Instructor's Manual

Financial Management for Decision Makers

Eighth Edition

Peter Atrill

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Companion Website

For open-access **student resources** specifically written to complement this textbook and support your learning, please visit **www.pearsoned.co.uk/atrill**

Lecturer Resources

For password-protected online resources tailored to support the use of this textbook in teaching, please visit **www.pearsoned.co.uk/atrill**

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SECTION A

Author's Note to Tutors

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Author's Note to Tutors

The text is designed to provide readers with a sound introduction to financial management. It assumes no previous knowledge of the subject and recognises that students using the text may come from a wide variety of backgrounds. The text, therefore, tries to avoid technical jargons and does not assume a high level of numerical ability from students. The text has been class tested by students on various courses and I have modified and refined the material to take account of their comments. In writing this eighth edition, I have also taken into account the views of lecturers who have used the text.

The text aims to encourage an active approach to learning by providing activities and self-assessment questions at appropriate points in the text. This is designed to stimulate thought concerning particular issues and to give the reader the opportunity to test his or her understanding of the principles covered. Fully annotated solutions are provided to activities and self-assessment questions in order to give the necessary feedback.

The structure of the text allows the tutor to deliver the subject in a number of ways. The text can be used as recommended reading for a traditional course based on lectures and tutorials. There are review questions and exercises at the end of each chapter, which can be used as the basis for tutorials. Answers to the review questions and to three of the exercises are given at the end of the text, and answers to the remaining exercises are given in this manual for tutors.

The text could also provide the basis for a distance-learning approach for part-time or off-campus students. For these students, the interactive nature of the book may be extremely useful where access to a tutor is restricted. The text can also be used as the basis for an open learning approach for full-time, campus-based students. I have used this method successfully at Plymouth Business School. In this case, the text is supplemented by a students' guide and by relevant articles where appropriate. Accounting surgeries can also be provided to give students the opportunity for one-to-one help with any problems they face.

The text is appropriate for modules that are meant to be covered in 150–200 hours of study. For full-time students, this will often be covered in one academic year (two semesters). For students that are only studying a one-semester course in financial management it will be necessary to adopt a selective approach to the chapters to be studied. It may be useful, for example, to concentrate on those chapters concerned with investment appraisal, financing and dividend policy in the time available. However, the selection of chapters should be determined by the objectives of the course and the background of the students.

There is a website to support this text, which contains multiple choice and short answer questions, exercises, and case studies along with solutions. There are also PowerPoint slides for lecturers.

I hope that you and your students will find the text both accessible and interesting. I welcome any suggestions that you may have on how the text can be improved.

Peter Atrill

April 2016

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SECTION B

Solutions to Exercises

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CHAPTER 2

Solution to Exercise 2.2

Davis Travel Ltd

(a) (i) *Projected cash flow statement for the six months to 31 March Year 5*

	Oct	Nov	Dec	Jan	Feb	Mar
Receipts	**£000**	**£000**	**£000**	**£000**	**£000**	**£000**
Deposits	30	90	90	90	–	–
Final balance	–	–	270	810	810	810
	30	90	360	900	810	810
Payments						
Payables	180					
Non-current assets						50
Loan repayment						20
Loan interest						10
Admin	60	60	60	60	60	60
Commission	-	30	90	90	90	-
Other variable costs	-	-	20	80	60	40
Hotels	-	-	100	400	300	200
Flights	-	-	50	200	150	100
Promotion	100	150	150	50	-	-
	340	240	470	880	660	480
Cash flow	(310)	(150)	(110)	20	150	330
Opening balance	30	(280)	(430)	(540)	(520)	(370)
Closing balance	(280)	(430)	(540)	(520)	(370)	(40)

(ii) *Projected income statement for the six months to 31 March Year 5*

	£000
Sales revenue	3,000
Flights	(500)
Promotion costs	(450)
Hotels	(1,000)
Admin costs	(360)
Other variable costs	(200)
Commission	(300)
Depreciation	(42)
Operating profit	148
Interest charges	(10)
Profit for the period	138

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(iii) *Projected statement of financial position as at 31 March Year 5*

	£000
ASSETS	
Non-current assets (560 + 50 − 42)	568
Current assets	–
Total assets	568
EQUITY AND LIABILITIES	
Equity	
Share capital	100
Retained earnings	338
	438
Non-current liabilities	
Borrowings – loans (110 – 20)	90
Current liabilities	
Bank overdraft	40
Total equity and liabilities	568

(b) A major problem facing the business is the heavy cancellation charges that will have to be borne if sales do not meet expectations. Given the low profit margins and weak cash flows of the business, this obligation can provide a real threat to the viability of the business.

