Instructor's Manual

Accounting and Finance
An Introduction

Eighth edition

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SECTION A

Authors' note to tutors

Using the text

This text is designed to provide readers with a sound introduction to accounting and finance. It assumes no previous knowledge of these subjects and recognises that students using it may come from a wide variety of backgrounds. The text, therefore, tries to avoid technical jargon and does not assume that students have a high level of numerical ability. It has been extensively class tested by students on various courses and we have modified and refined the material to take account of their comments. We have also taken account of the comments made by lecturers who used the first seven editions.

The text aims to encourage an active approach to learning by providing activities and self-assessment questions at appropriate points in the chapters. This is designed to stimulate thought concerning particular issues and to give readers the opportunity to test their understanding of the principles covered.

The text is supplemented by a password-controlled lecturers' website and a student website available to all readers.

Teaching structure

The structure of the text allows the tutor to deliver the subject in a number of ways. It 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 that can be used as the basis for tutorials. It 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 text may be extremely useful where access to a tutor is restricted. It can also be used as the basis for an open-learning approach for full-time campus-based students. We successfully used it in this way at the Plymouth University Business School. Accounting 'surgeries' were provided to give students the opportunity for one-to-one help with any problems they faced.

The text is appropriate for modules that are designed to be covered in 250 to 300 hours of study. For full-time students, this will often be covered in one academic year (two semesters). For students who are only studying a one-semester course in accounting and finance it will be necessary to adopt a selective approach to the chapters to be studied. The first chapter sets the scene. The next six deal with the nature and role of financial accounting and give a good grounding in the major financial statements. This will, however, take up much of the time available. It should, nevertheless, be possible to select further chapters for study from those remaining.

PowerPoint slides

The diagrams in the text, along with other diagrams and materials (including the new 'bullet point' chapter summaries), are available as PowerPoint slides. These should help in delivering lectures and tutorials. They can be downloaded from the lecturers' website.

Practice/assessment material

The **activities**, which have solutions immediately follow them, and **self-assessment questions**, which have solutions are at the end of the text (Appendix C), form an integral part of it. In addition there are various other practice/assessment materials. At the end of each chapter there are four **review questions**. These are short, narrative questions involving recall, explanation and brief discussion. The solutions to these are at the end of the text (Appendix D). At the end of all chapters, except Chapter 1, there are seven **Exercises**. These are questions, many involving calculations, which are similar in nature to exam-style questions. The solutions to four of these are given at the end of the text (Appendix E) and are, therefore, accessible to students. Solutions to the other three are in the following pages of this manual and are not accessible to students.

On the lecturers' website, there are:

- **PowerPoint slides**, as mentioned above.

- **Supplementary questions**, with solutions. These questions are similar to the end-of-chapter Exercises. These are not accessible to students.

- **Three progress tests,** with solutions. Each of these contains ten multiple choice questions, ten missing word questions and either two or three Exercise-style questions. These are not accessible to students.

- **Four seminar/discussion question**, for each chapter, with outline solutions. These are not accessible to students.

- A set of **case studies** with solutions. These are not accessible to students.

Ordering of material

The order in which topics are dealt with is clearly a matter of opinion. Our broad approach is to try to build up students' knowledge and understanding and to try to avoid situations where reference needs to be made to material appearing later in the text. We have taken the view that financial accounting is a good place to start, partly because students probably know of this aspect of accounting and finance from their background. It tends to be discussed in the news media, etc. Also we feel that this aspect is easier to deal with without knowledge of management accounting and finance. Within financial accounting, we have dealt with the statement of financial position and income statement, then with company accounting, then the statement of cash flows and on to financial accounting ratios. When dealing with the statement of financial position and income statement (in Chapters 2 and 3), we have made no real distinction between companies and unincorporated businesses. This is because we see no great difference between these, except when there is the need to go into detail about the restrictions on withdrawals of capital and this is covered in Chapter 4 on company accounting. We have left statements of cash flows until after introducing companies, because these statements usually relate to companies and the problem areas often relate to aspects like dividends and taxation.

Double-entry bookkeeping

The basic text does not cover double-entry bookkeeping, in the sense of 'T' accounts. We have taken the view that students can gain a sufficient grasp of both the principles and practice of how transactions are recorded, and their ultimate effect on the statement of financial position and income statement, by dealing with them on a 'plus and minus' basis. We feel that, for the target readership, the recording process is of limited importance and that the key issues relate to the effect of transactions on the business overall. It may be the case that students' understanding of this would be enhanced by a closer look at the recording process, through 'T' accounts, but this will take time, which we believe could be better devoted to other topics.

