Answers

Diploma in Financial Management Examination – Module B
Paper DB1 incorporating subject areas: Financial Strategy; Risk Management   June 2006 Answers

Section A

1   C   Loan capital is normally the least expensive source of long-term finance. Returns to the lender are paid before the returns to preference shareholders and ordinary shareholders and security for the loan is usually provided. This results in lower risk. In addition, loan interest is an allowable expense for taxation purposes. Ordinary shares are usually the most expensive as returns are paid after all other claims and no security is offered to shareholders. Preference shareholders are offered a fixed rate of return when profits are available for dividend and are paid before ordinary shareholders. The cost of preference shares lies somewhere between the cost of loan capital and ordinary share capital.

2   C   Statement 1 is incorrect. Only a bonus issue converts reserves into ordinary share capital.
Statement 2 is correct. Rights shares are offered to existing shareholders and a placing involves an offer of shares to selected investors.

3   D   The IRR will be unaffected by the change in the cost of capital as it is used as a benchmark rather than part of the IRR calculation. The discounted payback method will be affected. A lower cost of capital will result in a decrease in the payback period as discounted cash flows will be higher.

4   A   Dividend per share   = EPS x Dividend payout ratio
                  = 25p x 0·60
                  = <u>15p</u>

Share price   = EPS x P/E ratio
                  = 25p x 20
                  = <u>500p</u>

Dividend yield   = (DPS/MV of share) x 100%
                  = (15/500) x 100%
                  = 3·0%

Option B calculates the share price as follows:
Share price   = DPS x P/E ratio
                  = 15p x 20
                  = <u>300p</u>

Dividend yield   = DPS/Market value of share
                  = (15p/300p) x 100%
                  = <u>5%</u>

Option C calculates the DPS incorrectly.
Dividend per share   = EPS/Dividend payout ratio
                  = 25p/0·60
                  = <u>41·67p</u>

Share price   = EPS x P/E ratio
                  = 25p x 20
                  = <u>500p</u>

Dividend yield   = (DPS/MV of share) x 100%
                  = (41·67/500) x 100%
                  = <u>8·3%</u>

Option D calculates the dividend yield as follows:
Dividend per share   = EPS x Dividend payout ratio
                  = 25p x 0.60
                  = <u>15p</u>

Dividend yield   = DPS/Par value of share
                  = (15p/100p) x 100%
                  = <u>15%</u>

5 C   Share price   = £160m/40m
                                           = £4·00

Dividend per share   = [{(£20m x 1·4)/2·5}/40m]
                                           = 28p

Expected return   = (28/400) + 0.06
                                         = 13·00%

Option A uses the dividend growth formula incorrectly
Expected return   = (28/400) + 6
                                         = 6·07%

Option B uses the current year profits and dividends.
Share price   = £160m/40m
                                           = £4·00

Dividend per share   = [(£20m/2·5)/40m]
                                           = 20p

Expected return   = (20/400) + 0·06
                                         = 11·00%

Option D also uses the dividend growth formula incorrectly, by dividing the market capitalisation of £160 million by 20 million (40m x 0·50).
Expected return   = (0·28/8·00) + 0·06)
                                         = 9·50%

6 C   Investors will receive, in present value terms, £8 x 0·91 + £8 x 0·83 + £110 x 0·83. The value of the bonds is, therefore £105·22.
Option A uses the present value of the nominal value of the bonds (£100 x 0·83) = £83·00
Option B uses present value of the redemption value of the bonds (£110 x 0·83) = £91·30
Option D uses the undiscounted values (£8 + £8 + £110) = £126·00

7 D   Both statements are incorrect. Statement 1 refers to allocative efficiency and Statement 2 refers to operational efficiency. EMH is concerned with information-processing efficiency.

