Test Bank of Lecturer Questions and Answers

Chapter 1: Introduction To Accounting

Discussion Questions

Q1 Why do so many university graduates choose accountancy as a career?

A1 Accountancy is a good general career for students interested in business. Potential managers will find a knowledge of accounting and accounting terminology very useful when running businesses. Companies, in particular, exist to make a profit for their shareholders. There is, therefore, a need for periodic financial statements such as the profit and loss account (income statement) and balance sheet. The language of business (e.g., terminology such as assets, liabilities, income, expenses and profit) also draws on accountancy to a large extent. To fully understand business, therefore, it is necessary to fully understand accounting.

Q2 How would accounting differ in a football club like Manchester United from that in a retail superstore such as Tesco?

A2 In many ways the production of accounting information in the two organisations would be very similar. Each organisation would need to keep detailed records of its transactions using double-entry bookkeeping. They would then prepare profit and loss accounts (income statements) and balance sheets.

In other ways, however, the two organisations would be very different. It is, of course, true that both organisations are retail organisations. However, they have very different assets. Manchester United's assets are largely tied up in its players and its stadium. In fact, curiously, these players would not be recorded as assets in the balance sheet, unless they had been purchased from another club. For Tesco, however, the assets are its superstores and its stocks of goods. For Tesco, therefore, tracing assets would be a much more important and difficult job than for Manchester United. Similarly, Tesco will have more sophisticated accounting systems to deal with its numerous suppliers.

Q3 State whether the following statements are true or false. If false, explain why.
(a) In large companies, managers run the company whereas shareholders own the company.

Accounting, Second Edition
 ISBN 0-470-01779-1

Q&A

(b) In financial accounting, the principal financial statements are the bookkeeping statement, the balance sheet and the cash flow statement.
(c) Some major outside users of information are shareholders and analyst advisers, lenders, management, suppliers and other trade creditors, customers, government and tax authorities, public and employees.
(d) Accounting is influenced by historical factors, country factors, organisational factors and technological factors.
(e) Auditors prepare the accounts and then on the basis of the accounts issue an auditors' report.

A3 True or false?
(a) *True*.
(b) *False*. There is no such thing as a bookkeeping statement. This should be the profit and loss account.
(c) *False*. These are all users not just outside users. We need to exclude the two inside users (management and employees).
(d) *True*.
(e) *False*. Management prepare the accounts and then auditors check them and prepare an auditors' report.

Chapter 2: The Accounting Background

Discussion Questions

Q1 Why is there a need for accounting conventions and concepts to underpin accounting? Discuss the main accounting conventions and concepts.

A1 Accounting is a human activity which is carried out by many different organisations. In order to ensure a broad comparability between different organisations, a broad theoretical framework has arisen.

Over time, accounting conventions and accounting concepts have arisen. Accounting conventions concern the whole accounting process. The entity convention recognises that the business is a separate entity from the owner. Money measurement states that only financial data is included. Historical cost states that the amounts included in the financial statements should be the original amounts paid for a good or service. Periodicity means that accounts are prepared for a set period of time, often a year.

Accounting concepts are basic principles underpinning the preparation of accounting information. The four generally recognised accounting concepts are going concern, consistency, matching and prudence. Going concern assumes a business will continue for the foreseeable future. Consistency states that a company must use its accounting policies consistently, year in year out. Matching recognises *all* income earned and *all* expenses incurred in a year. This includes not only the actual income received during the year, but

Q&A

also any amounts owing (e.g., debtors). It also includes not only actual expenses paid, but also amounts owing. Finally, prudence states that income and profits are included in the accounts when they are *certain* to be received or earned. Liabilities should be included as soon as they are recognised, even if they are not certain to be incurred. More recently, to complement the accounting conventions and accounting concepts, a set of accounting regulations have been introduced via the Companies Acts and via accounting standards.

Q2 Why is the distinction between capital and revenue expenditure so important for accountants?

A2 Capital expenditure represents the purchases of assets for cash or on credit with a long life such as land and buildings, motor vehicles or plant and machinery. By contrast, revenue expenditure represents purchases (cash or credit) for a current year's goods or services such as trade purchases or telephone expenses. In effect, therefore, capital expenditure is an asset, whereas revenue expenditure is an expense. Capital expenditure, therefore, forms the basis for the fixed assets in the balance sheet. Meanwhile, revenue expenditure forms the basis for the purchases and expenses in the profit and loss account. Capital expenditure is used up over time. This is measured through depreciation, which provides a link between the balance sheet and income statement.

Q3 Classify the following as either an income, expense, asset, liability or capital:

(a) Crane
(b) Transit van
(c) Bank overdraft
(d) Rent
(e) Interest received
(f) Money introduced by owner
(g) Computer
(h) Creditor
(i) Prepaid insurance
(j) Interest paid

A3

Income	*Expense*	*Asset*	*Liability*	*Capital*
(e) Interest received	(d) Rent (j) Interest paid	(a) Crane (b) Transit van (i) Prepaid insurance	(c) Bank overdraft (h) Creditor (g) Computer	(f) Money introduced by owner

Numerical Questions

Q1 For the last year, John Evans has the following financial details about his business:

Closing assets	£20,000	Sales	£20,000
Closing liabilities	£4,000	General expenses	£8,000
Cash outflows	£16,000	Trading expenses	£7,000
Closing capital employed	£16,000	Other expenses	£2,000
Opening capital employed	£13,000	Cash inflows	£18,000

Q&A

Required:
Prepare John Evans'
(i) Profit and loss account
(ii) Balance sheet
(iii) Cash flow statement.

A1 John Evans

(i)

John Evans
Profit and Loss Account

	£	£
Sales		20,000
Less *Expenses*		
General expenses	8,000	
Trading expenses	7,000	
Other expenses	2,000	17,000
Net Profit		3,000

(ii) **Balance Sheet**

	£
Assets	20,000
Liabilities	(4,000)
Net assets	16,000

	£
Opening capital employed	13,000
Add Profit	3,000
Closing capital employed	16,000

(iii) **Cash Flow Statement**

	£
Cash inflows	18,000
Cash outflows	(16,000)
Net cash inflow	2,000

Q2 William Edwards is a student studying at a British university. William has the following financial details for his second year at university:

	£		£
Tuition fees	1,075	Food	1,300
House rental	2,020	General	450
Money spent on books (only used for one year)	120	Purchased computer during the year for[1]	75
Money spent on entertainment	600	Parental loan of £3,000 during year	
Money earned working at supermarket	1,950	State of affairs at start of year:	
Phone calls	150	Cash at bank at start of year	4,000
Share of house's electricity	90	Bicycle[2]	100

Notes:
1. Still worth £75 at end of the year.
2. Worth £80 at end of year.

Required:
Prepare William Edwards'
(i) Profit and loss account (income and expenditure account)
(ii) Balance sheet (assets and liabilities)
(iii) Cash flow statement.

A2 William Edwards

(i) William Edwards
Profit and Loss Account (Income and Expenditure Account)

	£	£
Income		
Money earned		1,950
Less *Expenses*		
Tuition fees	1,075	
House rental	2,020	
Money spent on books	120	
Entertainment	600	
Phone calls	150	
Food	1,300	
General	450	
Electricity	90	
Loss in value of bicycle	20	5,825
Net Deficit		(3,875)

Q&A

A2 William Edwards (*continued*)

(ii) **William Edwards**
Balance Sheet (Assets and Liabilities Statement)

Assets	£
Bank (from cash flow statement)	3,070
Bicycle	80
Computer	75
	3,225
Liabilities	
Parental loan	(3,000)
Net assets	225

Capital Employed	£
Opening capital employed	4,100*
Net deficit	(3, 875)
Closing capital employed	225

*Cash at bank £4,000 plus £100 bicycle

(iii) **William Edwards**
Cash Flow Statement

	£	£
Bank balance at start of year		4,000
Add *Receipts*:		
Parental loan	3,000	
Earned at supermarket	1,950	4,950
		8,950
Less *Payments*:		
Tuition fees	1,075	
House rental	2,020	
Books	120	
Entertainment	600	
Phone calls	150	
Food	1,300	
General	450	
Electricity	90	
Computer	75	5,880
Bank balance at end of year		3,070

Q&A

Chapter 3: Recording: Double-Entry Bookkeeping

Discussion Question

Q1 How does the trial balance conform to the accounting equation and what role does it play in the preparation of the financial statements?

A1 The trial balance is prepared from the double-entry process in which debits equal credits. As the accounting equation demonstrates:

DEBITS		CREDITS
1. Assets	=	Liabilities
2. Assets	=	Liabilities + Capital
3. Assets	=	Liabilities + Capital + Profit
4. Assets	=	Liabilities + Capital + (Income − Expenses)
5. Assets + Expenses	=	Liabilities + Capital + Income

Therefore, in a trial balance, assets and expenses are debits and recorded on the left-hand side while liabilities, capital and income are credits and recorded on the right-hand side. Thus, the accounting equation leads directly on to the trial balance.

The trial balance plays an intermediate role in the preparation of the financial statements. It records the balances as derived from the double-entry bookkeeping process. The asset, liability and capital balances are carried forward in the ledger accounts to the next accounting period. They also provide the balances for the balance sheet. The expenses and income balances are not carried forward in the ledger accounts. They are transferred to the profit and loss account (for non-listed companies) or to the trading and profit and loss account (sole traders and partnerships) or to the income statement (listed companies).

Numerical Questions

Q1 Using the following accounting figures show the six steps in the accounting equation: opening assets £30,000, liabilities £30,000 (£20,000 third party and £10,000 capital), profit £40,000 (income £120,000, expenses £80,000).

A1

(i)	Assets = Liabilities	£30,000 = £30,000
(ii)	Assets = Liabilities + Capital	£30,000 = £20,000 + £10,000
(iii)	Assets = Liabilities + Capital + Profit	£70,000 = £20,000 + £10,000 + £40,000
(iv)	Assets = Liabilities + Capital + (Income − Expenses)	£70,000 = £20,000 + £10,000 +(£120,000 − £80,000)
(v)	Assets + Expenses = Liabilities + Capital + Income	£70,000 + £80,000 = £20,000 + £10,000 +£120,000

Q&A

'T' Account	
(vi) Assets + Expenses	Liabilities + Capital + Income

'T' Account	
£70,000 + £80,000 = £150,000	£20,000 + £10,000 + £120,000 = £150,000

Q2 David Preece has the following financial transactions up to 30 June:

(a) Invests £30,000 on 1 January.
(b) Buys a motor car for £6,000 on 3 March by cheque.
(c) Buys a computer for cash for £1,500 on 4 March.
(d) Purchases £9,000 goods on credit from R. Bird on 12 March.
(e) Pays R. Bird £6,000 on 10 April.
(f) Sells £12,000 credit sales to P. Smith on 8 June.
(g) Receives £7,000 cash on 18 June and £3,000 cash on 23 June both amounts from P. Smith.

Required:

On 30 June prepare David Preece's

(i) Ledger accounts
(ii) Trial balance after balancing off the accounts.

There is no need to transfer the trading and profit and loss account items.

A2 David Preece

(i) Ledger accounts

Sales

	£		£
30 June Bal. c/f	*12,000*	8 June Smith	12,000
	12,000		*12,000*
		30 June Bal. b/f	12,000

Purchases

	£		£
12 March Bird	9,000	*30 June Bal. c/f*	*9,000*
	9,000		*9,000*
30 June Bal. b/f	9,000		

Capital

	£		£
30 June Bal. c/f	*30,000*	1 Jan Bank	30,000
	30,000		*30,000*
		1 July Bal. b/f	*30,000*

Bank

	£		£
1 Jan Capital	30,000	3 March Motor car	6,000
18 June Smith	7,000	4 March Computer	1,500
23 June Smith	3,000	10 April Bird	6,000
		30 June Bal. c/f	*26,500*
	40,000		*40,000*
1 July Bal. b/f	*26,500*		

Q&A

Motor Car

	£		£
3 March Bank	6,000	*30 June Bal. c/f*	*6,000*
	6,000		6,000
1 July Bal. b/f	*6,000*		

P. Smith (debtor)

	£		£
8 June Sales	12,000	18 June Bank	7,000
		23 June Bank	3,000
		30 June Bal. c/f	*2,000*
	12,000		12,000
1 July Bal. b/f	*2,000*		

R. Bird (creditor)

	£		£
10 April Bank	6,000	12 March Purchases	9,000
30 June Bal. c/f	*3,000*		
	9,000		9,000
		1 July Bal. b/f	*3,000*

Computer

	£		£
4 March Bank	1,500	*30 June Bal. c/f*	*1,500*
	1,500		1,500
1 July Bal. b/f	*1,500*		

To aid understanding, the balancing-off process is italicised.