A further problem facing the business is the pattern of receipts and expenditures that it has. The business must pay large amounts out at the beginning of the season for advertising. As bookings have not been received at this point, the business is reliant on a large overdraft to meet these obligations. In the event that the bank withdraws its support the business would be in grave difficulties. It would be advisable to seek an injection of long-term funds to put the business on a sounder footing.

The profit is small in relation to the sales revenue and expenses of the business. A slight increase in expenses, without a corresponding increase in sales, could wipe out the projected profits.

Solution to Exercise 2.3

Fowler Ltd

(a) *Projected income statement for the year ending 31 October Year 8*

	£000
Sales revenue (1.8m × £1.20)	2,160
Variable expenses (1.8m × £0.35)	(630)
Fixed expenses (420 + 150)	(570)
Operating profit	960
Interest payable (Note 1)	(380)
Profit before taxation	580

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Tax (30%)	(174)
Profit for the year	406

Note 1 Loan notes with a nominal value of £2.5m will be required to raise the cost of the new bottling line. Total interest payable is, therefore, [(£2.5m + £1.3m) × 10%] = £380,000

(b) (i) Earnings per share (EPS)

$$EPS = \frac{\text{Profit available to ordinary shareholders}}{\text{Ordinary shares in issue}}$$

Year 7	**Year 8**
£350	**£406**
2,000	**2,000**
17.5p	**20.3p**

(ii) Degree of operating gearing

$$DOG = \frac{\text{Sales} - \text{Variable costs}}{\text{Operating profit}}$$

Year 7	**Year 8**
£ (1,800 – 750)	**£ (2,160 – 630) × 100%**
£630	**£960**
1.67	**1.59**

(iii) Degree of financial gearing

$$DFG = \frac{\text{Operating profit}}{\text{Operating profit - Interest payable}}$$

Year 7	**Year 8**
£630	**£960**
£500	**£580**
1.26	**1.66**

(iv) Degree of combined gearing

DCG = DOG × DFG

Year 7	**Year 8**
1.67 × 1.26	**1.59 × 1.66**
2.10	**2.64**

(c) Investing in the new bottling line will increase profit for the year by 16 per cent and boost earnings per share by the same amount. Although variable costs are reduced, fixed expenses are increased, thereby increasing operating gearing. Other things being equal, this would increase the degree of operating gearing. However, as sales increased by 20 per cent, the degree of operating gearing has reduced slightly. This is because the impact of operating gearing becomes less pronounced the further away from the point at which sales (less variable costs) equal the fixed costs.

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By financing the new bottling line through the use of loan notes, the financial gearing of the business is increased. This makes profits available to ordinary shareholders more sensitive to changes in operating profits. We can see a significant increase in the degree of financial gearing in Year 8.

The slight decrease in the degree of operating gearing is more than offset by the increase in the degree of financial gearing and so the degree of combined gearing has also increased significantly. Thus, returns to shareholders become more sensitive to changes in sales.

(d) The percentage reduction in EPS from the predicted level to the current level is:

$$= \frac{(20.3 - 17.5)}{20.3}$$

$$= 13.8\%$$

The percentage reduction in sales required to maintain EPS is:

$$= \frac{13.8\%}{2.64}$$

$$= 5.2\%$$

Thus, the sales required (in £000s) to maintain existing EPS is:

$$= 2{,}160 - (5.2\% \times 2{,}160)$$

$$= \underline{2{,}048}$$

Solution to Exercise 2.6

Newtake Records Ltd

(a) *Projected cash flow statement for the year to 30 November*

	June	July	Aug	Sept	Oct	Nov
	£000	£000	£000	£000	£000	£000
Cash receipts						
Sales (net of discount)	227	315	246	138	118	108
Cash payments						
Administration	40	41	38	33	31	30
Goods purchased	135	180	142	94	75	66
Finance expenses	5	5	5	5	5	5
Selling expenses	22	24	28	26	21	19
Tax paid			22			
Shop refurbishment		14	18	6		
	202	264	253	164	132	120
Cash surplus (deficit)	25	51	(7)	(26)	(14)	(12)
Opening balance	(35)	(10)	41	34	8	(6)
Closing balance	(10)	41	34	8	(6)	(18)