8 C   The total annual cost is [(80,000/1,600) x £12] + [{10,000 + (1,600/2)} x £6] = £65,400
Option A ignores the cost of holding buffer stock [(80,000/1,600) x £12] + [(1,600/2) x £6] = £5,400
Option B ignores the buffer stock and fails to take an average figure for the number of units in stock (exc. buffer stock)
[(80,000/1,600) x £12] + [1,600 x £6] = £10,200
Option D does not take an average figure for the number of units in stock (exc. buffer stock)
[(80,000/1,600) x £12] + [(10,000 + 1,600) x £6] = £70,200

9 D   Statement 1 is incorrect. An invoice discounter has no contact with the client's customers. Statement 2 is incorrect. A bank bill is one that is accepted on a customer's behalf. It is a trade bill that may be discounted. Statements 3 and 4 are correct.

10 A

	£
Original share (4 x £6·00)	24·00
Rights share (£6·00 x 0·60)	3·60
	27·60
Ex-rights price (£27·60/5)	5·52
Cost of acquiring rights share	3·60
	1·92
Value of rights per original share (£1·92/4)	0·48

Option B is the original share price (£6·00) less rights price (£3·60) divided by original number of shares held.
Option C is the ex-rights price (£5·52) divided by the number of original shares (4).
Option D is the total value of the rights.

11 A Option A is correct as it offers the business the opportunity to sell euros that will be received in the future at a predetermined rate. Option B is inappropriate as it involves buying euros in the future. It would be appropriate if payment in euros was required. Option C does not hedge against currency movements. Option D would be appropriate if payment in euros was required.

12 C Using CAPM, the expected return for the equity shareholders is: $6\% + [1{\cdot}5\,(10\% - 6\%)] = 12{\cdot}0\%$
Using the dividend (no growth) valuation model, the predicted market value of a share is:

$P_0 \quad = D_1/K_0$

$\qquad = \dfrac{40p}{0{\cdot}12}$

$\qquad = \underline{333{\cdot}3}$ pence

Option A uses an incorrect CAPM formula
$6\% + [1{\cdot}5\,(10\%)] = 21{\cdot}0\%$
The predicted market value of the share is:

$\qquad = \dfrac{40{\cdot}0}{0{\cdot}21}$

$\qquad = \underline{190{\cdot}5}$ pence

Option B multiplies the beta by the current market rate of return to obtain the expected return. $1{\cdot}5 \times 10{\cdot}0\% = 15{\cdot}0\%$
The predicted market value of the share is:

$\qquad = \dfrac{40p}{0{\cdot}15}$

$\qquad = \underline{266{\cdot}7}$ pence

Option D uses an incorrect approach to valuation. It multiplies the dividend by the rate of return.
The predicted market value of the share is:

$\qquad = 40p \times 12$

$\qquad = \underline{480}$ pence

13 A The question asked for the effect on cost of EQUITY

14 C The put option would be exercised. As the strike price is lower than the spot rate, it would be better to sell dollars at this lower rate. The call option should be allowed to lapse. As the market price is below the strike price, it would be better to buy the shares at the market price.

15 A Both statements are correct. [The intrinsic value of a call option is the higher of
(i) the market price of the underlying item minus the exercise price and (ii) zero)].

16 B All of the hedging methods are designed to hedge against transaction risk. Hence, only the first pairing is correct.

17 B A remuneration committee for a large listed business should comprise at least three members, all of which should be independent non-executive directors.

18 C Beta value (= x)
[4·0 + x (12·0 – 4·0)] = (15·2 – 1·6)
                              = <u>1·2</u>
Option A uses the incorrect CAPM formula
Beta value
[4·0 + x (12·0 + 4·0)] = (15·2 – 1·6)
                              = <u>0·6</u>
Option B uses the incorrect CAPM formula and adds the alpha factor to the actual return.
[4·0 + x (12·0 + 4·0)] = (15·2 + 1·6)
                              = <u>0·8</u>
Option D adds the alpha factor to the expected return
Beta value
[4·0 + x (12·0 – 4·0)] = (15·2 + 1·6)
                              = <u>1·6</u>

19 C Future contracts are standardised and can be sold on an exchange. A short position can be sold by buying contracts, a long position can be closed by selling contracts.