(ii) Trial balance

David Preece Trial Balance as at 30 June

	Debit £	Credit £
Sales		12,000
Purchases	9,000	
Capital		30,000
Bank	26,500	
Motor car	6,000	
Computer	1,500	
P. Smith (debtor)	2,000	
R. Bird (creditor)		3,000
	45,000	45,000

Q3 Janet Jenman has the following transactions for her company in June:

1 June	Invests	£12,000 in her business bank account.
3 June	Purchases	£3,000 of goods on credit from S. Parker.
		£3,500 of goods on credit from A. Jones.
		£4,500 goods for cash from R. Wall.
4 June	Sells	£6,000 goods on credit to R. Fish.
		£4,500 goods on credit to R. Leake.
		£3,500 goods for cash to R. Shah.
8 June	R. Fish returns £1,500 goods unpaid.	
9 June	J. Jenman sends R. Fish's £1,500 goods (that she had originally purchased from S. Parker for £1,000) back unpaid.	
10 June	Purchases another £1,300 of goods on credit from S. Parker.	
11 June	R. Shah buys on credit £2,000 of goods from J. Jenman.	
15 June	J. Jenman receives bank interest of £25.	

Q&A

20 June J. Jenman pays S. Parker the amount owing.
20 June J. Jenman pays A. Jones £3,000.
21 June J. Jenman receives £3,000 from R. Fish.
21 June J. Jenman receives £2,000 from R. Leake.
30 June R. Poon pays by cheque wages £1,000, rent £750, electricity £100, and telephone £125.

Required:

Prepare J. Jenman's

(i) Ledger accounts

(ii) Trial balance after balancing off the accounts.

There is no need to transfer the trading and profit and loss account items.

A3 Janet Jenman

(i) Ledger accounts

Ledger Accounts

Capital

	£		£
30 June Bal. c/f	*12,000*	1 June Bank	12,000
	12,000		*12,000*
		1 July Bal. b/f	*12,000*

Bank

	£		£
1 June Capital	12,000	3 June Purchases	4,500
4 June Sales	3,500	20 June S. Parker	3,300
15 June Interest	25	20 June A. Jones	3,000
21 June R. Fish	3,000	30 June Wages	1,000
21 June R. Leake	2,000	30 June Rent	750
		30 June Electricity	100
		30 June Telephone	125
		30 June Bal. c/f	*7,750*
	20,525		*20,525*
1 July Bal. b/f	*7,750*		

Sales

	£		£
		4 June Bank	3,500
		4 June R. Fish	6,000
		4 June R. Leake	4,500
30 June Bal. c/f	*16,000*	11 June R. Shah	*2,000*
	16,000		*16,000*
		30 June Bal. c/f	*16,000*

Purchases

	£		£
3 June Bank	4,500		
3 June S. Parker	3,000		
3 June A. Jones	3,500		
10 June S. Parker	1,300	*30 June Bal. c/f*	*12,300*
	12,300		*12,300*
30 June Bal. b/f	*12,300*		

Q&A

A3 Janet Jenman (*continued*)

Sales returns

	£		£
8 June R. Fish	1,500	*30 June Bal. c/f*	*1,500*
	1,500		*1,500*
30 June Bal. b/f	*1,500*		

Purchases returns

	£		£
30 June Bal. c/f	*1,000*	9 June S. Parker	1,000
	1,000		*1,000*
		30 June Bal. b/f	*1,000*

Electricity

	£		£
30 June Bank	100	*30 June Bal. c/f*	*100*
	100		*100*
30 June Bal. b/f	*100*		

Wages

	£		£
30 June Bank	1,000	*30 June Bal. c/f*	*1,000*
	1,000		*1,000*
30 June Bal. b/f	*1,000*		

Bank interest received

	£		£
30 June Bal. c/f	*25*	15 June Bank	25
	25		*25*
		30 June Bal. b/f	*25*

Rent

	£		£
30 June Bank	750	*30 June Bal. c/f*	*750*
	750		*750*
30 June Bal. b/f	*750*		

Telephone

	£		£
30 June Bank	125	*30 June Bal. c/f*	*125*
	125		*125*
30 June Bal. c/f	*125*		

R. Fish (debtor)

	£		£
4 June Sales	6,000	8 June Sales Returns	1,500
		21 June Bank	3,000
		30 June Bal. c/f	*1,500*
	6,000		*6,000*
1 July Bal. b/f	*1,500*		

R. Leake (debtor)

	£		£
4 June Sales	4,500	21 June Bank	2,000
		30 June Bal. c/f	*2,500*
	4,500		*4,500*
1 July Bal. b/f	*2,500*		

S. Parker (creditor)

	£		£
9 June Purchases Ret.	1,000	3 June Purchases	3,000
20 June Bank	3,300	10 June Purchases	1,300
	4,300		*4,300*

A. Jones (creditor)

	£		£
20 June Bank	3,000	3 June Purchases	3,500
30 June Bal. c/f	*500*		
	3,500		*3,500*
		1 July Bal. b/f	*500*

R. Shah (debtor)

	£		£
11 June Sales	2,000	30 June Bal. c/f	2,000
	2,000		2,000
1 July Bal. b/f	*2,000*		

To aid understanding, the balancing-off process is italicised.

Q&A

A3 Janet Jenman (*continued*)

(ii) Trial balance

J. Jenman Trial Balance as at 30 June

	£	£
Capital		12,000
Bank	7,750	
Sales		16,000
Purchases	12,300	
Sales returns	1,500	
Purchases returns		1,000
Electricity	100	
Wages	1,000	
Interest receivable		25
Rent	750	
Telephone	125	
R. Fish (debtor)	1,500	
R. Leake (debtor)	2,500	
R. Shah (debtor)	2,000	
A. Jones (creditor)		500
	29,525	29,525

Q4 Ryan Fishe, an engineer, has the following balances from the accounts on 31 December:

	£		£
Capital	85,227	Business premises	12,000
Electricity	2,300	Long-term loan	12,000
Telephone	1,200	Van	4,000
Repairs	850	K. Whittal (debtor)	1,250
Business rates	1,200	R. Bartup (debtor)	2,125
S. Meredith (creditor)	1,308	Computer	1,800
M. Burke (creditor)	407	Travel	5,000
General expenses	810	Sales	125,300
Equipment	1,800	Cash at bank (overdraft)	1,808
Insurance	365	Purchases	83,400

Required:
Prepare Ryan Fishe's trial balance as at 31 December.

Q&A

A4 Ryan Fishe

Ryan Fishe
Trial Balance as at 31 December

	Debit £	Credit £
Business premises	120,000	
Long-term loan		12,000
Van	4,000	
K. Whittal (debtor)	1,250	
R. Bartup (debtor)	2,125	
S. Meredith (creditor)		1,308
M. Burke (creditor)		407
Sales		125,300
Cash at bank		1,808
Purchases	83,400	
Electricity	2,300	
Telephone	1,200	
Repairs	850	
Business rates	1,200	
Computer	1,800	
Travel	5,000	
General expenses	810	
Equipment	1,800	
Insurance	365	
Capital		85,277
	226,100	226,100

Chapter 4: Main Financial Statements: The Profit and Loss Account

Discussion Question

Q1 Discuss how the accounting conventions (i.e., entity, money measurement, historical cost and periodicity) and the accounting concepts (i.e., going concern, matching, consistency and prudence) impact upon the profit and loss account (income statement).

Q&A

A1 Accounting Conventions

The entity convention means that we prepare the accounts from the perspective of the business and not the owner of the business, e.g., we include the business's not the owner's bank account. The money measurement concept means that we only record items in the profit and loss which have resulted from an original monetary transaction.

Historical cost means that we record the transactions (e.g., sales, purchases, expenses) at the date when they occur. Periodicity means that the profit and loss account is prepared for a period, normally a year.

Accounting Concepts

The going concern concept states that we include items in the accounts under the assumption that the business will continue into the foreseeable future. This has more importance to the balance sheet than to the profit and loss account. However, it would affect the value of opening and closing stock.

The matching concept ensures that the profit and loss account is drawn up on the basis of income earned and expenses incurred not cash paid and cash received.

The consistency concept ensures that if certain policies are used to record income and expenses, these are used consistently.

The prudence concept is difficult to apply to relatively straightforward profit and loss accounts. However, one instance might be bad debts. These would be recognised as soon as they were incurred.

Numerical Questions

Q1 Derek Powell has extracted the following balances from his accounts year ending 30 September 2006:

	£		£
Opening stock	9,000	Purchases	53,000
Closing stock	8,500	Purchases returns	1,250
Sales	102,000	Sales returns	300
Carriage inwards	2,000		

Required:

Draw up Derek Powell's trading account for the year ended 30 September 2006.

Q&A

A1 Derek Powell

Derek Powell
Trading Account for the Year Ended 30 September 2006

	£	£	£
Sales			102,000
Less Sales returns			300
			101,700
Less *Cost of Sales*			
Opening stock		9,000	
Add Purchases	53,000		
Less Purchases returns	1,250		
	51,750		
Add Carriage inwards	2,000	53,750	
		62,750	
Less Closing stock		8,500	54,250
Gross Profit			47,450

Q2 Tim Williams' extracted the following balances from his account for the year to 31 December 2005:

	£		£
Income from investments	3,600	Sales	400,000
Wages and salaries	23,800	Opening stock	8,000
Insurance	1,850	Purchases	125,000
Light and heat	12,700	Closing stock	5,000
Telephone	1,850	Legal expenses	2,800
Purchases returns	1,050	Travel expenses	11,700
Sales returns	2,080	Repairs	650
Business rates	11,750	General expenses	1,830

Required:
Draw up Tim Williams' trading and profit and loss account for the year ended 31 December 2005.

Q&A

A2 Tim Williams

Tim Williams
Trading and Profit and Loss Account for the Year Ended 31 December 2005

	£	£	£
Sales			400,000
Less Sales returns			2,080
			397,920
Less *Cost of Sales*			
Opening stock		8,000	
Add Purchases	125,000		
Less Purchases returns	1,050	123,950	
		131,950	
Less Closing stock		5,000	126,950
Gross Profit			270,970
Add *Other Income*			
Income from investments			3,600
Less *Expenses*			274,570
Legal expenses		2,800	
Travel expenses		11,700	
Repairs		650	
General expenses		1,830	
Wages and salaries		83,800	
Insurance		1,850	
Light and heat		12,700	
Telephone		1,850	
Business rates		11,750	128,930
Net Profit			145,640

Q3 Geoff Woolley has the following details for the year to 30 June 2006:

	£		£
Sales	500,000	Bank interest receivable	2,800
Opening stock	12,000	Wages and salaries	18,000
Closing stock	14,000	Insurance	4,000
Advertising	23,000	Light and heat	6,000
Travel expenses	8,500	Telephone	3,200
Repairs	7,000	Purchases returns	2,800
General expenses	6,300	Sales returns	1,900
Purchases	350,000	Business rates	5,300
		Sales commission	2,200

Required:
Draw up Geoff Woolley's trading and profit and loss account for the year ended 30 June 2006.

A3 Geoff Woolley

Geoff Woolley
Trading and Profit and Loss Account for the Year Ended 30 June 2006

	£	£	£
Sales			500,000
Less Sales returns			1,900
			498,100
Less *Cost of Sales*			
Opening stock		12,000	
Add Purchases	350,000		
Less Purchases returns	2,800	347,200	
		359,200	
Less Closing stock		14,000	345,200
Gross Profit			152,900
Add *Other Income*			
Bank interest receivable			2,800
Less *Expenses*			155,700
Advertising		23,000	
Travel expenses		8,500	
Repairs		7,000	
General expenses		6,300	
Wages and salaries		18,000	
Insurance		4,000	
Light and heat		6,000	
Telephone		3,200	
Business rates		5,300	
Sales commission		2,200	83,500
Net Profit			72,200

Q&A

Chapter 5: Main Financial Statements: The Balance Sheet

Discussion Question

Q1 What is the balance sheet and why is it so important?

A1 A balance sheet is a financial statement which shows the assets, liabilities and capital of an organisation at a particular point in time. Assets are items the business owns or leases and may be fixed (e.g., land and buildings, plant and machinery, motor vehicles or fixtures and fittings) or current (e.g., stock, debtors, cash). Liabilities are owed by a business and may be current (such as creditors) or long-term (such as a loan). Capital, by contrast, represents assets less liabilities. In itself, capital is a type of liability because the business owes the capital to the owner(s). Balance sheets of listed companies have a different terminology and presentational format to the balance sheets of other enterprises.

The balance sheet is important because it presents an annual snapshot of the business. It provides an overview of the assets and liabilities. From this overview, it is possible to answer certain questions such as how much cash the business has or how much borrowing. The answers to such questions help users to evaluate the strength of the business. In particular, they can determine whether it looks healthy and is likely to continue trading.

Numerical Questions

Q1 Susan Chan has extracted the following balances from her accounts as at 30 September 2006:

	£		£
Creditors	14,000	Land and buildings	200,000
Long-term loan	14,000	Plant and machinery	80,000
Net profit	48,000	Motor vehicles	28,000
Drawings	12,000	Stock	36,500
Cash	8,200	Debtors	28,300

Required:

Prepare Susan Chan's balance sheet as at 30 September 2006. Note that capital can be arrived at by deduction.