We are aware that not all of our colleagues agree with us on this and so Appendix A to the text – 'Recording financial transactions' – is included. This can be slotted into the students' studies, perhaps immediately after dealing with the contents of Chapters 2 and 3. This supplement is self-contained. It includes a number of activities and three Exercises.

MyAccountingLab

This text is supported by its own custom-written MyAccountingLab. MyAccountingLab is an online homework, tutorial and assessment system, which is tailored to the learning needs of each student. Offering unlimited opportunities for practice and providing relevant and timely feedback, it helps students master key concepts. For access to MyAccountingLab, students need both an access card and a course ID. The access card may have been provided with the text and students can check the inside back cover for this. If the course has an ID, but the student has no access card s/he can go to www.myaccountinglab.com, to buy access to this interactive study programme.

We hope that you and your students will find the text both accessible and interesting. We should much appreciate any suggestions you may have on how the text and supplementary material may be improved.

Eddie McLaney
Peter Atrill
30/11/2015

SECTION B

Solutions to Exercises

PART 1

Financial accounting

CHAPTER 2

Measuring and reporting financial position

Solution to exercise 2.4

Joe Conday

Statement of financial position as at 1 March

	£
ASSETS	
Bank	20,000
EQUITY AND LIABILITIES	
Equity	20,000

Statement of financial position as at 2 March

	£
ASSETS	
Bank (20,000 – 6,000)	14,000
Fixtures and fittings	6,000
Inventories	8,000
Total assets	28,000
EQUITY AND LIABILITIES	
Equity	20,000
Trade payables	8,000
Total equity and liabilities	28,000

Statement of financial position as at 3 March

	£
ASSETS	
Bank (14,000 + 5,000)	19,000
Fixtures and fittings	6,000
Inventories	8,000
Total assets	33,000
EQUITY AND LIABILITIES	
Equity	20,000
Trade payables	8,000
Borrowings	5,000
Total equity and liabilities	33,000

Statement of financial position as at 4 March

	£
ASSETS	
Bank (19,000 – 7,000 – 200)	11,800
Fixtures and fittings	6,000
Inventories	8,000
Motor car	7,000
Total assets	32,800
EQUITY AND LIABILITIES	
Equity (20,000 – 200)	19,800
Trade payables	8,000
Borrowings	5,000
Total equity and liabilities	32,800

Statement of financial position as at 5 March

	£
ASSETS	
Bank (11,800 – 2,500)	9,300
Fixtures and fittings	6,000
Inventories	8,000
Motor car	9,000
Total assets	32,300
EQUITY AND LIABILITIES	
Equity (19,800 – 500)	19,300
Trade payables	8,000
Borrowings	5,000
Total equity and liabilities	32,300

Statement of financial position as at 6 March

	£
ASSETS	
Bank (9,300 + 2,000 – 1,000)	10,300
Fixtures and fittings	6,000
Inventories	8,000
Motor car	9,000
Total assets	33,300
EQUITY AND LIABILITIES	
Equity (19,300 + 2,000)	21,300
Trade payables	8,000
Borrowings (5,000 – 1,000)	4,000
Total equity and liabilities	33,300

Solution to exercise 2.5

Manufacturing business

Statement of financial position at a point in time

	£000
ASSETS	
Non-current assets	
Property, plant and equipment	
Property	245
Plant and equipment	127
Delivery vans	54
	426
Current assets	
Inventories – raw materials	18
– finished goods	28
Trade receivables	34
	80
Total assets	506
EQUITY AND LIABILITIES	
Equity (Owners' capital – which is the missing figure)	361
Non-current liabilities	
Long-term borrowings (Manufacturing Finance Co)	100
Current liabilities	
Trade payables	23
Short-term borrowings	22
	45
Total equity and liabilities	506

Solution to exercise 2.7

Statement of financial position as at the end of the week

ASSETS	**£**
Property	145,000
Furniture and fittings	63,000
Motor van	10,000
Inventories (28,000 − 8,000 − 17,000 + 14,000)	17,000
Trade receivables (33,000 + 23,000 − 18,000)	38,000
Total assets	273,000
EQUITY AND LIABILITIES	
Equity (203,000 + 11,000 − 8,000 + 23,000 − 17,000 + 100,000 + 10,000)	322,000
Borrowings (Bank overdraft) (43,000 − 11,000 − 18,000 − 100,000 + 13,000)	(73,000)
Trade payables (23,000 + 14,000 − 13,000)	24,000
Total equity and liabilities	273,000