20 B The Stock Exchange adopts a comply-or-explain approach to enforcing the Combined Code.

Section B

1 (a) Incremental cash flows

Year	0	1	2	3	4
	£000	£000	£000	£000	£000
Sales		720	720	720	540
Sale of machinery	(420)				86
Working capital	(120)				120
Variable costs		(270)	(270)	(270)	(270)
Fixed costs		(215)	(215)	(215)	(215)
	(540)	235	235	235	261

(b) (i) Net present value

Year	0	1	2	3	4
	£000	£000	£000	£000	£000
Incremental cash flows	(540)	235	235	235	261
Discount rate 10%	1·00	0·91	0·83	0·75	0·68
Present value	(540·0)	213·9	195·1	176·3	177·5
NPV	222·8				

(ii) Discounted payback

Year	0	1	2	3	4
	£000	£000	£000	£000	£000
Present value	(540·0)	213·9	195·1	176·3	177·5
Cumulative cash flows	(540·0)	(326·1)	(131·0)	45·3	222·8
Discounted payback	Between 2 and 3 years				

(c) The NPV method of investment appraisal takes into consideration all relevant cash flows relating to a project and discounts these cash flows to take account of both risk and the time value of money. It is conceptually sound and entirely consistent with the stated mission of the business, which is to maximise the wealth of its shareholders. The discounted payback period also discounts cash flows but ignores cash flows beyond the payback period. It is a 'break-even' approach to appraising investment that is not consistent with the maximisation of shareholder wealth.

Using more than one method for appraising an investment opportunity runs the risk of producing conflicting signals. In this case, the NPV is positive and so the decision rule is that the investment project should be accepted. The discounted payback, however, is longer than the period required by the business and so the decision rule is that the investment project should be rejected.

Given that the NPV method is consistent with the stated objective of the business and that the discounted payback method is not, the NPV method should be regarded as the primary method of appraisal. Thus, the NPV decision rule should prevail and the investment should be accepted.

2 (a) Earnings per share (EPS) of Coriolis plc

EPS = £114m/120m
= £0·95

Current market value = P/E ratio x EPS
= 10 x £0·95
= £9·50

Offer price = [£9·50 + 20% (£9·50)]
= £11·40

(b) Earnings per share (EPS) of Orsted plc

EPS = £304m/400m
= £0·76

Current market value per share of Orsted plc:
= P/E ratio x EPS
= 30 x £0·76
= £22·80

Number of shares to be issued by Orsted plc for 1 share in Coriolis plc
= £11·40/£22·80
= 0·5

Orsted plc will offer 1 share for every 2 shares held in Coriolis plc. Thus, (120m/2) = 60m new shares must be issued.

(c) Net profit after tax following a successful takeover will be:

	£m
Profit after tax of Orsted plc	304·0
Profit after tax of Coriolis plc	114·0
Savings after tax	32·0
	450·0

Number of shares in issue following
takeover (400m + 60m)   = 460m
EPS following takeover   = £450m/460m
   = £0·98
Market value per share   = P/E ratio x EPS
   = {[30·0 – 30% (30·0)] x £0·98}
   = £20·58

(d) Four defensive tactics that may be employed are as follows:

Circulating shareholders: The directors of the target company may try and convince the shareholders that the bid price is too low and/or not in their long-term interests. It may also not be in the interest of the shareholders of Orsted plc as it reduces the present value of their investment. New information relating to future profits, asset valuations, contracts won and so on may be divulged to support the arguments made. Higher dividend payouts may also be announced to demonstrate the directors' confidence in the future.

White knight: Another company (a white knight) that is more acceptable to the directors and shareholders of Coriolis plc may be found to acquire the company. This option, however, is usually a last resort as it also leads to a loss of independence.

Poison pill: Action may be taken (a poison pill) that will make Coriolis plc less attractive to Orsted plc. This may involve selling off valuable assets, providing high compensation payments to directors for loss of office and so on. Alternatively, certain assets may be acquired that would make the company less attractive as a takeover target.

Referral to Competition Commission: If there is a risk that the takeover will result in a substantial loss of competition within the industry, Coriolis plc may lobby to have the proposed bid referred to the Competition Commission. The deliberations of the Competition Commission can be time consuming and may result in a rejection of the proposed bid. Faced with these problems, Orsted plc may be encouraged to withdraw the bid.