Q&A

A1 Susan Chan

Susan Chan
Balance Sheet as at 30 June 2006

	£	£	£
Fixed Assets			
Land and buildings			200,000
Plant and machinery			80,000
Motor vehicles			28,000
			308,000
Current Assets			
Stock	36,500		
Debtors	28,300		
Cash	8,200	73,000	
Current Liabilities			
Creditors	(14,000)	(14,000)	
Net current assets			59,000
Total assets less current liabilities			367,000
Long-term Creditors			(14,000)
Total net assets			353,000
Capital Employed			£
Opening capital			317,000
Add Net Profit			48,000
			365,000
Less Drawings			12,000
Closing capital			353,000

Q2 Natasha Mendez has the following details from her accounts as at 30 June 2006:

	£		£
Land and buildings	350,000	Creditors	15,000
Plant and machinery	100,000	Long-term loan	23,000
Motor vehicles	23,000	Net profit	36,000
Fixtures and fittings	12,000	Drawings	15,000
Stock	56,300	Debtors	26,800
		Cash	12,000

Required:
Prepare Natasha Mendez's balance sheet as at 30 June 2006.

Q&A

A2 Natasha Mendez

Natasha Mendez
Balance Sheet as at 30 June 2006

	£	£	£
Fixed Assets			
Land and buildings			350,000
Plant and machinery			100,000
Motor vehicles			23,000
Fixtures and fittings			12,000
Fixed assets			485,000
Current Assets			
Stock	56,300		
Debtors	26,800		
Cash	12,000	95,100	
Current Liabilities			
Creditors	(15,000)	(15,000)	
Net current assets			80,100
Total assets less current liabilities			565,100
Long-term Creditors			(23,000)
			542,100
Capital Employed			£
Opening capital			521,100
Add Net Profit			36,000
			557,100
Less Drawings			15,000
Closing capital			542,100

Chapter 6: Preparing The Financial Statements

Discussion Question

Q1 Computer programs can generate a profit and loss account (income statement) and also a balance sheet which balances automatically. However, human judgement is still needed to prepare the final accounts. Discuss.

A1 The final accounts are prepared from a trial balance. If the trial balance balances then there is duality and so the balance sheet will balance. Profit becomes the linking figure between

Q&A

the profit and loss account and the balance sheet. Once the data is input, many computer programs can indeed prepare a set of final accounts.

However, human judgement is still needed to check that the figures have been input correctly. If the original data input was incorrect then the double entry will be incorrect as will the final accounts. In addition, human judgement is needed in such matters as determining the post-trial balance adjustments. There is a need to establish the accurate levels of closing stock, accruals, prepayments, depreciation and doubtful debts. Also, on a broader level, human beings may, for example, decide to revalue fixed assets. The preparation of the final accounts should not, therefore, be seen purely as a mechanistic exercise.

Numerical Questions

Q1 Peter Issaro, a piano teacher, has the following trial balance:

P. Issaro
Trial Balance as at 30 June 2006

	Debit	Credit
	£	£
Piano	1,500	
Furniture	400	
Rent for room	2,400	
Computer	1,000	
Fees from tuition		10,500
General expenses	1,000	
Capital		3,550
Bank	1,500	
Postage and stationery	50	
Electricity	300	
Advertising	300	
Creditors		150
Debtors	350	
Telephone	400	
Drawings	5,000	
	14,200	14,200

Note: In this case, there are really no purchases as such.

Required:
Prepare Peter Issaro's trading and profit and loss account for the year ended 30 June 2006 and a balance sheet as at 30 June 2006.

Q&A

A1 P. Issaro

P. Issaro
Trading and Profit and Loss Account for the Year Ended 30 June 2006

	£	£
Tuition fees		10,500
Less *Expenses*		
Rent for room	2,400	
General expenses	1,000	
Postage and stationery	50	
Electricity	300	
Advertising	300	
Telephone	400	4,450
Net Profit		6,050

P. Issaro
Balance Sheet as at 30 June 2006

	£	£	£
Fixed Assets			
Computer			1,000
Piano			1,500
Furniture			400
			2,900
Current Assets			
Bank	1,500		
Debtors	350	1,850	
Current Liabilities			
Creditors	(150)	(150)	
Net current assets			1,700
Total assets less current liabilities			4,600
Long-term Creditors			–
Total net assets			4,600
Capital Employed			£
Opening capital			3,550
Add Net Profit			6,050
			9,600
Less Drawings			5,000
Closing capital			4,600

Q&A

Q2 Martin Onet has prepared his trial balance as at 31 December. He has recorded £3,000 for rent and £2,500 for electricity. However, there is £600 owing to the landlord and £500 owing to the electricity board.

Required:
The extracts for the final accounts.

A2 M. Onet

Trading and Profit and Loss Account (extracts) Balance Sheet (extracts)

Expenses		**Current Liabilities**	
Rent	£3,600 (i.e., £3,000 + £600)	Accruals	£ 1,100*
Electricity	£3,000 (i.e., £2,500 + £500)	*£600 for rent and £500 for electricity	

Q3 Doreen Egas runs a small newsagent. She has the following trial balance as at 31 May 2006:

	Debit £	Credit £
Sales		50,000
Sales returns	2,500	
Purchases	17,000	
Fixtures and fittings	6,750	
Opening stock	6,000	
Debtors	4,500	
Long-term loan		4,000
Creditors		3,000
Cash at bank	1,800	
Motor van	13,000	
Shop premises	50,000	
Business rates	1,500	
Electricity	1,400	
Telephone	350	
Insurance	1,200	
General expenses	800	
Wages	6,400	
Drawings	12,000	
Capital		68,200
	125,200	125,200

You also have the following additional information:
1. Closing stock is £8,000.

Q&A

2. D. Egas owes £300 in general expenses and £250 for telephone.
3. £300 of the insurance is prepaid.

Required:

Prepare D. Egas' trading and profit and loss account for the year ended 31 May 2006 and a balance sheet as at 31 May 2006.

A3 D. Egas

D. Egas
Trading and Profit and Loss Account for the Year Ended 31 May 2006

	£	£	£
Sales			50,000
Less Sales returns			2,500
			47,500
Less *Cost of Sales*			
Opening stock		6,000	
Add Purchases		17,000	
		23,000	
Less Closing stock		8,000	15,000
Gross Profit			32,500
Less *Expenses*			
Business rates		1,500	
Electricity		1,400	
Telephone		600	
Wages		6,400	
General expenses		1,100	
Insurance		900	11,900
Net Profit			20,600

D. Egas
Balance Sheet as at 31 May 2006

	£	£	£
Fixed Assets			
Shop premises			50,000
Fixtures and fittings			6,750
Motor van			13,000
			69,750
Current Assets			
Stock	8,000		
Bank	1,800		
Debtors	4,500		
Prepayments	300	14,600	

Q&A

Current Liabilities	£	£	£
Creditors	(3,000)		
Accruals	(550)	(3,550)	
Net current assets			11,050
Total assets less current liabilities			80,800
Long-term Creditors			(4,000)
Total net assets			76,800

Capital Employed	£
Opening capital	68,200
Add Net Profit	20,600
	88,800
Less Drawings	12,000
Closing capital	76,800

Q4 Simon Dali acquired the following fixed assets at cost at the start of the year:

	£
Buildings	88,000
Machinery	18,800
Motor car	10,400
Computer	4,400

He has decided to write off 10 % from each asset as depreciation for the year.

Required:
Prepare the appropriate extracts for the balance sheet and trading and profit and loss account.

A4 S. Dali

Trading and Profit and Loss Account (extracts)

Expenses	£
Depreciation on buildings (10 %)	8,800
Depreciation on machinery (10 %)	1,880
Depreciation on motor car (10 %)	1,040
Depreciation on computers (10 %)	440
	12,160

Q&A

A4 S. Dali (*continued*)

Balance Sheet (extracts)	£ *Cost*	£ *Accumulated depreciation*	£ *Net book value*
Fixed Assets			
Buildings	88,000	(8,800)	79,200
Machinery	18,800	(1,880)	16,920
Motor car	10,400	(1,040)	9,360
Computer	4,400	(440)	3,960
	121,600	(12,160)	109,440

Q5 Thomas Urner runs a restaurant and corporate hospitality company. He has the following trial balance:

T. Urner
Trial Balance as at 31 December 2005

	Debit £	Credit £
Sales		212,000
Purchases	112,500	
Drawings	8,500	
Advertising	3,500	
Telephone	1,500	
Wages	32,050	
Electricity	1,300	
Business rates	1,200	
Travelling expenses	2,100	
Insurance	360	
Premises at cost	280,800	
Kitchen equipment at cost	16,500	
Restaurant furniture at cost	5,400	
Bar equipment at cost	3,500	
Opening stock	3,600	
Cash at bank	4,150	
Motor van at cost	3,850	
Debtors	3,750	
General expenses	2,250	
Creditors		4,500
Bank interest	1,425	
Long-term loan		14,250
Capital		257,485
	488,235	488,235

Q&A

You have the following extra information:

1. Closing stock at 31 December 2005 is £4,050.
2. £60 of the insurance is prepaid.
3. There is £200 owing for the telephone and one week's wages is owing of £600.
4. Bad debts are £350.
5. There is depreciation on the premises of 2 %, the furniture and equipment of 10 % and the motor van of 20 %.

Required:

Prepare T. Urner's trading and profit and loss account for the year ending 31 December 2005 and a balance sheet as at 31 December 2005.

A5 T. Urner

T. Urner
Trading and Profit and Loss Account for the Year Ended 31 December 2005

	£	£	£
Sales (takings)			212,000
Less *Cost of Sales*			
Opening stock		3,600	
Add Purchases		112,500	
		116,100	
Less Closing stock		4,050	112,050
Gross Profit			99,950
Less *Expenses*			
Advertising		3,500	
Telephone		1,700	
Wages		32,650	
Electricity		1,300	
Business rates		1,200	
Travelling expenses		2,100	
General expenses		2,250	
Insurance		300	
Bank interest		1,425	
Depreciation:			
Premises		5,616	
Kitchen equipment		1,650	
Restaurant furniture		540	
Bar equipment		350	
Motor van		770	
Bad debts		350	55,701
Net Profit			44,249

Q&A

A5 T. Urner (*continued*)

Balance Sheet as at 31 December 2005

	£	£	£
Fixed Assets	*Cost*	*Accumulated depreciation*	*Net book value*
Premises	280,800	(5,616)	275,184
Kitchen equipment	16,500	(1,650)	14,850
Restaurant furniture	5,400	(540)	4,860
Bar equipment	3,500	(350)	3,150
Motor van	3,850	(770)	3,080
	310,050	(8,926)	301,124
Current Assets	£	£	£
Stock	4,050		
Debtors less bad debts	3,400		
Prepayments	60		
Cash at bank	4,150	11,660	
Current Liabilities			
Creditors	(4,500)		
Accruals	(800)	(5,300)	
Net current assets			6,360
Total assets less current liabilities			307,484
Long-term Creditors			(14,250)
Total net assets			293,234
Capital Employed			£
Opening capital			257,485
Add Net Profit			44,249
			301,734
Less Drawings			8,500
Closing capital			293,234

Q6 Gerald Oya runs a small business. He has always maintained a provision for doubtful debts of 10 % of his debtors. At 31 December 2004 and 31 December 2005 debtors were £18,000 and £28,000, respectively. At the end of December 2005 he decides that in addition to the provision he should write off a specific bad debt of £300.

Required:

(a) Balance sheet entry for debtors as at 31 December 2004.

(b) Trading and profit and loss account extract for the year ended 31 December 2005 and balance sheet extract for 31 December 2005 for bad and doubtful debts.

Q&A

A6 G. Oya

(a) Balance Sheet (extract for 31 December 2004)

Current Assets	£
Debtors less doubtful debts	16,200
(£18,000 less 10 % i.e., £1,800)	

(b) Trading and Profit and Loss Account (extract for the year ended 31 December 2005)

Expenses	£
Bad debts	300
Doubtful debts	1,000
(i.e., increase in provision £2,800 less £1,800)	

Balance Sheet (extract for 31 December 2005)

	£
Debtors less bad and doubtful debts	24,900
(i.e., £28,000 less 10 % i.e., £2,800 and less £300 bad debt)	

Q7 Teresa Lautrec's trial balance for her light engineering business is set out below with some adjustments.

