBIT} = ((\$10\text{m} - \$2\text{m}) \times 50\%) \times 5\% = \$0.2\text{m}$$

The net advanced payment to the supplier will be:

$$((\$10\text{m} - \$2\text{m}) \times 50\%) - \text{discount } (\$0.2\text{m}) = \$3.8\text{m}.$$

This must be financed for an additional 53.4 days ($68.4 - 15$). If this is financed using the overdraft, the interest rate to be paid will be 12%, generating additional interest of $\$3.8\text{m} \times 12\% \times 53.4/365 = \$66,700$.

The interest coverage now becomes:

$$(\$2.0\text{m} + \$0.2\text{m})/(\$0.5\text{m} + \$0.0667\text{m}) = 3.88 \text{ times}$$

This represents only a very small reduction in the interest coverage.

Profits after tax

These will change as follows.

	Before	After
	\$'000	\$'000
Earnings before interest and tax	2,000	2,200
Interest	(500)	(566)
Taxable profit	1,500	1,634
Tax at 30%	450	490
Profit after tax	<u>1,050</u>	<u>1,144</u>

The proposal should give a small improvement in post-tax profit.

Earnings per share

Earnings attributable to equity have been calculated above (the profit after tax figure). The number of shares in issue is 4m ($\$1\text{m}/25\text{c}$).

Existing EPS:	$\$1.050\text{m}/4\text{m}$	=	26.3 cents
Projected EPS:	$\$1.144\text{m}/4\text{m}$	=	28.6 cents

Thus, the EPS is also likely to improve if the proposals are adopted.

Return on equity

Return on shareholders' funds is calculated as profit attributable to equity divided by shareholders' funds. (\$2m):

Existing:	\$1.050m/\$2m	=	52.5%
Projected:	\$1.144m/\$2m	=	57.2%

The return on equity will also rise if the proposals are adopted.

Capital gearing

Capital gearing is defined as prior charge capital (in this case the bank overdraft of \$3m) divided by shareholders' funds (\$2m). The existing level of gearing is therefore 150% (\$3m/\$2m).

If the proposals are adopted, the average level of the overdraft will rise by $\$3.8m \times 53.4/365 = \$556,000$. The gearing level will therefore increase to 178% (\$3.556m/\$2m).

Summary

In summary, the effect of the proposal would be to give a **slight increase** in the **profitability** of Keswick, as measured by profit after tax, earnings per share and return on equity, but this would be at the expense of a **small reduction** in the **interest coverage**, a **lengthening** of the **working capital cycle**, and a significant increase in the level of **capital gearing**. It is this final item that gives the greatest cause for concern – to have such a high gearing level based totally on overdraft finance which is repayable on demand is a very dangerous position to be in. It is suggested that Keswick should either attempt to renegotiate its terms with the supplier to give a longer credit period than that being proposed, or alternatively seek to restructure its debt and to convert at least a part of the overdraft into more secure long-term borrowings.

(c) Effect on profit levels

The calculations show that the savings in financing costs resulting from a reduction in the credit period are more than outweighed by the associated **loss of contribution**. However, extending the credit period should increase the level of profits. The calculations also do not take into account the effect of the change in policy on the level of bad debts which could be expected to increase if the credit period is extended. An evaluation of this should be undertaken before any decisions are made.

Effect on profit levels of changing the credit period

	Credit period		
	50 days	40 days	60 days
	\$	\$	\$
Turnover	420,000	350,000	520,000
Average receivables	57,534	38,356	85,479
Contribution (22%)	92,400	77,000	114,400
Cost of receivables (12%)	(6,904)	(4,603)	(10,257)
Profit	85,496	72,397	104,143
Increase/(decrease)	–	(13,099)	18,647

Question 3

Text references. Leasing is covered in Chapter 11.

Top tips. Ownership and cash flow patterns are important issues in (a). In (b) you need to read the question carefully to understand the distinction between the two parties and their roles. The clearest way to do the calculations in (c) is to lay the figures for each option out in tabular form and then calculate the NPVs of the options at the after tax cost of finance. However, since many of the figures stay constant for a number of years, a shorter approach would be to use annuity values.