When deciding on appropriate defensive action the directors of Orsted plc must stay within the legal limits allowed and comply with the City Code.
(*Examiner's note*: Other tactics may have been identified in order to answer this part of the question.)

3 (a) The main elements of credit policy are as follows:
Credit period
A business must decide on the credit period that should be allowed to customers. This will be influenced by a variety of factors including industry practice, the relative bargaining power of the business and its customers and the marketing policies adopted by the business and by its competitors. The credit period must be made clear to all credit customers to avoid problems arising at a later stage.

Assessing creditworthiness
A business must decide which customers should receive credit and the amount of credit that individual customers should receive. To help decide how much credit a new customer should receive, appropriate credit checks should be carried out. (A credit-rating system, based on relevant characteristics of the customer, may be helpful in determining an appropriate credit limit.) The track record of existing customers may be used as a guide to assessing future credit limits.

Cash discounts
Cash discounts are usually offered to customers to encourage prompt payment. They can be an expensive form of incentive and may not always be successful in achieving their aims. Sometimes, a customer may take the cash discount even though the amount owing is not paid within the agreed period. As a result, some businesses have ceased to offer cash discounts and may use other forms of incentive, such as end-of-period credits for customers that have adhered to agreed credit periods during a particular period.

Collection policy
An efficient system for collecting outstanding debts is vitally important. A central feature of an efficient system is efficient accounting procedures, which ensure that invoices are sent out promptly and statements and reminders are sent at appropriate intervals. Accounting procedures should also include the regular production of key management reports, such as ageing schedules of debts, to help monitor and control the level of debtors. Overdue accounts must be dealt with in accordance with a clear policy. There should be effective procedures in place to chase poor payers and to impose penalties, such as the withdrawal of future credit, where appropriate.

(b) A small business may not have the resources to devote to the proper management of debtors. Futhermore, staff may not have the required training. As a result various problems may arise including a failure to:

–   undertake proper credit checks;
–   invoice promptly;
–   send out statements and reminders; and
–   chase overdue accounts.

Where a small business relies on the custom of large businesses, it is often in a weak bargaining position and so may feel unable to impose penalties for slow payment for fear of retaliation.

(c) The main sources of information that can be used to assess the creditworthiness of a customer are:

Bank references
A bank may provide a reference for a customer concerning its financial standing. This type of reference, however, is not always informative as a bank is usually reluctant to undermine further the position of a customer in financial difficulties by providing a poor reference.

Trade references
Other suppliers with which the customer conducts business may be prepared to provide a reference. This type of reference can be very useful providing the suppliers approached are a representative sample of the suppliers of the business as a whole. Sometimes suppliers are reluctant to provide a reference if they feel there is a risk of losing a good customer to a competitor business.

Financial statements
The past financial statements of a business may be obtained direct from the business or, in the case of limited companies, from the Registrar of Companies. The published financial statement may not always, however be as up to date as required. Where the amount of credit required is substantial and/or where the customer seems to be a fairly high risk, the supplier may also want to see future plans and budgets to help assess the ability to pay.

Credit managers
In some industries, an informal network of relationships between credit managers of different businesses have evolved that can be used to check on the creditworthiness of new customers. Once again, however, information may not be forthcoming if other credit managers believe that there is a risk of losing a good customer.

Credit agencies/credit insurers
Credit agencies offer a range of information concerning the creditworthiness of businesses. The amount of information provided may vary according to particular requirements and to the amount that a business is prepared to pay. Credit agencies and credit insurers gather information from published sources such as financial statements, newspaper reports and court judgements, as a well as from unpublished sources such as the payment record of the company with other suppliers.

Visits and interviews
Visits to the premises of the customer and interviews with senior managers may be helpful in gaining an impression of the resources of the business and the integrity of its senior managers. However, where visits are undertaken by sales staff, there is a risk that reports may be biased to ensure that sales are made to the customer.
(*Examiner's note*: Other answers to each part of this question may have been acceptable.)