Teresa Lautrec
Trial Balance as at 31 December 2005

	Debit £	Credit £
Sales		325,000
Sales returns	18,350	
Purchases	160,000	
Purchases returns		1,276
Debtors	20,187	
Provision for doubtful debts		1,000
Creditors		13,142
Long-term loan		12,198
Interest payable	3,145	
Bank overdraft		15,361
Cash at bank	21,100	
Opening stock	6,390	
Land and buildings at cost	118,600	
Accumulated depreciation as at 1 January 2005		8,900

Q&A

Q7 **Teresa Lautrec's trial balance (*continued*)**

	£	£
Motor vehicles at cost	25,470	
Accumulated depreciation as at 1 January 2005		4,600
Furniture and fittings at cost	18,310	
Accumulated depreciation as at 1 January 2005		3,200
Plant and machinery at cost	9,300	
Accumulated depreciation as at 1 January 2005		4,200
Insurance	480	
General expenses	365	
Business rates	2,500	
Travelling expenses	2,194	
Repairs	318	
Light and heat	2,454	
Salaries	80,300	
Wages	4,650	
Telephone	1,418	
Carriage outwards	62	
Advertising	1,150	
Drawings	38,130	
Discounts allowed	28	
Dividends receivable		47
Interest receivable		52
Capital		145,925
	534,901	534,901

Notes:
1. Closing stock £5,895.
2. £80 of the insurance is prepaid.
3. There is £250 owing for general expenses and £100 owing for telephone.
4. Bad debts are estimated to be £287.
5. The provision for doubtful debts is to be £1,300.
6. The rates appropriate for depreciation are on cost:
   2 % Land and buildings.
   25 % Motor vehicles.
   10 % Furniture and fittings.
   15 % Plant and machinery.

Required:
Prepare T. Lautrec's trading and profit and loss account for the year ended 31 December 2005 and a balance sheet as at 31 December 2005.

Q&A

A1 T.Lautrec

T. Lautrec

Trading and Profit and Loss Account for the Year Ended 31 December 2005

	£	£	£
Sales			325,000
Less Sales returns			18,350
			306,650
Less *Cost of Sales*			
Opening stock		6,390	
Add Purchases	160,000		
Less Purchases returns	1,276	158,724	
		165,114	
Less Closing stock		5,895	159,219
Gross Profit			147,431
Add *Other Income*			
Dividends receivable		47	
Interest receivable		52	99
			147,530
Less *Expenses*			
Carriage outwards		62	
Discounts allowed		28	
Advertising		1,150	
Telephone		1,518	
Wages		4,650	
Salaries		80,300	
Light and heat		2,454	
Business rates		2,500	
Travelling expenses		2,194	
Repairs		318	
General expenses		615	
Insurance		400	
Interest payable		3,145	
Depreciation:			
Land and buildings		2,372	
Plant and machinery		1,395	
Furniture and fittings		1,831	
Motor vehicles		6,368	
Bad debts		287	
Increase in doubtful debts		300	111,887
Net Profit			35,643

Q&A

A7 T. Lautrec (*continued*)

T. Lautrec

● Q1 **Balance Sheet as at 31 December 2005** ●

	£ *Cost*	£ *Accumulated depreciation*	£ *Net book value*
Fixed Assets			
Land and buildings	118,600	(11,272)	107,328
Plant and machinery	9,300	(5,995)	3,305
Furniture and fittings	18,310	(5,031)	13,279
Motor vehicles	25,470	(10,568)	14,902
	171,680	(32,866)	138,814
Current Assets			
Stock	5,895		
Debtors less bad and doubtful debts	18,600		
Prepayments	80		
Cash at bank	21,100	45,675	
Current Liabilities			
Creditors	(13,142)		
Bank overdraft	(15,361)		
Accruals	(350)	(28,853)	
Net current assets			16,822
Total assets less current liabilities			155,636
Long-term Creditors			(12,198)
Total net assets			143,438
Capital Employed			£
Opening capital			145,925
Add Net Profit			35,643
			181,568
Less Drawings			38,130
Closing capital			143,438

Chapter 7: Partnerships and Limited Companies

Discussion Question

Q1 Limited liability is the key difference between companies *and* sole traders and partnerships. Discuss.

Q&A

A1 Limited liability means that shareholders are only liable for the capital that they have invested. By purchasing a share, they purchase a share in the net assets of the company. These shares can then be bought and sold. The owners of the company, therefore, not only do not take a direct part in running a company, but they also may have little intimate knowledge of the company at all. Indeed, a public limited company's shareholders are constantly changing as shares are bought and sold.

This divorce of ownership and control, and the consequent mobility of capital are indeed very different from the capital employed by sole traders and partners. For sole traders and partners, the capital is generally invested by those who are running the business or are, at least, reasonably closely involved. However, there may be sleeping partners (i.e., partners who contribute capital but do not participate in the day-to-day operations of the partnership). The capital is also invested for a relatively long time as compared to companies.

Importantly, the capital employed by sole traders and partners is generally (for partnerships, it is possible to have some limited partners) not limited. This means that the personal possessions of sole traders and partners may be at risk to creditors if the business fails. By contrast, shareholders' personal possessions would be untouched if a company failed. Since July 2000, limited liability partnership (LLPs) have been introduced. These LLPs, unlike normal partnerships, allow individual partners to have limited liability. The LLPs themselves would be liable to third parties.

Numerical Questions

Q1 A. Day and B. Dreamer's trial balance as at 30 June 2005 is set out below:

	£	£
Capital accounts:		
Day		50,373
Dreamer		28,500
Current accounts:		
Day		3,000
Dreamer	2,000	
Drawings:		
Day	8,000	
Dreamer	6,000	
Land and buildings at cost	125,250	
Motor vehicles at cost	83,200	
Plant and equipment cost	14,610	

Q&A

Q1 **A. Day and B. Dreamer (*continued*)**

	£	£
Opening stock	8,650	
Debtors	10,863	
Creditors		15,463
Bank		2,103
Light and heat	4,308	
Wages	12,262	
Telephone	1,826	
Rent and business rates	6,432	
Insurance	4,000	
Long-term loan		68,372
Sales		396,032
Purchases	266,812	
Interest on loan	3,418	
Other expenses	6,212	
	563,843	563,843

Notes:

1. Closing stock is £9,465.
2. Salaries are £16,000 for Day and £14,000 for Dreamer.
3. There is £600 owing for telephone and £1,000 insurance is prepaid.
4. Depreciation for the year is £5,250 on land and buildings, £3,200 on motor vehicles, and £2,610 on plant and equipment. The business was started on 1 July 2001.
5. The split of profits Day: Dreamer is 4:3.

Required:

Prepare the trading, profit and loss and appropriation account for the year ended 30 June 2006 and the balance sheet as at 30 June 2006.

A1 **A. Day and B. Dreamer**

A. Day and B. Dreamer

Trading, Profit and Loss and Appropriation Account for the Year Ended 30 June 2006

	£	£
Sales		396,032
Less *Cost of Sales*		
Opening stock	8,650	
Add Purchases	266,812	
	275,462	
Less Closing stock	9,465	265,997
Gross Profit		130,035
Less *Expenses*		
Depreciation:		
Land and buildings	5,250	

Q&A

A1 A. Day and B. Dreamer (*continued*)

	£	£
Motor vehicles	3,200	
Plant and equipment	2,610	
Light and heat	4,308	
Wages	12,262	
Rent and business rates	6,432	
Insurance	3,000	
Telephone	2,426	
Interest on loan	3,418	
Other expenses	6,212	49,118
Net Profit before Appropriation		80,917
Less Salaries:		
Day	16,000	
Dreamer	14,000	30,000
		50,917
Profits:		
Day 4	29,095	
Dreamer 3	21,822	50,917

A. Day and B. Dreamer
Balance Sheet as at 30 June 2006

	£ *Cost*	£ *Accumulated depreciation*	£ *Net book value*
Fixed Assets			
Land and buildings	125,250	(5,250)	120,000
Motor vehicles	83,200	(3,200)	80,000
Plant and equipment	14,610	(2,610)	12,000
	223,060	(11,060)	212,000
Current Assets			
Stock	9,465		
Debtors	10,863		
Prepayments	1,000	21,328	
Current Liabilities			
Bank overdraft	(2,103)		
Creditors	(15,463)		
Accruals	(600)	(18,166)	
Net current assets			3,162
Total assets less current liabilities			215,162
Long-term Creditors			(68,372)
Total net assets			146,790

Q&A

A1 A. Day and B. Dreamer (*continued*)

	Day	Dreamer	
Capital Employed	£	£	£
Capital Accounts	50,373	28,500	78,873
Current Accounts			
Opening balances	3,000	(2,000)	
Add:			
Salaries	16,000	14,000	
Profit share	29,095	21,822	
	48,095	33,822	
Less Drawings	8,000	6,000	
Closing balances	40,095	27,822	67,917
Total partners' funds			146,790

Q2 Snow and White are partners. They share profits and losses in the ratio 3:1, respectively. The partners' salaries are Snow £12,000 per annum and White £15,000 per annum. There is the following additional information:

(1) Stock as at 31 December 2005 was valued at £12,000.
(2) Carriage inwards owing £30; general expenses owing £800.
(3) Business rates paid in advance £450; insurance prepaid £1,200.
(4) Provision for bad and doubtful debts to be increased to £890.
(5) Provision should be made for depreciation of 4 % on land and buildings on cost, and for both fixtures and fittings and plant and machinery at 20 % on cost.

Trial Balance as at 31 December 2006

	£	£
Capital accounts:		
Snow		8,000
White		7,000
Current accounts:		
Snow		3,000
White		1,000
Drawings:		
Snow	12,300	
White	14,200	
Long-term loan		50,300
Land and buildings at cost as at 1 January 2005	173,500	
Stock as at 1 January 2005	8,700	
Plant and machinery at cost as at 1 January 2005	12,300	
Fixtures and fittings at cost as at 1 January 2005	13,000	

Q&A

Q2 **Snow and White (*continued*)**

	£	£
Purchases	136,000	
Cash at bank	4,200	
Sales		338,630
Trade debtors	9,700	
Carriage inwards	400	
Carriage outwards	200	
Staff salaries	22,200	
Trade creditors		13,400
General expenses	16,200	
Provision for bad and doubtful debts		720
Insurance	6,200	
Discounts receivable		200
Discounts allowed	250	
Rent and business rates	4,300	
Land and buildings accumulated depreciation as at 1 January 2005		15,800
Plant and machinery accumulated depreciation as at 1 July 2005		4,600
Fixtures and fittings accumulated depreciation as at 1 January 2005		5,000
Light and heat	6,000	
Telephone	8,000	
	447,650	447,650

Required:

Prepare the trading and profit and loss and appropriation account for the year ended 31 December 2005 and the balance sheet as at 31 December 2005.

A2 Snow and White

Snow and White
Trading, Profit and Loss and Appropriation Account for the Year Ended 31 December 2005

	£	£	£
Sales			338,630
Less *Cost of Sales*			
Opening stock		8,700	
Add Purchases	136,000		
Carriage inwards	430	136,430	
		145,130	
Less Closing stock		12,000	133,130
Gross Profit			205,500

Q&A

A2 Snow and White (*continued*)

	£	£
Add *Other Income*		
Discount receivable		200
		205,700
Less *Expenses*		
Staff salaries	22,200	
Rent and business rates	3,850	
Increase in provision for bad and doubtful debts	170	
Depreciation		
Land and buildings	6,940	
Plant and machinery	2,460	
Fixtures and fittings	2,600	
Carriage outwards	200	
General expenses	17,000	
Insurance	5,000	
Discount allowed	250	
Telephone	8,000	
Light and heat	6,000	74,670
Net Profit before Appropriation		131,030
Less Salaries:		
Snow	12,000	
White	15,000	27,000
		104,030
Profits:		
Snow 3	78,023	
White 1	26,007	
		104,030

Snow and White
Balance Sheet as at 31 December 2005

	£ *Cost*	£ *Accumulated depreciation*	£ *Net book value*
Fixed Assets			
Land and buildings	173,500	(22,740)	150,760
Plant and machinery	12,300	(7,060)	5,240
Fixtures and fittings	13,000	(7,600)	5,400
	198,800	(37,400)	161,400

Q&A

A2 Snow and White (*continued*)

	£	£	£
Current Assets			
Stock	12,000		
Debtors less provision for bad and doubtful debts	8,810		
Cash at bank	4,200		
Prepayment	1,650	26,660	
Current Liabilities			
Creditors	(13,400)		
Accruals	(830)	(14,230)	
Net current assets			12,430
Total assets less current liabilities			173,830
Long-term Creditors			(50,300)
Total net assets			123, 530

	£ Snow	£ White	£
Capital Employed			
Capital Accounts	8,000	7,000	15,000
Current Accounts			
Opening balances	3,000	1,000	
Add:			
Salaries	12,000	15,000	
Profit	78,023	26,007	
	93,023	42,007	
Less Drawings	12,300	14,200	
Closing balances	80,723	27,807	108,530
Total partners' funds			123,530

Q3 Red Light Ltd wishes to prepare internal management accounts for discussion at the next board meeting. It has the following summarised balances from its accounts:

Red Light Ltd
Trial Balance as at 31 December 2005

	£	£
Gross profit for year		300,000
8 % Debentures		180,000
7 % Preference share capital (£170,000 authorised)		120,000
£1 Ordinary share capital (£700,000 authorised)		600,000
Share premium account		40,000

Q&A

Q3 **Red Light Ltd (*continued*)**

	£	£
Revaluation reserve		60,000
Fixed assets	957,100	
General expenses	92,600	
Directors' fees	15,900	
Debtors	44,600	
Bank	28,300	
Creditors		6,500
Profit and loss account as at 1 January 2005		18,000
General reserve as at 1 January 2005		12,000
Stock as at 31 December 2005	198,000	
	1,336,500	1,336,500

Notes:

1. The directors propose (a) a dividend of 12p per share (12 %) on the ordinary shares, (b) to pay the preference dividend, and (c) to transfer £4,800 to the general reserve.
2. There is no provision for audit fee, which will be £12,800.
3. The debenture interest for the year has not been paid.
4. Corporation tax of £31,260 is to be provided on the profit for the year.
5. A sum of £8,000 is owing for general expenses.