Marking scheme

		Marks
(a)	Up to 2 marks for each explanation	6
(b)	Calculation of minimum rental	6
(c)	Lease or buy calculation	6
	Effect of maintenance savings	<u>3</u>
(d)	1 mark for each factor	9
		<u>4</u>
		<u>25</u>

(a) (i) **Sale and leaseback**

Sale and leaseback is an arrangement which is **similar to mortgaging**. A business which already owns an asset, for example a building or an item of equipment, agrees to sell the asset to a financial institution and then immediately to lease it back on terms specified in the agreement. The business has the **benefit of the funds from the sale** while retaining use of the asset, in return for regular payments to the financial institution.

Benefits of sale and leaseback

The principal benefit is that the company gains **immediate access to liquid funds**; however this is at the expense of the ability to profit from any capital appreciation (potentially significant in the case of property), and the capacity to borrow elsewhere may be reduced since the balance sheet value of assets will fall.

(ii) **Hire purchase**

Hire purchase (HP) is a form of **instalment credit** whereby the business purchases goods on credit and pays for them by instalments. The periodic payments include both an **interest element** on the initial price and a **capital repayment element**. The mechanics of the transaction are as follows.

- (1) The **supplier** of the asset **sells** it to a **finance house**.
- (2) The **supplier** of the asset **delivers** it to the **customer** who will be the user and the eventual owner.
- (3) The hire purchase agreement is made between the **finance house** and the **customer**.

Benefits of hire purchase

At the end of the period, ownership of the asset passes to the user, who is also able to claim capital allowances on the basic purchase cost of the asset.

(iii) **Finance leases**

Finance leases are similar to HP contracts in that the asset is sold not to the user but to an intermediary who then leases the asset to the user in return for periodic payments. However, unlike with HP, **ownership** of the asset does not transfer to the user at the end of the lease period, but is retained by the purchaser. The **purchaser** (not the user) can **claim tax depreciation**, which may be passed on to the user in the form of a reduction in the periodic payments. A further difference is that although the user does not own the asset, entries **appear** in the **user's balance sheet** and income statement to reflect the capital element of the lease, the interest element of the payments, and the remaining lease commitment. This is to ensure that all forms of long-term debt are fully reflected in the balance sheet.

Primary and secondary periods

Many finance leases are structured into a '**primary period**' which covers the major part of the economic life of the asset, and a '**secondary period**' during which the user continues to lease the asset, but at a much lower (often only nominal) rate.

(b) **Cost to Howgill**

The cost to Howgill will be the purchase cost of the asset, less the present value of the tax allowable depreciation. Since there is no incremental cost to Howgill in providing the computer maintenance, the cost of this will be excluded from the calculations. The cash flows will be discounted at the after tax cost of borrowing: $14.5\% \times (1 - 0.3) = 10\%$ approx. The present value of the net-of-tax tax depreciation can now be found.

Year	0	1	2	3	4	5
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
WDV at start of year	20,000	15,000	11,250	8,437	6,328	
WDV at end of year	15,000	11,250	8,437	6,328	—	
Depreciation	5,000	3,750	2,813	2,109	6,328	
30% tax saving on depreciation		1,500	1,125	844	633	1,898
Discount factor at 10%		0.909	0.826	0.751	0.683	0.621
PV of tax savings		1,364	929	634	432	1,178

Thus the NPV of the tax savings over the period is **\$4,537,000**, say \$4.5m approximately. Since the NPV of the tax savings amount to \$4.5m, the effective net-of-tax cost of the machinery is **\$15.5m** (\$20m – \$4.5m). Therefore for Howgill to break even, the present value of the after tax rental income must be at least \$15.5m. The structure of the cash flows to Howgill will be as follows (R = annual pre-tax rental income).

Year	0	1	2	3	4
Income	R	R	R	R	
Tax		0.3R	0.3R	0.3R	0.3R
Post tax income	R	0.7R	0.7R	0.7R	(0.3R)
10% discount factor	1.0	0.909	0.826	0.751	0.683
PV of income	R	0.636R	0.578R	0.526R	(0.205R)

NPV of after tax rental income = 2.535R

To break even: $2.535R = \$15.5m^*$

$$R = \$6.11m$$

Thus the minimum annual rental required for Howgill to break even is \$6,110,000 per annum.