Section C

4 **(a)** The company is changing its strategic direction by investing in a new type of business, the provision of software solutions to retailers. This new business cannot be assumed to have the same level of risk as that associated with the existing business. As a result, it is appropriate to review the weighted average cost of capital as this will be affected by changes in the level of risk.

(b) The ungeared beta of Amos plc is calculated as follows:

$$\beta_a = \beta_e [E/E + D (1 - t)]$$

Where:

β_a = asset beta
β_e = equity beta
E = equity proportion within capital structure
D = debt proportion within capital structure
t = corporation tax rate
   = 1·8 [60/{60 + 40 (1 − 0·20)}]
β_a = 1·17

The capital structure of Gurwin plc, based on market values, is as follows:

	£m
Equity	
Ordinary shares 500m x £4·80	2,400
Loan capital	
Debentures £1,000m x 120/100	1,200
Bank loan	300
	1,500

Using CAPM, the ungeared cost of equity will be:

$$K_e = r_f + [E(r_m) - r_f] \beta_j$$

Where:

K_e = expected return to equity
r_f = risk-free rate of return
$E(r_m)$ = the expected return from the market as a whole
β_j = the ungeared beta of Amos plc

K_e = 3·5 + (6·8 − 3·5) 1·17
   = 7·36%

Using MM (with taxes), the WACC will be:

$$WACC_g = K_{eu} \left(1 - \frac{Dt}{E + D} \right)$$

Where:

$WACC_g$ = Weighted average cost of capital to be used as the discount factor
K_{eu} = Cost of equity and weighted average cost of capital of a similar ungeared company
   = 7·36[1 − (1,500 x 0·20)/(2,400 + 1,500)}
   = 6·79%

(c) A number of problems can be identified with the approach used in (b) above, including:

– problems in identifying another business that has similar operating characteristics;

– differences in beta values between businesses that may be caused by differences in size, differences in cost structures etc;

– differences in the growth characteristics between businesses;

– the unrealistic assumption that debt is risk free, leading to an overstatement of financial risk in a geared company and a compensating understatement in business risk.

24

5 (a) The chairman of the board of directors should play an important role in the effective functioning of board meetings. The chairman should create the right conditions for effective decision making by ensuring that:

– board meetings are held with sufficient frequency to deal with all important issues in a timely fashion;

– the agenda and location for each board meeting is appropriate;

– board members receive accurate and timely information to help them in the board deliberations;

– sufficient time is allowed for issues and problems to be properly aired;

– all members of the board have the opportunity to speak at board meetings;

– board discussions focus on strategic, rather than operational issues.

To create an appropriate climate for board meetings, the chairman should try to engender a sense of team spirit and mutual trust among board members. This can help effective communication and good working relationships. However, the chairman should not always seek to avoid conflict. From time to time, conflict can play a creative role by ensuring that issues and problems receive a rigorous examination. To ensure that all board members participate fully in meetings, the development needs of individual directors must be identified and met. An example is the provision of induction courses for new, non-executive directors.

The chairman can also act as an important communication channel for shareholders. This role involves ensuring that shareholders receive relevant and timely communications from the board and that the views of the shareholders are communicated to the board of directors. Finally, the chairman should ensure that the performance of the board as a whole and of individual board members is appraised on a regular basis, at least annually.

(b) The chairman is leader of the board of directors and the chief executive officer is leader of the management team. These are the most powerful roles within a company and by combining them there is a risk that the individual occupying both roles will dominate decision making, which may result in poorer decisions. There is also a risk that the powers vested in both roles will be abused, resulting in excessive 'perks' such as large bonuses, luxury offices, expensive cars and so on. By separating the two roles, there will be a greater check on the powers awarded to a single individual, which should benefit the shareholders.

Where the roles are separated, the relationship between the chairman and the chief executive is vitally important to the proper functioning of the board and the management team. There must be a mutual respect for individual abilities and for the authority and powers awarded to each role. Difficulties often arise because this respect is lacking. A potential problem is that the two roles may overlap. It is not always easy to clearly demarcate the authority and responsibilities of each. A continual discussion of roles and responsibilities is often required to avoid conflict.