Required:

(a) Prepare for internal management purposes the profit and loss and appropriation account for the year ended 31 December 2005.

(b) The balance sheet as at 31 December 2005.

A3 Red Light Ltd

Red Light Ltd

Profit and Loss Account for the Year Ended 31 December 2005 (Unpublished)

	£	£
Sales		[As per accounts of sole trader or partnership]
Less *Cost of Sales*		
Gross Profit		300,000
Less *Expenses*		
Debenture interest	14,400	
General expenses	100,600	
Directors' fees	15,900	
Auditors' fees	12,800	143,700
Profit before Taxation		156,300
Taxation		(31,260)

Q&A

A3 Red Light Ltd (*continued*)

	£	£
Profit after Taxation		125,040
Proposed dividends on ordinary shares	(72,000)	
Proposed dividends on preference shares	(8,400)	
Transfer to general reserve	(4,800)	(85,200)
Retained Profit		39,840

Red Light Ltd
Balance Sheet as at 31 December 2005

	£	£	£
Fixed Assets			957,100
Current Assets			
Stock	198,000		
Debtors	44,600		
Bank	28,300	270,900	
Current Liabilities			
Creditors	(6,500)		
Taxation	(31,260)		
Dividends (ordinary £72,000, preference £8,400)	(80,400)		
Auditors' fees	(12,800)		
Accruals	(8,000)		
Debenture interest	(14,400)	(153,360)	
Net current assets			117,540
Total assets less current liabilities			1,074,640
Long-term Creditors			(180,000)
Total net assets			894,640

	£	£	£
Share Capital and Reserves			
Share Capital		Authorised	Issued
Ordinary share capital (£1 each)		700,000	600,000
7 % Preference shares		170,000	120,000
		870,000	720,000
Reserves			
Capital Reserves			
Share premium account	40,000		
Revaluation reserve	60,000	100,000	
Other Reserves			
Opening general reserve	12,000		
Transfer for year	4,800		

Q&A

A3 Red Light Ltd (*continued*)

	£	£	£
Closing general reserve		16,800	
Opening profit and loss account	18,000		
Retained profit for year	39,840		
Closing profit and loss account		57,840	174,640
Total shareholders' funds			894,640

Q4 The summarised trial balance for Speculate Plc as at 30 June 2006 is provided below. Further details are provided in the notes.

	£000	£000
Land and buildings at cost	600	
Plant and machinery at cost	560	
Land and buildings accumulated depreciation as at 1 July 2005		183
Plant and machinery accumulated depreciation as at 1 July 2005		162
Long-term loan		63
Retained Earnings as at 1 July 2005		26
Share premium account		15
Revaluation reserve		12
General reserve		18
Ordinary share capital		400
Preference share capital		80
Sales		1,168
Cost of sales	326	
Administrative expenses	185	
Distribution expenses	150	
Patents	60	
Taxation paid	92	
Ordinary dividends paid	34	
Preference dividends paid	4	
Trade Payables		16
Inventory as at 30 June 2002	18	
Trade Receivables	96	
Cash at bank	18	
	2,143	2,143

Notes (in £000s except for note 1):

1. Authorised share capital is 700,000 £1 ordinary shares and 200,000 £1 preference shares.
2. At the balance sheet date a further £6 is owing for taxation.

3. Depreciation is to be charged at 2 % on cost for land and buildings and 10 % on cost for plant and machinery. The property, plant and equipment are used for administrative purposes.
4. Administrative expenses of £15 are owing and distribution expenses of £3 are prepaid.

Required:
Prepare the income statement for the year ended 30 June 2006 and the balance sheet as at 30 June 2006 as it would appear in the published accounts using International Financial Reporting Standards.

A4 Speculate Plc

Speculate Plc
Income Statement for the Year Ended 30 June 2006

	Notes	£000	£000
Sales			1,168
Cost of Sales			(326)
Gross Profit			842
Administrative expenses[a]			(268)
Distribution expenses[b]			(147)
Profit before Taxation			427
Taxation			(98)
Profit for year			329

Speculate Plc
Balance Sheet as at 30 June 2006

ASSETS	Notes	£000	£000
Non-current Assets			
Intangible Assets	1		60
Property, Plant and Equipment	2		747
			807
Current Assets			
Inventory			18
Trade Receivables	3		99
Bank			18
			135
Total Assets			942
LIABILITIES			
Current Liabilities	4		(37)
Non-current Liabilities			(63)
Total Liabilities			(100)
Net Assets			(842)

Q&A

A4 Speculate Plc (*continued*)

	Notes	£000	£000
EQUITY			
Capital and Reserves attributable to Equity Holders	5		
Called-up share capital	6		480
Share premium account			15
Other reserves			30
Retained earnings			317
Total Equity			842

Notes:

	£000
1. Intangible Assets	
Patents	60
	60

	£000 *Cost*	£000 *Accumulated depreciation*	£000 *Net book value*
2. Tangible Assets			
Land and buildings	600	(195)	405
Plant and machinery	560	(218)	342
	1,160	(413)	747

3. Trade Receivables	
Trade receivables	96
Prepayments	3
	99
4. Current Liabilities	
Accruals	15
Trade payables	16
Taxation	6
	37
5. Authorised Share Capital	
Ordinary share capital (£7,000,000 £1 each)	700
Preference share capital (£200,000 £1 each)	200
	900
6. Called-up Share Capital	
Ordinary share capital	400
Preference share capital	80
	480

Q&A

A4 Speculate Plc (*continued*)

	£
7. Other Reserves	
Revaluation reserve	12
General reserve	18
	30
8. Retained Earnings	
Balance as at 1 July 2005	26
Retained profit for year	329
Less Dividends paid	(38)
Balance as at 30 June 2006	317

Tutorial notes (in £000s):

(a) Administrative expenses are adjusted for depreciation on land and buildings £12 and on motor vehicles £56, and for expenses owing £15.

(b) Distribution expenses are adjusted for prepayments of £3.

Q5 The following trial balance was extracted from the books of Playfair plc for the year ended 31 December 2005:

	£000	£000
Ordinary share capital (£1 each)		800,000
Preference share capital (£1 each)		65,000
Debentures		220,000
Retained earnings as at 1 January 2005		68,000
Share premium account		48,000
Revaluation reserve		65,000
General reserve		28,000
Freehold premises at cost	1,218,470	
Motor vehicles at cost	25,000	
Furniture and fittings at cost	12,000	
Freehold premises accumulated depreciation as at 1 January 2006		126,000
Motor vehicles accumulated depreciation as at 1 January 2006		10,300
Furniture and fittings accumulated depreciation as at 1 January 2006		4,200
Inventory as at 1 January 2006	6,500	
Cash at bank	332,300	
Provision for bad and doubtful debts		600
Purchases/sales	650,000	900,000

Q&A

Q5 **Playfair plc (*continued*)**

	£000	£000
Trade receivables/payables	31,300	6,500
Sales returns/purchases returns	3,800	4,800
Carriage inwards	70	
Carriage outwards	80	
Bank charges	50	
Rates	3,720	
Salaries	6,210	
Wages	3,920	
Travelling expenses	3,650	
Preference dividends	4,800	
Ordinary dividends	24,800	
Discount allowed	30	
Discount received		30
General expenses	4,720	
Gas, electricity	9,210	
Printing, stationery	2,650	
Advertising	3,150	
	2,346,430	2,346,430

Notes (all figures are in 000s):

(a) Inventory as at 31 December 2005 is £8,700.

(b) Depreciation is to be charged as follows:

(i)	Freehold premises	2 % on cost
(ii)	Motor vehicles	12 % on cost
(iii)	Furniture and fittings	8 % on cost

(c) There is the following payment in advance:

General expenses	£700

(d) There are the following accrued expenses:

Gas	£250
Electricity	£350
Bank charges	£ 50
Auditors' fees	£200

(e) Authorised ordinary share capital is 1,000,000 £1shares, and authorised preference share capital is 100,000 £1shares.

(f) Taxation has been calculated as £48,300.

(g) Debenture interest should be charged at 10 %.

(h) Provision for bad and doubtful debts is increased to £1,000 and a bad debt of £50 is to be written off.

(i) The ordinary and preference dividends should be deducted from retained earnings.

Required:
Prepare for *internal management purposes* the income statement for Playfair plc for the year ended 31 December 2005 and balance sheet as at 31 December 2005 using International Financial Reporting Standards.

A5 Playfair plc

Playfair plc
Income Statement for the Year Ended 31 December 2005

	£000	£000	£000
Sales			900,000
Less Sales returns			(3,800)
			896,200
Less *Cost of Sales*			
Opening inventory		6,500	
Add Purchases	650,000		
Less Purchases returns	4,800		
	645,200		
Add Carriage inwards	70	645,270	
		651,770	
Less Closing inventory		8,700	643,070
Gross Profit			253,130
Add *Other Income*			
Discount received			30
			253,160
Less *Expenses*			
Depreciation:			
Freehold premises		24,369	
Motor vehicles		3,000	
Furniture and fittings		960	
Debenture interest		22,000	
Carriage outwards		80	
Bank charges		100	
Business rates		3,720	
Salaries		6,210	
Wages		3,920	
Travelling expenses		3,650	
Discount allowed		30	
General expenses		4,020	
Gas, electricity		9,810	

Q&A

A5 Playfair plc (*continued*)

	£000	£000
Printing, stationery	2,650	
Advertising	3,150	
Auditors' fees	200	
Increase in provision for bad and doubtful debts	400	
Bad debts	50	88,319
Profit before Taxation		164,841
Taxation		(48,300)
Profit for year		116,541

Playfair plc
Balance Sheet as at 31 December 2005

	£000 *Cost*	£000 *Accumulated depreciation*	£000 *Net book value*
ASSETS			
Non-current Assets			
Freehold premises	1,218,740	(150,639)	1,068,101
Motor vehicles	25,000	(13,300)	11,700
Furniture and fittings	12,000	(5,160)	6,840
	1,255,740	(169,099)	1,086,641
Current Assets			
Inventory		8,700	
Trade receivables			
less bad and doubtful debts		30,250	
Cash at bank		332,300	
Prepayments		700	371,950
Total Assets			1,458,591
LIABILITIES			
Current Liabilities			
Trade payables		(6,500)	
Accruals (see note below)		(22,850)	
Taxation		(48,300)	(77,650)
Non-current Liabilities			220,000
Total liabilities			*(297,650)*
Net assets			*1,160,941*

Q&A

A5 Playfair plc (*continued*)

	£000	£000 Authorised	£000 Issued
EQUITY			
Share Capital and Reserves Attributable to Equity Holders			
Share Capital			
Ordinary share capital		1,000,000	800,000
Preference share capital		100,000	65,000
		1,100,000	865,000
Reserves			
Capital reserves			
Share premium account		48,000	
Other reserves			
Revaluation reserve		65,000	
General reserve		28,000	
Opening profit and loss account	68,000		
Retained profit for year	86,941		
Closing profit and loss account		154,941	295,941
Total shareholders' funds			1,160,941

Note: Gas £250, Electricity £350, Bank Charges £50, Auditors' Fees £200, Debenture Interest £22,000. Retained profit is profit for year £116,541 after deducting dividends £29,600.

Chapter 8: Main Financial Statements: The Cash Flow Statement

Discussion Question

Q1 The cash flow statement was introduced to fill a 'perceived gap' in financial reporting. What was this gap? Show how the cash flow statement filled it.

A1 The cash flow statement is a late addition to financial reporting. The balance sheet is probably the longest-established financial statement and was joined in the nineteenth century by the profit and loss account. However, only in the late twentieth century has the cash flow statement become important. To understand the perceived gap, it is useful to establish what the balance sheet and profit and loss account (income statement) do and what they do not. The balance sheet presents the assets, liabilities and capital at a particular

Q&A

point in time. By contrast, the profit and loss account shows the income and expenses over a period of time. However, by looking at these statements it is not possible to see the sources or applications of cash. The only cash figure is in the balance sheet. Users can only tell *whether* cash has increased or decreased by looking at two consecutive balance sheets. Moreover, they cannot tell *why* the cash has increased or decreased. This is where the cash flow statement comes in. The cash flow statement can identify the inflows and outflows of cash. Users can, therefore, build up a better picture of how the company is managing its cash flow.