(c) (i) **Lease or buy**

The approach is to calculate the net of tax present value of the two options available to Clint. The discount rate to be used will be the cost of borrowing net of tax. $17.5\% \times (1 - 0.3) =$ approximately 12%.

Purchasing outright

Year	0	1	2	3	4	5
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Initial outlay	20,000					
Tax savings on depreciation (above)		1,500	1,125	844	633	1,898
Net cash flow	(20,000)	1,500	1,125	844	633	1,898
Discount factor at 12%	1.000	0.893	0.797	0.712	0.636	0.567
PV of cash flow	(20,000)	1,340	897	601	403	1,076

Thus the NPV cost of purchasing outright is \$15,683,000.

Leasing

Year	0	1	2	3	4
	\$'000	\$'000	\$'000	\$'000	\$'000
Annual rental	(7,000)	(7,000)	(7,000)	(7,000)	
Tax savings (rental \times 30%)		2,100	2,100	2,100	2,100
Net cash flow	(7,000)	(4,900)	(4,900)	(4,900)	2,100
Discount factor at 12%	1.000	0.893	0.797	0.712	0.636
PV of cash flow	(7,000)	(4,376)	(3,905)	(3,489)	1,336

Thus the NPV cost of leasing is **\$17,434,000**. This is \$1,751,000 more than the NPV cost of direct purchase over the life of the equipment, and direct purchase therefore appears more attractive on financial grounds.

(ii) **Effect of additional maintenance costs**

The cost of purchase can be re-evaluated to take into account the additional maintenance costs that would be incurred of \$750,000 per year. These costs are assumed to start in year 1, with the associated tax saving coming through in the subsequent year.

Year	0	1	2	3	4	5
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Initial outlay	(20,000)					
Tax savings on depreciation (above)		1,500	1,125	844	633	1,898
Maintenance costs		(750)	(750)	(750)	(750)	
Tax saving			225	225	225	225
Net cash flow	(20,000)	750	600	319	108	2,123
Discount factor at 12%	1.000	0.893	0.797	0.712	0.636	0.567
PV of cash flow	(20,000)	670	478	227	69	1,204

If the maintenance costs are taken into account, the NPV cost of purchase rises to **\$17,352,000**, which is slightly less (by \$30,000) than the cost of leasing. Although the decision is not reversed, the relative costs are marginal, and other factors should also be considered, for instance the reliability and availability of the different maintenance options.

(d) **Non-financial factors influencing the decision**

- (i) The purchase option involves **three separate decisions** covering acquisition of the asset, financing and maintenance. The lease is one contract covering all three aspects and this is less risky.
- (ii) The **flexibility** of the arrangements, for example the ability to exchange the asset after one or two years if technology changes.
- (iii) The manner in which the **transactions are shown** in the company's accounts, for example whether asset on contract hire is capitalised.
- (iv) If the asset is leased, the company does **not** have to **worry** about **the risks** involved in eventually selling it.

Question 4

Text references. Sources of finance are covered in Chapter 12, business valuations in Chapter 17.

Top tips. This question tests your knowledge of the theory surrounding rights issues and convertibles.

Part (a) (i) involves a simple calculation of share price using EPS and P/E ratios.

When considering in (a)(ii) the likely price following the rights issue, you should take into account stock market factors as well as the performance of the company. Does the market view the company rationally? Is the company competing for funds?

Don't forget in (a) (iii) that shares can never be issued below their nominal value; you need to mention this as it does limit the discounts on deep discounted issues.

In (b) (i) you are after a figure for how much loan notes you will need to purchase a single share on conversion.

(b) (ii) is a very good summary of the factors you should take into account when considering any new source of finance. One thing that will concern the business is how likely it is to obtain the funds it seeks, so don't forget to look at things from the finance provider's viewpoint.

The dividend valuation model is at the heart of the answer to (b) (iii).