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(b) *Projected inventories' movements for the six months to 30 November*

	June	July	Aug	Sept	Oct	Nov
	£000	£000	£000	£000	£000	£000
Opening inventories	112	154	104	48	39	33
Inventories purchased	180	142	94	75	66	57
	292	296	198	123	105	90
Cost of inventories sold (60% sales)	(138)	(192)	(150)	(84)	(72)	(66)
Closing inventories	154	104	48	39	33	24

(c) *Projected income statement for the six months ending 30 November*

	£000
Sales revenue	1,170
Cost of goods sold	(702)
Gross profit	468
Selling expenses	(136)
Administration expenses	(303)
Credit card charges [3% (50% × 1,170)]	(18)
Operating profit	11
Interest charges (20% × 30,000)	(6)
Profit for the period	5

(d) We are told that the business is required to eliminate the bank overdraft by the end of November. However, the projected cash flow statement reveals that this will not be achieved. There is a decline in the overdraft by nearly 50% over the period but this is not enough and ways must be found to comply with the bank's requirements. It may be possible to delay the refurbishment programme that is included in the projections or to obtain an injection of funds from the owners or other investors. It may also be possible to stimulate sales revenue in some way. However, there has been a decline in the sales since the end of July and the November sales is approximately one third of the July sales. The reasons for this decline should be sought.

The inventories level will fall below the minimum level for each of the last three months. However, to rectify this situation it will be necessary to purchase more inventories, which will, in turn, further exacerbate the cash flow problems of the business.

The projected income statement reveals a very low profit for the period. For every £1 of sales the business is only managing to generate 0.4p in profit. The business should look carefully at its pricing policies and its overhead expenses. The administration expenses, for example, absorb more than one quarter of the total sales turnover. Any reduction in overhead cash expenses will have a beneficial effect on cash flows.

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Solution to Exercise 2.7

Eco-Energy Appliances Ltd

Projected cash flow statements

	Year 1	**Year 2**	**Year 3**	**Year 4**
	£	£	£	£
Sales revenue	1,200,000	1,440,000	1,500,000	1,400,000
Operating profit (15%)	180,000	216,000	225,000	210,000
Depreciation	70,000	70,000	70,000	80,000
Working capital*	(140,000)	(4,000)	(6,000)	10,000
Operating cash flows	110,000	282,000	289,000	300,000
Interest	(80,000)	(80,000)	(80,000)	(40,000)
Tax**		(20,000)	(27,000)	(29,000)
Dividends		(40,000)	(55,000)	(58,000)
Non-current assets				(100,000)
Loan repayment			(400,000)	
Net cash flows	30,000	142,000	(273,000)	73,000
Opening balance	125,000	155,000	297,000	24,000
Closing balance	155000	297,000	24,000	97,000

* In Year 2 the working capital requirement is £144,000 (that is, 10% of £1,440,000). The increase in working capital required is therefore £144,000 – £140,000 = £4,000. Similar calculations apply for subsequent years.

**The tax charge and dividends for each year are shown below.

	Year 1	**Year 2**	**Year 3**	**Year 4**
	£	£	£	£
Operating profit (as above)	180,000	216,000	225,000	210,000
Interest	80,000	80,000	80,000	40,000
Profit before tax	100,000	136,000	145,000	170,000
Tax (20%)	20,000	27,000	29,000	34,000
Profit for the period	80,000	109,000	116,000	136,000
Dividends (50%)	40,000	55,000	58,000	68,000

Note: Tax and dividends will be paid in the year after the relevant profit is made.

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