Numerical Questions

Q1 Dee Sharma owns a music shop. The following cash flows were extracted from the accounts:

	£		£
Purchase of office equipment	75,000	Loan repaid	30,000
Interest paid	1,250	Sale of a van	4,500
Payments to suppliers	210,000	Interest received	2,500
Expenses paid	12,000	Payments to employees	60,000
New loan	80,000	Receipts from customers	310,000

Required:
Prepare a cash flow statement using the *direct* method for the year ending 31 December 2005.

A1 Dee Sharma

Dee Sharma
Cash Flow Statement for the Year Ended 31 December 2005

Net Cash Inflow from Operating Activities	£	£
Receipts from customers	310,000	
Payments to suppliers	(210,000)	
Payments to employees	(60,000)	
Expenses	(12,000)	28,000
Returns on Investments and Servicing of Finance		
Interest received	2,500	
Interest paid	(1,250)	1,250

Q&A

A1 Dee Sharma (*continued*)

Capital Expenditure and Financial Investment		
Sale of van	4,500	
Purchase of property	(75,000)	(70,500)
Financing		
New loan	80,000	
Loan repaid	(30,000)	50,000
Increase in Cash		8,750

Q2 The following cash flows were extracted from the accounts of Fox and Hare, who run a small partnership specialising as consultant engineers:

	£		£
Purchase of a building	90,000	Bank interest paid	2,000
Purchase of plant and machinery	1,800	Loan received	8,500
Sale of a motor van	5,000	Cash for sale of a computer	1,250
		Interest received	250

The operating profit was £200,000. There are £85,000 of working capital adjustments to be deducted and £5,000 of depreciation to be added back to arrive at operating cash flow.

Required:
Prepare a cash flow statement using the *indirect* method for the year ended 31 December 2005.

A2 Fox and Hare

Fox and Hare
Reconciliation of Operating Profit to Operating Cash Flow for the Year Ended 31 December 2005

	£
Operating Profit	200,000
Add Non-cash flow adjustments	5,000
Deduct Working capital adjustments	(85,000)
Net Cash Inflow from Operating Activities	120,000

Q&A

A2 Fox and Hare (*continued*)

Cash Flow Statement for the Year Ended 31 December 2002

	£	£
Net Cash Inflow from Operating Activities,		120,000
Returns on Investments and Servicing of Finance		
Interest received	250	
Interest paid	(2,000)	(1,750)
Capital Expenditure and Financial Investment		
Purchase of a building	(90,000)	
Sale of a motor van	5,000	
Sale of computer	1,250	
Purchase of plant and machinery	(1,800)	(85,550)
Financing		
Money from loan	8,500	8,500
Increase in Cash		41,200

Q3 Beverly Read Ltd, a bakery chain, has extracted the following balances from the accounts:

Profit and Loss Account

	£
Operating profit	10,000
Depreciation for year	12,000
Profit on sale of fixed assets	5,500

Balance Sheets as at 31 December

	2005 £	2006 £
Current Assets		
Stock	21,000	22,000
Debtors	11,000	10,300
Prepayments	3,000	3,200
Cash	2,000	18,450
Current Liabilities		
Creditors	2,000	2,300
Accruals	850	1,000

Required:
Prepare a statement which reconciles operating profit to operating cash flow.

Q&A

A3 B. Read

B. Read
Reconciliation of Operating Profit to Operating Cash Flow for the Year Ended 31 December 2006

	£	£
Operating Profit		10,000
Add:		
Decrease in debtors	700	
Increase in creditors	300	
Increase in accruals	150	
Depreciation	12,000	13,150
Deduct:		
Increase in stock	(1,000)	
Increase in prepayments	(200)	
Profit on sale of fixed assets	(5,500)	(6,700)
Net Cash Inflow from Operating Activities		16,450

Q4 There is the following information on dividends and taxation for Own Goal Ltd, a sports manufacturing company:

Profit and Loss Account (extract) (for the year ended 30 November 2005)

	£
Profit before Taxation	212,865
Taxation	(74,502)
Profit after Taxation	138,363
Dividends	(29,621)
Retained Profit	108,742

Balance Sheet 30 November (extracts)

	2004	2005
Current Liabilities	£	£
Tax payable	68,201	73,182
Dividends payable	24,200	26,305

Required:
Calculate tax paid and dividends paid.

A4 Own Goal Ltd

	Opening accrual	+ Profit and loss account	− Amount paid	= Closing accrual
(i) Taxation	£68,201 +	£74,502	− **£69,521**	= £73,182
(ii) Dividends	£24,200 +	£29,621	− **£27,516**	= £26,305

Q&A

Or putting the answers through T accounts:

Taxation

	£		£
Paid	**69,521**	Bal. b/f	68,201
Bal. c/f	73,182	P&L	74,502
	142,703		142,703

Dividends

	£		£
Paid	**27,516**	Bal. b/f	24,200
Bal. c/f	26,305	P&L	29,621
	53,821		53,821

Q5 Porpoise Ltd, a small professional partnership, has the following summary balances from the profit and loss account and balance sheets for the year ended 31 March 2006:

	£000
Turnover	523,406
Cost of Sales	(298,302)
Gross Profit	225,104
Other Income	
Interest received	1,068
	226,172
Less Expenses (in £000s) includes interest paid £106	(143,261)
Profit before Taxation	82,911
Taxation	(23,215)
Profit after Taxation	59,696
Dividends	(23,000)
Retained Profit	36,696

Porpoise Ltd
Balance Sheets as at 31 March

	2005		2006	
	£000	£000	£000	£000
Fixed Assets				
Intangible Assets				
Patents		3,000		5,000
Tangible Assets				
Land and buildings				
Cost	30,000		70,000	
Accumulated depreciation	(18,000)		(28,000)	
Net book value	12,000		42,000	
Plant and machinery				
Cost	35,000		60,000	
Accumulated depreciation	(9,000)		(12,000)	
Net book value	26,000	38,000	48,000	90,000
Total fixed assets		41,000		95,000

Q&A

Q5 **Porpoise Ltd (*continued*)**

	2005		2006	
	£000	£000	£000	£000
Current Assets				
Stock	3,800		8,000	
Debtors	6,000		5,000	
Cash	9,000		12,000	
	18,800		25,000	
Current Liabilities				
Creditors	(6,600)		(7,000)	
Accruals	(500)		(600)	
Dividends	(4,000)		(5,000)	
Taxation	(3,800)		(4,000)	
Net current assets	(14,900)	3,900	(16,600)	8,400
Total assets less current liabilities		44,900		103,400
Long-term Creditors		(13,389)		(7,193)
Total net assets		31,511		96,207
Capital and Reserves				
Share capital		12,000		40,000
Profit and loss account		19,511		56,207
Total shareholders' funds		31,511		96,207

There were no disposals of fixed assets during the year.

A5 Porpoise Ltd

Porpoise Ltd
Reconciliation of Operating Profit to Operating Cash Flow Year Ended 31 March 2006

	£000	£000
Operating Profit (see note below)		81,949
Add:		
Decrease in debtors	1,000	
Increase in creditors	400	
Depreciation	13,000	
Increase in accruals	100	14,500
Deduct:		
Increase in stock	(4,200)	(4,200)
Operating Cash Flow		92,249

Q&A

A5 Porpoise Ltd (*continued*)

Note:

	£000
Net Profit before Taxation	82,911
Add Interest paid	106
Deduct Interest received	(1,068)
Net Cash Inflow from Operating Profit	81,949

Porpoise Ltd
Cash Flow Statement for the Year Ended 31 March 2006

	£000	£000
Net Cash Inflow from Operating Activities		92,249
Returns on Investments and Servicing of Finance		
Interest received	1,068	
Interest paid	(106)	962
Taxation		
Taxation paid (see note below)	(23,015)	(23,015)
Capital Expenditure and Financial Investment		
Land and buildings purchased	(40,000)	
Plant and machinery purchased	(25,000)	
Patents purchased	(2,000)	(67,000)
Equity Dividends Paid (see note below)	(22,000)	(22,000)
Financing	£000	£000
Decrease in long-term creditors	(6,196)	
Increase in share capital	28,000	21,804
Increase in Cash		3,000
Opening Cash		9,000
Increase in cash		3,000
Closing Cash		12,000

Note:
We needed to calculate dividends paid and taxation paid:

	Opening accruals	+	Profit and loss account	−	**Amount paid**	=	Closing accruals
(i)	Dividends £4,000	+	£23,000	−	**£22,000**	=	£5,000
(ii)	Taxation £3,800	+	£23,215	−	**£23,015**	=	£4,000

Q&A

Dividends paid			
	£000		£000
Paid	**22,000**	Bal. b/f	4,000
Bal. c/f	5,000	P&L	23,000
	27,000		27,000

Taxation paid			
	£000		£000
Paid	**23,015**	Bal. b/f	3,800
Bal. c/f	4,000	P&L	23,215
	27,015		27,015

Q6 A construction company, Vaughnco plc, has the following summaries from the profit and loss accounts and balance sheets for the year ended 31 December 2005:

	£000
Sales	417,390
Cost of Sales	(240,820)
Gross Profit	176,570
Other Income	
Interest received	658
	177,228
Expenses includes interest paid £66,000	161,928
Profit before Taxation	15,300
Taxation	(5,300)
Profit for Year	10,000

Vaughnco plc
Balance sheets as at 31 December

	2004		2005	
	£000	£000	£000	£000
ASSETS				
Non-current Assets				
Property, Plant and Equipment				
Land and buildings:				
Cost	40,000		50,000	
Accumulated depreciation	(12,000)		(16,000)	
Net book value	28,000		34,000	
Plant and machinery:				
Cost	30,000		36,000	
Accumulated depreciation	17,500		(10,000)	
Net book value	22,500	50,500	26,000	60,000

Q&A

Q6 **Vaughnco plc (*continued*)**

	£000	£000	£000	£000
Intangible Assets				
Patents		5,000		6,000
Total non-current assets		55,500		66,000
Current Assets				
Inventory	3,800		5,000	
Trade receivables	2,400		3,000	
Cash	6,000	12,200	1,000	9,000
Total Assets		67,700		75,000
LIABILITIES				
Current Liabilities				
Trade payables	(6,300)		(6,500)	
Accruals	(200)		(400)	
Taxation	(3,800)		(4,200)	
		(10,300)		(11,100)
Non-current Liabilities		12,200		13,000
Total Liabilities		(22,500)		(24,100)
Net assets		45,200		50,900
EQUITY				
Capital and Reserves attributable to Equity Holders		£000	£000	
Share capital		25,300	26,200	
Retained earnings		19,900	24,700	
Total Equity		45,200	50,900	

Notes:

1. There were no sales of fixed assets during the year.
2. The dividends paid during the year were £5,300. They have been charged to retained earnings.

Required:

Prepare a cash flow statement using the indirect method and using International Financial Reporting Standards for the year ended 30 September 2005.

Q&A

A6

Vaughnco plc
Cash Flow Statement for the Year Ended 30 September 2005

	£000	£000
Cash Flows from Operating Activities		
Net Profit before Taxation		15,300
Add:		
Interest paid	66	
Increase in trade payables	200	
Increase in accruals	200	
Depreciation	6,500	6,966
Deduct:		
Interest received	(658)	
Increase in inventory	(1,200)	
Increase in accounts receivable	(600)	
Interest paid	(66)	
Taxation paid	(4,900)	(7,424)
		14,842
Cash Flows from Investing Activities		
Interest received	658	
Land and buildings purchased	(10,000)	
Plant and machinery purchased	(6,000)	
Patents purchased	(1,000)	(16,342)
Cash Flows from Financing Activities		
Equity dividends paid	(5,200)	
Increase in Non-current liabilities	800	
Increase in share capital	900	(3,500)
Decrease in Cash		(5,000)
	£000	£000
Opening Cash		6,000
Decrease in cash		(5,000)
Closing cash		1,000

Note: We needed to calculate taxation paid (in £000s).

Taxation paid
Opening taxation £3,800 and tax incurred £5,300 less closing taxation £4,200 = £4,900.

Q&A

Chapter 9: Interpretation of Accounts

Discussion Question

Q1 The need for Z scores, pictics and performance indicators shows that ratio analysis is deeply flawed. Discuss.

A1 Traditional ratio analysis is very good at providing a financial, abridged overview of a company in areas such as profitability, efficiency, liquidity, gearing and investment. These ratios provide useful information if used with caution and the context in which the ratios are calculated is borne in mind.

Z scores, pictics and performance indicators complement but do not replace or invalidate the traditional ratio analysis. Z scores and pictics, for example, seek to provide a holistic view of a company. Both use underlying ratios to construct an overall view of a company's financial performance that tries to meld the ratios together. By contrast, performance indicators give a wider view of a business than financial ratios. They are particularly useful in organisations where service not profit is the dominant motive. They are, therefore, used in organisations such as the fire service and the probation service. However, they are also widely used in companies.