Marking scheme

			Marks
(a)	(i)	Calculation of market value	2
	(ii)	Calculation of TERP	3
		Explanation of factors	<u>3</u>
			6
(iii)		Explanation of deep-discounted rights issue	1
		Reasons for use	<u>2</u>
			3
(b)	(i)	Explanation	2
		Calculation	<u>2</u>
			4
	(ii)	1 mark per advantage	5
	(iii)	Explanation	<u>5</u>
			<u>25</u>

- (a) (i) The **current market price** can be found by multiplying the earnings per share (EPS) by the price/earnings (P/E) ratio.
- EPS is \$1.2m/6m = 20 cents per share
P/E ratio is 12
Market price of shares is $12 \times 20c = \mathbf{\$2.40 \text{ per share}}$
- (ii) In order to raise \$5,040,000 at a price of 192 cents, the company will need to issue an additional 2,625,000 (\$5,040,000/\$1.92) shares.

Following the investment, the total number of shares in issue will be 8,625,000 (6,000,000 + 2,625,000).

At this point, the total value of the company will be:

$$(6m \times \$2.40) + \$5,040,000 = \$19,440,000$$

The **theoretical ex-rights price** will therefore be $\$19.44m/8.625m = \mathbf{\$2.25}$.

Alternative solution

Theoretical ex-rights price

$$= \frac{1}{N+1} ((N + \text{cum rights price}) + \text{issue price})$$

$$= \frac{1}{\left(\frac{6,000}{2,625}\right) + 1} + \left(\left(\frac{6,000}{2,625} \times 2.40 \right) + 1.92 \right)$$

$$= \$2.25$$

Problems with calculations

- (1) The **costs of arranging the issue** have not been included in the calculations.
- (2) The **market view** of the **quality of the new investment** will affect the actual price of the company's shares.
- (3) If the **issue is not fully subscribed** and a significant number of shares remain with the underwriters, this will **depress the share price**.
- (4) The effect of the new investment on the **risk profile** of the company and the expected **future dividend stream** could also cause the share price to differ from that predicted.

- (5) The price of the shares depends not only on the financial performance of the company, but also on the **overall level of demand** in the stock market. If the market moves significantly following the announcement of the issue, this will affect the actual price at which the shares are traded.

(iii) **Features of deep discounted rights issue**

In a **deep-discounted** rights issue, the new shares are priced at a **large discount** to the current market price of the shares. The purpose of this is to ensure that the issue is well subscribed and that shares are not left with the underwriters, and thus this form of issue pricing is attractive when the stock market is particularly volatile. However, the shares cannot be issued at a price which is below their nominal value.

Disadvantage of deep discounted rights issue

The main drawback to this approach is that a **larger number of shares** will need to be **issued** in order to raise the required amount of finance, and this will lead to a larger dilution of earnings per share and dividends per share.

(b) (i) **Conversion premium**

The **conversion premium** is the **difference** between the **issue value** of the **notes** and the **conversion value** as at the date of issue. In other words it is the measure of the additional expense involved in buying shares via the convertible notes as compared with buying the shares on the open market immediately.

In this case, \$100 loan notes can be converted into 35 ordinary shares. The **effective price** of these shares is therefore \$2.86 (\$100/35) per share.

The **current market price** of the shares is \$2.40. The **conversion premium** is therefore \$2.86 – \$2.40 = **46 cents**. This can also be expressed in percentage terms as **19%** (0.46/2.40).

(ii) **Advantages of issuing convertible loan notes**

- (1) **Convertibles** should be **cheaper than equity** because they offer greater security to the investor. This may make them particularly attractive in fast growing but high-risk companies.
- (2) **Issue costs** are **lower** for loan stock than for equity.
- (3) **Interest** on the **loan notes** is **tax deductible**, unlike dividends on ordinary shares.
- (4) There is **no immediate change** in the **existing structure** of control, although this will change over time as conversion rights are exercised.
- (5) There is no **immediate dilution** in **earnings and dividends per share**.

(iii) **Dividend policy**

Dividend policy is one of the major factors which determines the share price. Under the **dividend valuation model**, the share price is held to be directly related both to the current dividend and to the expected future growth in dividends:

$$p_0 = \frac{d_0(1+g)}{(k_e - g)}$$

where: p_0 = market price of shares
 d_0 = current level of dividend
 k_e = required rate of return
 g = growth in dividend

Impact of dividend growth

Thus it can be seen that dividend growth is important in determining the likely market value of the shares. As has already been discussed above, the market value of the shares is very important in determining the price of convertibles, and therefore the dividend policy of the company will have an important effect on the value of convertible notes.