Since the bank balance is now positive, we can rewrite this statement of financial position as:

Statement of financial position as at the end of the week

ASSETS	**£**
Property	145,000
Furniture and fittings	63,000
Motor van	10,000
Inventories	17,000
Trade receivables	38,000
Cash at bank	73,000
Total assets	346,000
EQUITY AND LIABILITIES	
Equity	322,000
Trade payables	24,000
Total equity and liabilities	346,000

CHAPTER 3

Measuring and reporting financial performance

Solution to exercise 3.2

Singh Enterprises

Income statement (extract) for the year ended 31 December 2012

	£
Depreciation – machinery	2,000

Statement of financial position as at 31 December 2012

	£
Machinery at cost	10,000
Accumulated depreciation	(2,000)
	8,000

Income statement (extract) for the year ended 31 December 2013

	£
Depreciation – machinery (2,000 + 2,500)	4,500

Statement of financial position as at 31 December 2013

	£
Machinery at cost	25,000
Accumulated depreciation (4,000 + 2,500)	(6,500)
	18,500

Income statement (extract) for the year ended 31 December 2014

	£
Depreciation – machinery	4,500
Loss on sale of machine (10,000 – 6,000 – 3000)	1,000

Statement of financial position as at 31 December 2014

	£
Machinery at cost	15,000
Accumulated depreciation (2 × 2,500)	(5,000)
	10,000

Solution to exercise 3.5

Spratley Ltd

(a) FIFO

	Purchases			Cost of sales		
	Tonnes	Cost/tonne	Total	Tonnes	Cost/tonne	Total
		£	£		£	£
1 Sept	20	18	360			
2 Sept	48	20	960			
4 Sept	15	24	360			
6 Sept	10	25	250			
7 Sept				20	18	360
				40	20	800
	93		1,930	60		1,160
Opening inventories + purchases			1,930			
Cost of sales			(1,160)			
Remaining inventories			770	[(8 × £20) + (15 × £24) + (10 × £25)]		

(b) LIFO

	Purchases			Cost of sales		
	Tonnes	Cost/tonne	Total	Tonnes	Cost/tonne	Total
		£	£		£	£
1 Sept	20	18	360			
2 Sept	48	20	960			
4 Sept	15	24	360			
6 Sept	10	25	250			
7 Sept				10	25	250
				15	24	360
				35	20	700
	93		1,930	60		1,310
Opening inventories + purchases			1,930			
Cost of sales			(1,310)			
Remaining inventories			620	[(20 × £18) + (13 × £20)]		

(c) AVCO

	Purchases			Cost of sales		
	Tonnes	Cost/tonne	Total	Tonnes	Cost/tonne	Total
		£	£		£	£
1 Sept	20	18	360			
2 Sept	48	20	960			
4 Sept	15	24	360			
6 Sept	10	25	250			
	93	20.75	1,930	(weighted average cost per tonne = 1,930/93 = £20.75)		
7 Sept	60	20.75	1,245			

Opening inventories + purchases	1,930	
Cost of sales	(1,245)	(60 × £20.75)
Remaining inventories	685	(33 × £20.75)

Solution to exercise 3.6

TT and Co

Statement of financial position as at 31 December 2015

ASSETS	£
Delivery van (+9,500 + 13,000 − 5,000)	17,500
Inventories (+65,000 + 67,000 + 8,000 − 89,000 − 25,000)	26,000
Trade receivables (+19,600 + 179,000 − 178,000)	20,600
Cash at bank (+750 − 20,000 − 15,000 − 1,300 − 13,000 − 36,700 − 1,820 − 8,000 + 54,000 + 178,000 − 71,000 − 16,200)	49,730
Prepaid expenses (325)	325
Total assets	114,155
EQUITY AND LIABILITIES	£
Equity (+76,900 − 20,000 + 37,705)	94,605
Trade payables (+22,000 + 67,000 − 71,000)	18,000
Accrued expenses (+ 860 + 690) 1,550	
Total equity and liabilities	114,155