Numerical Questions

Q1 Sabena Cheung has extracted the following information from her accounts:

Trading and Profit and Loss Account for the Year Ended 31 December 2005

	£	£
Sales		210,000
Less *Cost of Sales*		
Opening stock	30,000	
Add Purchases	80,000	
	110,000	
Less Closing stock	20,000	90,000
Gross Profit		120,000
Less Expenses		100,000
Net Profit		20,000

Q&A

Other information	31.12.2004	31.12.2005
	£	£
Fixed assets	25,000	35,000
Current assets	45,000	50,000
Closing capital	280,000	300,000
Debtors	22,000	24,000
Creditors	18,000	20,000

All of Sabena Cheung's sales and purchases are on credit.

Required:
Calculate the following profitability and efficiency ratios:

(i) Return on capital employed
(ii) Gross profit ratio
(iii) Net profit ratio
(iv) Debtors collection period
(v) Creditors collection period
(vi) Stock turnover ratio
(vii) Asset turnover ratio

A1 Sabena Cheung

The ratios below are calculated in £s.

(i) Return on capital employed $= \dfrac{\text{Net profit}^*}{\text{Capital employed}^{**}} = \dfrac{20{,}000}{(280{,}000 + 300{,}000) \div 2} = 6.9\ \%$

*For sole traders, tax is not an issue
**We take the average for the year

(ii) Gross profit ratio $= \dfrac{\text{Gross profit}^*}{\text{Sales}} = \dfrac{120{,}000}{210{,}000} = 57.1\ \%$

(iii) Net profit ratio $= \dfrac{\text{Net profit}^*}{\text{Sales}} = \dfrac{20{,}000}{210{,}000} = 9.5\ \%$

* For sole traders, tax is not an issue

(iv) Debtors collection period $= \dfrac{\text{Average debtors}}{\text{Credit sales per day}} = \dfrac{(22{,}000 + 24{,}000) \div 2}{210{,}000 \div 365} = 40$ days

(v) Creditors collection period $= \dfrac{\text{Average creditors}}{\text{Credit purchases per day}} = \dfrac{(18{,}000 + 20{,}000) \div 2}{80{,}000 \div 365} = 87$ days

(vi) Stock turnover ratio $= \dfrac{\text{Cost of sales}}{\text{Average stock}} = \dfrac{90{,}000}{(30{,}000 + 20{,}000) \div 2} = 3.6$ times

(vii) Asset turnover ratio $= \dfrac{\text{Sales}}{\text{Average total assets}} = \dfrac{210{,}000}{(70{,}000 + 85{,}000) \div 2} = 2.7$ times

Q&A

Q2 Bailey Plc has the following balance sheet extracts as at 30 June 2006:

	£	£
Current Assets		
Inventory		23,801
Trade Receivables		12,233
Cash		3,608
Current Liabilities		
Trade Payables		11,968
Non-current Liabilities		26,123
Total net assets		168,500

Required:
Calculate the following ratios: (i) current ratio, (ii) quick ratio and (iii) gearing ratio.

A2 Bailey Plc

			£	
(i)	Current ratio	$= \frac{\text{Current assets}}{\text{Current liabilities}}$	$= \frac{39{,}642}{11{,}968}$	= 3.3 times
(ii)	Quick ratio	$= \frac{\text{Current assets–Inventory}}{\text{Current liabilities}}$	$= \frac{39{,}642 - 23{,}801}{11{,}968}$	= 1.3 times
(iii)	Gearing ratio	$= \frac{\text{Long-term borrowings}}{\text{Total long-term capital}^*}$	$= \frac{26{,}123}{168{,}500 + 26{,}123}$	= 13.4 %

* Remember that total net assets is equivalent to shareholders' funds.

Q3 David Fowler Ltd, a small delivery company, wishes to prepare its cash flow statement under the direct method. It has the following main cash flows:

	£		£
Dividends paid	5,600	Cash from customers	205,000
Taxation paid	4,800	Cash paid to employees	16,800
Purchases of fixed assets	90,000	Cash paid to suppliers	9,300
Sale of fixed assets	45,000	Issue of shares	21,000
Receipt of new loan	7,500	Buy back loan	6,800

Required:
Calculate the cash flow ratio.

Q&A

A3 David Fowler Ltd

	Cash inflows	Cash outflows
	£	£
Customers	205,000	
Issue of shares	21,000	
Sale of fixed assets	45,000	
New loan	7,500	
Employees		16,800
Suppliers		9,300
Buy back loan		6,800
Dividends		5,600
Taxation		4,800
Purchase of fixed assets		90,000
	278,500	133,300

$$\text{Cash flow ratio} = \frac{\text{Total cash inflows}}{\text{Total cash outflows}} = \frac{£278,500}{£133,300} = 2.09$$

Q4 Waller Plc has the following summarised profit and loss account:

	£000
Sales	2,000
Profit before Taxation	800
(after charging debenture interest of £25,000)	
Taxation	(330)
Profit for Year	470

Note:
Preference dividends for the year were £30,000 and ordinary dividends were £20,000.
The market price of ordinary shares is £0.50.
The number of ordinary shares in issue is 1,000,000.

Required:
Calculate the following investment ratios:
(i) Dividend yield
(ii) Dividend cover
(iii) Earnings per share
(iv) Price/earnings ratio
(v) Interest cover.

Q&A

A4 Waller Plc

Unless otherwise stated, figures are in £000s.

(i) Dividend yield $= \frac{\text{Dividend per ordinary share}}{\text{Share price(£)}} = \frac{20 \div 1{,}000}{£0.50} = 4\,\%$

(ii) Dividend cover $= \frac{\text{Profit after tax and preference dividends}}{\text{Ordinary dividends}} = \frac{440}{20} = 22 \text{ times}$

(iii) Earnings per share $= \frac{\text{Profit after tax and preference dividends}}{\text{Number of ordinary shares}} = \frac{440}{1{,}000} = £0.44$

(iv) Price/earnings ratio $= \frac{\text{Share price}}{\text{Earnings per share}} = \frac{£2.00}{£0.44} = 4.54 \text{ times}$

(v) Interest cover $= \frac{\text{Profit before tax and loan interest}}{\text{Loan interest}} = \frac{825}{25} = 33 \text{ times}$

Q5 Deakin Ltd has the following summary accounts:

Profit and Loss Account Year Ended 31 December 2002

	£000
Sales	2,000
Cost of Sales	(1,000)
Gross Profit	1,000
Administrative expenses (includes debenture interest £5,000)	(600)
Distribution expenses	(200)
Profit before Taxation	200
Taxation	(50)
Profit after Taxation	150
Preference dividends	(10)
Ordinary dividends	(65)
Retained Profit	75

Balance Sheet as at 31 December 2002

	£000	£000
Fixed Assets		1,140
Current Assets		
Stock	60	
Debtors	70	
Cash	40	
	170	
Creditors: Amounts Falling Due within One Year	(60)	110
Net Current Assets		
Total Assets Less Current Liabilities		1,250
Creditors: Amounts Falling Due after More than One Year		(100)
Total Net Assets		1,150

Q&A

Q5 **Deakin Ltd (*continued*)**

Share Capital and Reserves	£000
Share Capital	
Ordinary share capital (£1 each)	650
Preference share capital (£1 each)	400
	1,050
Reserves	
Capital Reserves	
Share premium account	15
Other Reserves	
Profit and loss account	85
Total shareholders' funds	1,150

Share price £3.00

Required:

From the above accounts prepare the following ratios:

1. Profitability ratios
2. Efficiency ratios
3. Liquidity ratios.
4. Gearing ratio
5. Investment ratios

A5 Deakin Ltd

The ratios below are calculated from the accounts. There is insufficient information to average return on capital employed and the efficiency ratios. The closing year figure is, therefore, taken from the balance sheet. This is indicated by a single asterisk. Except where stated, calculations are in £000s.

	Ratio	**Calculations (£000s) except where stated**
1. Profitability Ratios		
(i) Return on capital employed	$\frac{\text{Net profit before tax and debenture interest}}{\text{Average capital employed}^*}$	$\frac{200+5}{1{,}250^{**}} = 16.4\,\%$ $^{**}1{,}250 = 650 + 400 + 15 + 85 + 100$
(ii) Gross profit ratio	$\frac{\text{Gross profit}}{\text{Sales}}$	$\frac{1{,}000}{2{,}000} = 50\,\%$
(iii) Net profit ratio	$\frac{\text{Net profit before tax}}{\text{Sales}}$	$\frac{200}{2{,}000} = 10\,\%$

Q&A

A5 Deakin Ltd (*continued*)

	Ratio	Calculations (£000s) except where stated
2. Efficiency Ratios		
(i) Debtors collection period	$\frac{\text{Average debtors}^*}{\text{Credit sales per day}}$	$\frac{70}{2{,}000 \div 365} = 12.8$ days
(ii) Creditors collection period	$\frac{\text{Average creditors}^*}{\text{Credit purchases per day}^{**}}$ **Cost of sales taken	$\frac{60}{1{,}000 \div 365} = 21.9$ days
(iii) Stock turnover ratio	$\frac{\text{Cost of sales}}{\text{Average stock}^*}$	$\frac{1{,}000}{60} = 16.7$ times
(iv) Asset turnover ratio	$\frac{\text{Sales}}{\text{Average total assets}^*}$	$\frac{2{,}000}{1{,}140 + 170} = 1.5$ times
3. Liquidity Ratios		
(i) Current ratio	$\frac{\text{Current assets}}{\text{Current liabilities}}$	$\frac{170}{60} = 2.83$
(ii) Quick ratio	$\frac{\text{Current assets} - \text{stock}}{\text{Current liabilities}}$	$\frac{170 - 60}{60} = 1.83$
4. Gearing Ratio		
(i) Gearing	$\frac{\text{Long-term borrowings}}{\text{Total long-term capital}}$	$\frac{100 + 400}{1{,}150 + 100} = 40\,\%$
5. Investment Ratios		
(i) Dividend yield	$\frac{\text{Dividend per ordinary share}}{\text{Share price (in £s)}}$	$\frac{65 + 650}{3.00} = 3.33\,\%$
(ii) Dividend cover	$\frac{\text{Profit after tax and preference dividends}}{\text{Ordinary dividends}}$	$\frac{140}{65} = 2.15$ times
(iii) Earnings per share	$\frac{\text{Profit after tax and preference dividends}}{\text{Number of ordinary shares}}$	$\frac{140}{650} = 21.5$p
(iv) Price/earnings ratio	$\frac{\text{Share price (in pence)}}{\text{Earnings per share (in pence)}}$	$\frac{300}{21.5} = 14$ times
(v) Interest cover	$\frac{\text{Profit before tax and loan interest}}{\text{Loan interest}}$	$\frac{205}{5} = 41$ times

Q&A

Chapter 10: Regulatory and Conceptual Frameworks

Discussion Questions

Q1 What is a regulatory framework? Discuss the main elements of the UK's regulatory framework.

A1 A regulatory framework is the set of rules and regulations which govern accounting practice, mainly prescribed by government and the accounting standards setting body. In the UK the two main sources of regulation are currently the Companies Acts and accounting standards. The Companies Acts set out a broad framework for accounts and the 1985 Companies Act states that the financial statements should provide a true and fair view of a company's state of affairs and performance. Accounting standards in the UK are set by the Accounting Standards Board. Accounting standards are mandatory in that accountants are expected to follow them. They are accounting pronouncements which must normally be followed in order to give a true and fair view. The Accounting Standards Board is overseen by the Financial Reporting Council, which supervises the whole UK accounting standards setting process. Apart from the Accounting Standards Board, this consists of the Urgent Issues Task Force and the Financial Reporting Review Panel. The Urgent Issues Task Force reacts quickly to new situations where it may take time for an accounting standard to be developed. The Financial Reporting Review Panel investigates contentious departures from accounting standards. The European Union has required that from 2005 European listed companies, including UK listed companies, should comply with International Accounting Standards. These are set by the International Accounting Standards Board.

Q2 What is corporate governance and why do you think it is of continuing importance?

A2 Corporate governance is the system by which companies are governed. The board of directors runs the company but is appointed by the auditors. The board of directors has many duties. It sets the strategic goals for the company, provides leadership, supervises the management and reports to shareholders via the annual report. The financial aspects of corporate governance include determining financial policy and internal controls.

Corporate governance is a key issue within the business world. When corporate collapses occur, attention is immediately focused on the effectiveness of the company's financial controls. In the early 1990s companies such as BCCI, Polly Peck and Maxwell Communications all failed. More recently, questions have been raised about the corporate governance of UK companies such as Barings and Equitable Life and US companies such as Enron and WorldCom. In addition, there is continuing interest in the salaries of directors. In particular, there is concern that directors of poorly performing UK companies (such as British Telecom, Marconi and Railtrack in 2001) were leaving with very generous redundancy packages (so-called golden goodbyes).