Where the chairman previously held the post of chief executive, there is a risk that he or she will continue to become involved in aspects of the former role and interfere with the plans and decisions of the incumbent chief executive. When this relationship is at an early stage, there may also be defensive behaviour on both sides. A newly-appointed chief executive, for example, may have an interest in criticising the decisions made by the former chief executive, who is now chairman. The chairman, however will have an interest in justifying past decisions. This may be a particular problem where the new chief executive has been recruited from outside the company and is anxious to make his or her stamp on the company.
(*Examiner's note*: Other answers to each part of this question may have been acceptable.)

6 (a) The main elements are as follows:
Risk identification The first step is to identify the various forms of risk facing the business. These can include strategic, operational, financial and compliance risks. When identifying these risks a 'top-down' approach may be taken. This involves senior managers identifying the risk using various techniques such as examining past records, brainstorming, interviewing key personnel and so on. As an alternative, or as a supplement, to the 'top-down' approach, a 'bottom-up' approach may be taken. This involves the use of employee focus groups to identify risks, with, perhaps, an external consultant as facilitator.

Risk evaluation Once identified, the implications of each risk for the business should be considered. Risks may be assessed according to their severity of impact and to its frequency of occurrence. It may be helpful to group the risks into 'risk families', according to their severity of loss and frequency, and to plot the results using a risk map. Wherever possible, the impact of risk should be quantified.

Risk management Management must consider how the various risks identified should be managed. Broadly, risks may be:

– accepted as an inevitable feature of the business environment;

– avoided by ceasing the particular actions that cause the risk;

– managed by careful monitoring and by developing appropriate safeguards and checks;

– transferred to a third party by, for example, taking out insurance.

Risk monitoring and controlling Systems should be in place to ensure the regular monitoring and reporting of risks. Where risks are out of control there must be systems to ensure corrective action is taken.

(b) Embedding a risk-based management approach may be achieved in the following ways:
- a clear statement of support for the approach by the board of directors;
- communicating to employees significant risks facing the business;
- dissemination of risk management policy and procedures to employees;
- appropriate training for employees in risk management;
- involving employees in the risk management process.

(c) The main issues that the audit committee should consider when reviewing the risk management systems are whether:
- all significant risks have been identified, evaluated and managed;
- any significant weaknesses or failings in the system have been reported;
- corrective action had been taken to deal with any weaknesses or failings that were reported;
- more extensive monitoring and reporting risks is required;
- there is evidence of ownership of risk.

			Marks

Section B

1	**(a)**	2 marks for each correct line of cash flow table	10
	(b)	2 marks for correct NPV, 2 marks for correct discounted payback	4
	(c)	4 marks discussion of investment criteria in relation to maximisation of wealth objective, 2 marks for decision with correct reason	6
			20

2	**(a)**	**(i)**	1 mark for EPS, 2 marks for current market value	3
		(ii)	1 mark for EPS, 2 marks for current market value, 2 marks for exchange rate	5
		(iii)	1 mark for NPAT, 1 mark for EPS, 2 marks for market value per share	4
	(b)		2 marks per tactic	8
				20

3	**(a)**	2 marks for each main element (max 6 marks)	6
	(b)	3 marks for resources-related problems, 1 mark for bargaining power problems	4
	(c)	2 marks per source (max 10 marks)	10
			20

Section C

4	**(a)**	2 marks for possible change in level of risk	2
	(b)	3 marks for ungeared beta, 3 marks for ungeared cost of equity, 4 marks for WACC	10
	(c)	2 marks for each problem	8
			20

5	**(a)**	1 mark per point (max 6 marks) concerning the conduct of meetings, 2 marks for relationship with shareholders, maximum 4 marks for other points mentioned	12
	(b)	2 marks for why the roles are separated, 2 marks per point (max 6 marks) for problems	8
			20

6	**(a)**	3 marks for each main element (max 11 marks)	11
	(b)	1 mark for each point	5
	(c)	1 mark for each point	4
			20