Income statement for the year ended 31 December 2015

	£
Sales revenue (+179,000 + 54,000)	233,000
Cost of goods sold (+89,000 + 25,000)	(114,000)
Gross profit	119,000
Rent (5,000 + 15,000)	(20,000)
Rates (300 + 975)	(1,275)
Wages (−630 + 36,700 + 860)	(36,930)
Electricity (−620 + 1,820 + 690)	(1,890)
Van depreciation (2,500 + 2,500)	(5,000)
Van expenses (16,200)	(16,200)
Profit for the year	37,705

The statement of financial position could now be rewritten in a more stylish form as follows:

TT and Co

Statement of financial position as at 31 December 2015

	£
ASSETS	
Non-current assets	
Property, plant and equipment	
Motor van at cost	25,000
Accumulated depreciation	(7,500)
	17,500
Current assets	
Inventories	26,000
Trade receivables	20,600
Prepaid expenses	325
Cash	49,730
	96,655
Total assets	114,155
EQUITY AND LIABILITIES	
Equity (owner's capital)	
Closing balance	94,605
Current liabilities	
Trade payables	18,000
Accrued expenses	1,550
	19,550
Total equity and liabilities	114,155

CHAPTER 4

Accounting for limited companies (1)

Solution to exercise 4.3

(a) A **dividend** is a drawing of equity made by shareholders. It is usually, but not necessarily, in the form of cash. It often reflects the level of profit made during the year to which it relates, but it is perfectly legal to pay a dividend out of past retained earnings. Broadly, that part of the owners' claim that can be reduced through payment of a dividend (or by share repurchase) is limited to that which arose from normal realised trading profits and realised gains from disposals of non-current assets.

(b) An **audit fee** is an amount paid to an independent firm of auditors. The auditors are paid to undertake an examination of the financial statements and underlying records to form and state an opinion as to whether the financial statements provide a true and fair view of financial performance and position.

(c) A **share premium account** is a reserve – part of the equity or owners' claim – that arises from shares being issued at above their nominal (par) value. This reserve is not part of the owners' claim that can be reduced by paying a dividend.

Solution to exercise 4.5

Hudson plc

The bonus issue will not affect the assets, but will create 10 million new shares (new total 50 million) and reduce the reserves to £22 million.

The rights issue will create 12.5 million new shares (new total 62.5 million) and will generate cash of £22.5 million (i.e. 12.5m × £1.80), of which £12.5 million will be added to share capital and £10 million to share premium. Thus, the new statement of financial position will be:

Statement of financial position of Hudson plc as at a particular date

	£m
Net assets (72 + 22.5)	94.5
Equity	
£1 ordinary shares (40 + 10 + 12.5)	62.5
Share premium account (£0.8 × 12.5m)	10.0
General reserve (32 − 10)	22.0
Total equity	94.5

Solution to exercise 4.7

Rose Limited

Statement of financial position as at 31 March 2015

	£000
ASSETS	
Non-current assets (2,728 − 74 + 16)	2,670
Current assets	
Inventories (1,583 − 2)	1,581
Trade receivables (996 + 34 − 21)	1,009
Cash	26
	2,616
Total assets	5,286
EQUITY AND LIABILITIES	
Equity	
Share capital	
(50p shares, fully paid)	750
Share premium	250
Retained earnings (1,468 − 1,012 + 967)	1,423
	2,423
Non-current liabilities	
Borrowings – Secured loan (2018)	300
Current liabilities	
Trade payables	1,118
Other payables (417 + 16 +1)	434
Tax	415
Borrowings – Bank overdraft	596
	2,563
Total equity and liabilities	5,286

Income statement for the year ended 31 March 2015

	£000
Revenue (12,080 + 34)	12,114
Cost of sales	(6,282)
Gross profit	5,832
Labour cost (2,658 + 1)	(2,659)
Depreciation (625 + 74)	(699)
Other operating costs (1,003 + 21 + 2)	(1,026)
Operating profit	1,448
Interest payable	(66)
Profit before tax	1,382
Taxation (1,382 × 30%)	(415)
Profit for the year	967

CHAPTER 5

Accounting for limited companies (2)

Solution to exercise 5.1

Information volume

Apart from increases in accounting regulation, financial reports have increased because of:

- increasing demands by influential user groups, such as shareholders and financial analysts, for financial information relating to the company;
- the increasing sophistication of influential user groups, such as financial analysts, to deal with financial information;
- the increasing complexity of business operations requiring greater explanation;
- increasing recognition of the need for greater accountability towards certain user groups (such as employees and community groups) requiring the need for additional reports, such as environmental reports and social reports.

Solution to exercise 5.2

Information overload

Some believe that the annual reports of companies are becoming too long and contain too much information. A few examples of the length of the 2014 reports of large companies are as follows:

Marks and Spencer plc	132 pages
Tesco plc	147 pages
Tate and Lyle plc	148 pages
Associated British Foods plc	140 pages

There is a danger that users will suffer from information overload if they are confronted with an excessive amount of information and that they will be unable to cope with it. This may, in turn, lead them to:

- fail to distinguish between important and less important information;
- fail to approach the analysis of information in a logical and systematic manner;
- feel a sense of confusion and avoid the task of analysing the information.

Lengthy annual reports are likely to be a problem for the less sophisticated user. This problem has been recognised and many companies publish summarised accounts for private investors, which include only the key points. However, for sophisticated users the problem may be that the annual reports are still not long enough. They often wish to glean as much information as possible from the company in order to make investment decisions.

Solution to exercise 5.6

Comments

(a) This statement is incorrect. The role of the auditor is not to prepare the financial statements (FSs). This is the role of the directors. The auditors take the FSs prepared by the directors and:

- examine them in detail;
- form an opinion as to whether they show a true and fair view of the company's performance and position;
- express that view to the shareholders.

(b) This is not true. IASs and IFRSs both have the same weight and coverage. Earlier standards were called IASs and later ones IFRSs. They are compulsory only for listed companies.

(c) This statement is true.

(d) This is incorrect they must, according to IAS 1 show a 'fair representation'. In accounting concepts like 'accurate' and 'correct' are not realistic. Fairness is the best that can be achieved.

(e) This is correct.

(f) This is not true. The statement of changes in equity deals with changes in equity caused by the company's total comprehensive income as well share issues and cancellations. It is the statement of comprehensive income that deals with unrealised profits and gains.

(g) This is not true. All companies must produce a full set of financial statements and all shareholders can insist on receiving a copy. Individual shareholders may choose only to receive the summarised version, if the company decides to produce one.

Measuring and reporting cash flows

Solution to exercise 6.2

Juno plc

	£m
Operating profit (for last year)	187
Adjustments for:	
Depreciation	55
	242
Increase in inventories (31 − 27)	(4)
Decrease in trade receivables (24 − 23)	1
Increase in trade payables (17 − 15)	2
Cash generated from operations	241

Solution to exercise 6.4

Chen plc

Statement of cash flows for the year ended 31 December 2015

	£m
Cash flows from operating activities	
Profit before taxation (after interest)	
(see Note 1 below)	25
Adjustments for:	
Depreciation (10 + 12)	22
Interest expense (Note 2)	4
	51
Increase in inventories (25 − 24)	(1)
Decrease in trade receivables (26 − 25)	1
Decrease in trade payables (37 − 34)	(3)
Cash generated from operations	48
Interest paid	(4)
Taxation paid (Note 3)	(11)
Dividend paid	(18)
Net cash from operating activities	15

Cash flows from investing activities	
Payments to acquire non-current assets (Note 4)	(36)
Net cash used in investing activities	(36)
Cash flows from financing activities	
Net cash used in financing activities	–
Net decrease in cash and cash equivalents	(21)
Cash and cash equivalents at 1 January 2015	
Cash at bank	19
Cash and cash equivalents at 31 December 2015	
Bank overdraft	(2)

To see how this relates to the cash of the business at the beginning and end of the year it can useful to provide reconciliation as follows:

Analysis of cash and cash equivalents during the year ended 31 December 2015

	£m
Cash and cash equivalents at 1 January 2015	19
Net cash outflow	(21)
Cash and cash equivalents at 31 December 2015	(2)

Notes:

1. This is simply taken from the income statement for the year.

2. Interest payable expense must be taken out, by adding it back to the profit before taxation figure. We subsequently deduct the cash paid for interest payable during the year. In this case the two figures are identical.

3. Taxation is paid by companies 50 per cent during their accounting year and the other 50 per cent in the following year. Thus the 2015 payment would have been half the tax on the 2014 profit (i.e. the figure that would have appeared in the current liabilities at the end of 2014), plus half of the 2015 tax charge (i.e. $8 + (^1/_2 \times 6) = 11$).

4. Since there were no disposals, the depreciation charges must be the difference between the start and end of the year's non-current asset values, adjusted by the cost of any additions.

	£m
Carrying amount, at 1 January 2015	172
Add Additions (balancing figure)	36
	208
Less Depreciation (10 + 12)	22
Carrying amount, at 31 December 2015	186

Solution to exercise 6.5

Nailsea plc

Statement of cash flows for the year ended 30 June 2015

	£m
Profit before taxation (after interest)	
(see Note 1 below)	315
Adjustments for:	
Depreciation (Note 1)	320
Interest expense (Note 2)	27
	662
Increase in inventories (450 − 275)	(175)
Increase in trade receivables (250 − 100)	(150)
Increase in trade payables (230 − 170)	60
Cash generated from operations	397
Interest paid (Note 2)	(27)
Taxation paid (Note 3)	(125)
Dividend paid	(45)
Net cash from operating activities	200
Cash flows from investing activities	
Payments to acquire non-current assets (Note 4)	(650)
Net cash used in investing activities	(650)
Cash flows from financing activities	
Issue of loan notes	300
Issue of shares (see Note 5)	300
Net cash from financing activities	600
Net increase in cash and cash equivalents	150
Cash and cash equivalents at 1 July 2014	
Bank overdraft	(32)
Cash and cash equivalents at 30 June 2015	
Cash at bank	118

To see how this relates to the cash of the business at the beginning and end of the year it can useful to provide reconciliation as follows:

Analysis of cash and cash equivalents during the year ended 30 June 2015

	£m
Cash and cash equivalents at 1 July 2014	(32)
Net cash outflow	150
Cash and cash equivalents at 30 June 2015	118

Notes:

1. This is simply taken from the income statement for the year.

2. Interest payable expense must be taken out, by adding it back to the profit before taxation figure. We subsequently deduct the cash paid for interest payable during the year. In this case the two figures are identical.

3. Taxation is paid by companies 50 per cent during their accounting year and the other 50 per cent in the following year. Thus the 2015 payment would have been half the tax on the 2014 profit (i.e. the figure that would have appeared in the current liabilities at 30 June 2014), plus half of the 2015 tax charge (i.e. $55 + (^1/_2 \times 140) = 125$).

4. Since there were no disposals, the depreciation charges must be the difference between the start and end of the year's non-current asset values, adjusted by the cost of any additions.

	£m
Carrying amount, at 1 July 2014	2,310
Additions (balancing figure)	650
	2,960
Depreciation	(320)
Carrying amount, at 30 June 2015	2,640

5. The increase in the share capital figure by £200m and an increase in share premium of £100m imply a new issue of shares for £300m. This could not have been a bonus issue because:

   - share premium could not have been increased as a result of a bonus issue;

   - to make a bonus issue would have required a transfer from reserves. There was no such transfer; the 'Retained earnings' reserve increased by exactly the amount of the 2015 retained earnings for the year (i.e. the profit for the year net of the £45m dividend paid).

Analysing and interpreting financial statements

Solution to exercise 7.2

Amsterdam Ltd and Berlin Ltd

The ratios show that the average settlement period for trade receivables for Amsterdam Ltd is three times that for Berlin Ltd. Berlin Ltd is therefore much quicker in collecting amounts outstanding from customers. On the other hand, there is not much difference between the two businesses in the time taken to pay trade payables.

It is interesting to compare the difference in the trade receivables and payables settlement periods for each business. As Amsterdam Ltd allows an average of 63 days' credit to its customers, yet pays suppliers within 50 days, it will require greater investment in working capital than Berlin Ltd, which allows an average of only 21 days to its customers but takes 45 days to pay its suppliers.

Amsterdam Ltd has a much higher gross profit margin than Berlin Ltd. However, the operating profit margin for the two businesses is identical. This suggests that Amsterdam Ltd has much higher overheads (as a percentage of sales revenue) than Berlin Ltd. The average inventories turnover period for Amsterdam Ltd is more than twice that of Berlin Ltd. This may be due to the fact that Amsterdam Ltd maintains a wider range of inventories in an attempt to meet customer requirements. The evidence therefore suggests that Amsterdam Ltd is the one that prides itself on personal service. The higher average settlement period for trade receivables is consistent with a more relaxed attitude to credit collection (thereby maintaining customer goodwill) and the high overheads are consistent with incurring the additional costs of satisfying customers' requirements. Amsterdam Ltd's high inventories levels are consistent with maintaining a wide range of inventories, with the aim of satisfying a range of customer needs.

Berlin Ltd has the characteristics of a more price-competitive business. Its gross profit margin is much lower than that of Amsterdam Ltd, that is, a much lower gross profit for each £1 of sales revenue. However, overheads have been kept low, the effect being that the operating profit margin is the same as Amsterdam Ltd's. The low average inventories turnover period and average settlement period for trade receivables are consistent with a business that wishes to minimise investment in current assets, thereby reducing costs.

Solution to exercise 7.3

Helena Beauty Products Ltd

	2014	2015
Profitability ratios		
Operating profit margin	$\frac{80}{3{,}600} \times 100\% = 2.2\%$	$\frac{90}{3{,}840} \times 100\% = 2.3\%$
Gross profit margin	$\frac{1{,}440}{3{,}600} \times 100\% = 40\%$	$\frac{1{,}590}{3{,}840} \times 100\% = 41.4\%$
ROCE	$\frac{80}{2{,}668} \times 100\% = 3.0\%$	$\frac{90}{2{,}874} \times 100\% = 3.1\%$
Efficiency ratios		
Inventories turnover Period	$\frac{(320+400)/2}{2{,}160} \times 365 = 61 \text{ days}$	$\frac{(400+500)/2}{2{,}250} \times 365 = 73 \text{ days}$
Trade receivables settlement period	$\frac{750}{3{,}600} \times 365 = 76 \text{ days}$	$\frac{960}{3{,}840} \times 365 = 91 \text{ days}$
Sales revenue/capital Employed	$\frac{3{,}600}{2{,}668} = 1.3$	$\frac{3{,}840}{2{,}874} = 1.3$

These ratios reveal, what seems to be, a low operating profit margin in each year. The gross profit margin, however, is quite high in each year, suggesting that the business has high overheads. There was a slight increase of 1.4 percentage points in the gross profit margin during 2015, but this appears to have been largely swallowed up by increased overheads. As a result, the operating profit margin increased by only 0.1 percentage points in 2015. The low operating profit margin is matched by a seemingly rather low sales revenue to capital employed ratio in both years. The combined effect of this is a low ROCE in both years. The ROCE for each year is lower than might be expected from investment in risk-free government securities. This must be unsatisfactory since investing in a business tends to be quite risky.

The inventories' turnover period and settlement period for trade receivables have both increased significantly over the period. The settlement period seems to be high and should be a cause for concern. Although (in absolute terms) sales revenue increased during 2015, operating profit fell quite sharply. The directors should be concerned at the low level of profitability and efficiency of the business. In particular, an investigation should be carried out concerning the high level of overheads and the higher investment in inventories and trade receivables.

Solution to exercise 7.4

Conday and Co. Ltd

(a) *Return on capital employed*

$$\frac{\text{Operating profit}}{\text{Equity} + \text{long-term borrowings}} \times 100\%$$

$$\frac{378}{1{,}265} \times 100\% \qquad 29.9\%$$

Return on ordinary shareholders' funds

$$\frac{\text{Profit for the year}}{\text{Share capital} + \text{reserves}} \times 100\%$$

$$\frac{225}{1{,}065} \times 100\% \qquad 21.1\%$$

Gross profit margin

$$\frac{\text{Gross profit}}{\text{Sales revenue}} \times 100\%$$

$$\frac{980}{2{,}600} \times 100\% \qquad 37.7\%$$

Operating profit margin

$$\frac{\text{Operating profit}}{\text{Sales revenue}} \times 100\%$$

$$\frac{378}{2{,}600} \times 100\% \qquad 14.5\%$$

Sales revenue to capital employed

$$\frac{\text{Sales revenue}}{\text{Equity} + \text{non-current liabilities}}$$

$$\frac{2{,}600}{1{,}065 + 200} \qquad 2.1 \text{ times}$$

Average settlement period for trade receivables

$$\frac{\text{Trade receivables}}{\text{Credit sales revenue}} \times 365 \text{ days}$$

$$\frac{820}{2{,}600} \times 365 \text{ days} \qquad 115 \text{ days}$$

Inventories turnover period

$$\frac{\text{Inventories held}}{\text{Cost of sales}} \times 365 \text{ days}$$

$$\frac{600}{1{,}620} \times 365 \text{ days} \qquad 135 \text{ days}$$

The above ratios reveal that Conday and Co. Ltd is profitable. In particular, the return on ordinary shareholders' funds and ROCE ratios seem to be high in relation to the returns achieved by more secure forms of investment such as government securities. However, whether this level of return is sufficient in relation to the risks involved is difficult to judge from the information available.

The settlement period for trade receivables seems very high, which may be due to the nature of the business. However, this high ratio, combined with the fact that the bad debts of the business account for more than 6% of total sales revenue, suggests that some tightening of credit control procedures may be required. The inventories turnover figure also seems high. The business is carrying more than four months' inventories. This may indicate a need also to improve inventories control procedures. At present, the business has a large bank overdraft and so major improvements in inventories control and credit control procedures may have a significant effect on both the liquidity and the profitability of the business.

Given the high level of bank borrowing, it is difficult to understand why such a high proportion of the profit for the year was distributed in the form of dividend. This is not a very prudent policy. The sales revenue to capital employed ratio seems quite low. This is due, at least in part, to the high levels of inventories and trade receivables that are being carried.

(b) Though the business is profitable, there are some doubts as to the quality of its management. The business has high levels of inventories and trade receivables and a large overdraft. It is possible that better management would not have allowed this situation to arise. It is also possible that better management of existing assets would remove the need for external sources of funds for expansion. It interesting to speculate how £200,000 received from the issue of shares might be used by the managers. Would it be used to finance even higher levels of inventories and trade receivables without there being a corresponding increase in sales revenue?

The share price of £6.40 is much higher than the net asset value of the shares. At present, the net assets (assets less liabilities) have a statement of financial position value of £1,065,000 and there are 700,000 shares in issue. This gives a net asset value per share of £1.52. To justify paying £6.40, the investor would have to be convinced the business would generate high profits in the future.

Solution to exercise 7.5

Threads Ltd

(a)

		2014		**2015**
ROCE	234/756	= 31.0%	167/845	= 19.8%
Operating profit margin	234/1180	= 19.8%	167/1200	= 13.9%
Gross profit margin	500/1180	= 42.4%	450/1200	= 37.5%
Current ratio	253/199	= 1.3:1	396/238	= 1.7:1
Acid test ratio	105/199	= 0.5:1	160/238	= 0.7:1
Settlement – trade receivables	102/1180 × 365	= 32 days	156/1200 × 365	= 47 days
Settlement – trade payables	60/680* × 365	= 32 days	76/750* × 365	= 37 days
Inventories turnover	148/680 × 365	= 79 days	236/750 × 365	= 115 days

* The credit purchases figure is not available, so the cost of sales figure has been used. This only provides a rough approximation of the settlement period for trade payables.

(b) A supplier seeking to sell a substantial amount of goods to the business will be concerned with both liquidity and longer-term viability (where there is a continuing relationship) as measured by profitability ratios. The supplier will also be interested in the average time taken by the business to pay its current suppliers.

- The liquidity ratios reveal an apparent improvement over the two years. However, for a manufacturing business, the liquidity ratios seem low and the supplier may feel some concern. The increase in inventories over the period has led to a greater improvement in the current ratio than in the liquid (acid test) ratio. The improvement in the acid test ratio has not been very great and some concern over the business's liquidity position must remain.

- The average settlement period for credit customers (trade receivables) has increased substantially in 2015. This may be a deliberate policy. However, if this is the case, the effect of a more liberal credit policy has not proved to be very successful as there has only been a slight increase in sales revenue in 2015. The credit period increase may be due, on the other hand, to other factors such as poor credit control or particular customers experiencing financial difficulties. The effect of this change in the trade receivables ratio should be carefully noted by the supplier as the increase in trade receivables outstanding seems to be partly financed by an increase in the average settlement period for trade payables.

- The inventories' turnover period has increased significantly in 2015. This might be due to inventories building in anticipation of future sales revenue. However, it might indicate that certain products are not selling as well as expected and are therefore remaining in inventories.

- The gross profit margin and operating profit margins are both lower in 2015. Lower margins have, in turn, led to a lower return on capital employed. The lower operating profit margins, the increase in the average credit period allowed to trade receivables and the increase in the inventories turnover period may suggest that the business has a product range that is becoming obsolete and therefore more difficult to sell. It might, however, also suggest a more competitive business environment.

The ratios calculated above do not indicate any serious problems for the business. However, it is clear that 2015 proved to be a more difficult year than 2014. Things may well improve in the future though. At this point, however, the supplier would be well advised to be cautious in its dealings with the business. Certainly, the supplier should not rely too heavily on Threads Ltd for future sales revenue.