Q&A

Q3 State whether the following questions are true or false. If false, explain why.

(i) In the traditional corporate model, the three main groups are shareholders, auditors and directors.

(ii) Limited liability means that shareholders will only lose a small portion of their money over and above their initial investment should the company go bankrupt.

(iii) The four parts of the UK's accounting standards regulatory framework are the Accounting Reporting Council, the Financial Reporting Standards Board, the Financial Reporting Review Panel and the Urgent Issues Task Force.

(iv) A conceptual framework is the development of a coherent and consistent set of accounting principles which underpin the preparation and presentation of financial statements.

(v) The five essential elements of a conceptual framework are broadly agreed to be objectives, users, user needs, accounting standards and corporate governance.

A3 True or False?

(i) *True*.

(ii) *False*. They will *only* lose the money they have invested, therefore they will not lose any money over and above that.

(iii) *Partially true*. It is the Financial Reporting Council and the Accounting Standards Board. The other two are correct.

(iv) *True*.

(v) *Partially true*. The first three (objectives, users and user needs) are true. However, accounting standards and corporate governance are ways of implementing a conceptual theory. The two missing elements are information characteristics and measurement rules.

Chapter 11: Measurement Systems

Discussion Questions

Q1 (a) Explain the five main measurement systems, explaining the strengths and weaknesses of each.

(b) Williams and Lumsdon operate a specialist business manufacturing walking shoes. Their specialist machine was bought 8 years ago for £100,000 (when the retail price index was 150). It now needs to be replaced. The machine has a 10-year life (the retail price index is now 270). According to the trade magazine *Walkshoe*, a machine in a similar condition would be worth £25,000 to buy. They estimate that if they sold the machine it might fetch £19,000. In the two years remaining to the company the cash flows are expected to be £10,000 in year 9 and £12,000 in year 10. Assume these cash flows all occur at the end of the year. The partnership could borrow money at 8 %.

Q&A

A1 The five measurement systems are as follows:

(i) *Historical Cost*. Records the monetary amounts at the date of the original transaction. The main strengths are that it is objective and it is easy to verify the original amount. However, in times of inflation, historical cost will easily become outdated and not provide a realistic valuation of the asset.

(ii) *Current Purchasing Power*. Historical cost adjusted by the changes in the purchasing power of money often uses the retail price index (RPI). It is objective as it relies on the easy-to-verify historical cost. However, the retail price index is not necessarily a reliable way to take account of inflation, which will affect different assets in different ways.

(iii) *Replacement Cost*. The assets are valued at the amounts needed to replace them with equivalent assets. This often provides a realistic approximation of their value to the business. However, it can be criticised for lacking objectivity. In addition, appropriate replacement costs are often not available.

(iv) *Realisable Value*. The assets are valued at the amount they would fetch in an orderly sale. This is an easy-to-understand measurement system. However, is it really appropriate to measure continuing businesses using realisable value?

(v) *Present Value*. This measurement system values assets at the discounted present values of future cash inflows. This does give a good idea of the future wealth which will be generated by a business. However, it is only as good as the numerous assumptions which underpin it (e.g., appropriate discount rate, accuracy of underlying cash flows).

(i) *Historical Cost*	Appropriate Value
Original historical cost £100,000	
Using straight-line depreciation (£100,000 ÷ 10) = £10,000 p.a.	
Thus, £100,000 – £80,000 (8 years depreciation)	£20,000
(ii) *Current Purchasing Power*	
Basing the calculations on the original cost less depreciation	
Adjusting both the cost and the accumulated depreciation by the change in the retail price index (i.e., 270/150)	
Thus, £180,000 – £144,000 = £36,000	£36,000
(iii) *Realisable Value*	
We base it on the money it might fetch, namely	£19,000
(iv) *Replacement Cost*	
We base the calculations on the amount it would cost to replace the machine with a similar asset in a similar condition	£25,000

Q&A

(v) *Present Value*
We need to discount future cash flows back to today's values, using a discount factor of 8 %. The cash flows are discounted as follows:

	£	Discount factor 8 %	£	
Year 9	10,000	0.9259	9,259	
Year 10	12,000	0.8573	10,288	
			19,547	£19,547

The different measurement systems thus give different asset valuations ranging from £19,000 to £36,000.

	£
Historical cost	20,000
Current purchasing power	36,000
Realisable value	19,000
Replacement value	25,000
Present value	19,547

Q2 How true is it to say that balance sheets are currently a mix of different measurement systems?

A2 There is some truth in this. The fixed assets are normally recorded at historical cost (i.e., the cost at which they were originally bought) or are revalued (this bears some relation to replacement value). Meanwhile, stock is valued at the lower of cost and net realisable value. Generally, none of the major assets or liabilities are valued at either current purchasing power or present value (although there are some moves towards discounting long-term liabilities). Debtors and creditors can be seen as being based on historical cost (i.e., the amount at which the original sales and purchases were made). However, by writing off bad debts, debtors may approximate to their net realisable value. Cash at bank is perhaps valued at replacement value (i.e., the value of money today).

Q3 State whether the following statements are true or false. If false, explain why.

(i) A capital maintenance concept is essentially a way of determining whether the capital of a business has improved, deteriorated or stayed the same over a period of time.
(ii) Most companies in the UK use the replacement cost method to value *all* their assets in the balance sheet as it is the method which most closely reflects market value.
(iii) The five main measurement systems are historical cost, current purchasing power, replacement cost, physical capital maintenance and financial capital maintenance.
(iv) The main advantage of replacement costing is its objectivity.
(v) Stock is valued at the lower of cost or net realisable value.

Q&A

A3 True or False?

(i) *True*.

(ii) *False*. Most UK companies use the historical cost method. Many companies do, however, revalue their fixed assets periodically. Other assets are generally recorded at historical cost. Replacement cost, however, is probably the measurement system which usually most closely approximates market value.

(iii) *False*. The first three (historical cost, current purchasing power, replacement cost) are indeed measurement systems. The other two measurement systems are realisable value and present value. Physical capital maintenance and financial capital maintenance are types of capital maintenance concept.

(iv) *False*. Historical cost and current purchasing power are reasonably objective. Replacement costing is more subjective. Its main advantage is it often more closely reflects market price than the other methods.

(v) *True*.

Chapter 12: The Annual Report

Discussion Questions

Q1 Some information in the annual report is audited. Explain what this means and state whether the fact that information is audited or unaudited is important to the potential investor.

A1 The annual report is a mixture of audited and non-audited information. Audited information includes the main financial statements (profit and loss account, balance sheet and cash flow statement), subsidiary financial statements (statement of total recognised gains and losses, reconciliation of movements in shareholders' funds and note on historical cost profits and losses) as well as explanatory material (accounting policies, notes to the accounts and principal subsidiaries).

Non-audited sections include many accounting narratives such as the chairman's statement, directors' report and operating and financial review as well as the highlights and historical summary.

The audited information has been subject to a full audit. This means that auditors have checked and verified the information which the directors have prepared. The investor can, therefore, have more assurance that these figures are correct and do indeed present a true and fair view of the company's financial performance and financial position. The investor can never have absolute assurance that all is well. If the auditors do not agree that the accounts are true and fair, they must qualify the accounts and give their reasons.

By contrast, the non-audited information is not formally audited. It should, however, be reviewed by the auditors for consistency with the audited financial statements. However,

Q&A

this review is not as rigorous as a full audit. The investor, therefore, cannot rely upon the non-audited information to the same extent.

Q2 Increasingly, both the content and the format of the corporate annual report are changing. Much more narrative information is now included and Internet versions are becoming commonplace. Why do you think these developments are occurring?

A2 The annual report is constantly evolving both in form and content. Modern companies appreciate that financial statements do not tell the whole story. They need to be supplemented by written explanations. Traditionally, this role was filled by the chairman's statement. More recently, the chief executive's review of operations has become commonplace. This need for supplementary explanatory material was recognised by the UK's regulatory body, the Accounting Standards Board (ASB), in 1993. The ASB encouraged companies to issue an operating and financial review (OFR). This consists of an operating review discussing the company's performance and a financial review discussing financing and capital structure. The OFR is designed to encourage companies to more fully explain their activities to investors.

In a parallel development, more and more companies are using the Internet to present their results. Most large companies now have a web page. This provides a portal into the company for investors and customers. As well as the annual report, most companies put a wealth of other information on the Internet. The advantages to companies are that they are seen to be open to the public and abreast of the latest technology. For investors, the Internet annual report provides easy access to the latest company information.

Q3 State whether the following statements are true or false. If false, explain why.

(i) Three roles of the annual report are stewardship, decision-making and public relations.

(ii) The following statements are all subject to a full audit: profit and loss account, operating and financial review, directors' report, highlights, shareholder analysis and balance sheet.

(iii) The statement of total recognised gains and losses (STRGL) deals with non-trading gains and losses such as property revaluations and losses on foreign currency investments.

(iv) The operating and financial review (OFR) is the longest established accounting narrative and recognises the importance of narrative information.

(v) In a group of companies there may be many subsidiary and associated companies.

A3 True or False?

(i) *True*.

(ii) *False*. The profit and loss account and balance sheet are subject to full audit. The operating and financial review, directors' report, highlights and shareholder analysis are not. These four statements should, however, be read by the auditor to see if they are consistent with the audited accounts.

(iii) *True*.

Q&A

(iv) *False*. Although the OFR recognises the importance of narrative information, it is a comparatively recent introduction. The chairman's statement is the longest established accounting narrative.
(v) *True*.

Chapter 13: Creative Accounting

Discussion Questions

Q1 Creative accounting represents a continual battle between regulators and managers. Discuss.

A1 Creative accounting is caused by a mismatch between the interests of managers and regulators. Managers wish to serve their own interests. They may own shares, have share options or profit-related pay or they may seek to meet the expectations of the stock market. It is often, therefore, in management's interests to attempt to manage profit.

Regulators, however, are acting for the users; they wish to create a level playing field for investors. They aim to ensure that accounting will provide a true and fair view of the underlying financial transactions and of the underlying financial position of a company.

Regulators thus continually shape and reshape accounting rules and regulations to try to ensure a true and fair view. Creative accountants, however, will often try to find ways around the rules to meet managers' interests. There is thus an evolving pattern of creative compliance from avoidance to rules back to avoidance. A creative accounting arms race thus develops.

Q2 State whether the following statements are true or false. If false, explain why.
(i) Creative accounting is an illegal activity.
(ii) Three of the simplest forms of creative accounting are managing income, stock and depreciation.
(iii) By capitalising costs, such as interest payable, managers can decrease their profit.
(iv) Most UK companies include the value of their brands in their accounts.
(v) Graphs can provide a good method of creative presentation.

A2 True or False?
(i) *False*. It is legal. It uses the flexibility within accounting to comply creatively with the regulations.
(ii) *True*.
(iii) *False*. The capitalisation of costs transfers expenses from the profit and loss account to the balance sheet. Profit is thus increased.
(iv) *False*. Only a minority do.
(v) *True*.

Q&A

Numerical Question

Q1 Frank Lattery plc has the following draft profit and loss account. Currently there is a £17,000 loss. However, the directors of Lattery are considering the introduction of an annual profit-related bonus and wish to boost their profits.

F. Lattery Plc
Profit and Loss Account for the Year Ended 31 December 2005

	Notes	£000	£000
Sales	1		200
Less *Cost of Sales*			
Opening inventory		8	
Add Purchases		150	
		158	
Less Closing inventory	2	18	140
Gross Profit			60
Less *Expenses*			
Depreciation	3	16	
Interest payable	4	21	
Other expenses		40	77
Retained Loss			(17)

Notes (in £000s):

1. Lattery currently has a conservative income recognition policy. If it adopted a less conservative one, it would create an additional £18 sales.
2. Currently, purchases does not include overheads in the finished inventory. Appropriate overheads would be £6. These are currently included under other expenses. One-third of units purchased remain in closing inventory.
3. Depreciation is charged over 10 years; the industry norm is to charge depreciation over 20 years, even though this is longer than the realistic expected life.
4. Of the interest payable, £6 is interest on borrowings used to finance Lattery's property, plant and equipment.

Required:
Prepare F. Lattery's profit and loss account after adopting less conservative accounting policies.

Q&A

A1 F. Lattery

F. Lattery
Profit and Loss Account for the Year Ended 31 December 2002

	Notes	£000	£000
Sales	1		218
Less *Cost of Sales*			
Opening inventory		8	
Add Purchases		156	
		164	
Less Closing inventory	2	20	144
Gross Profit			74
Less *Expenses*			
Depreciation	3	8	
Interest payable	4	15	
Depreciation on capitalised interest payable	4	0.3	
Other expenses	5	34	57.3
Retained Profit			16.7

Notes (in £000s):

1. We can simply boost sales by £18 and be less conservative.
2. Inventory is increased by £2. This represents a third of the additional £6 overheads that were included in purchases.
3. By doubling the life of our property, plant and equipment, we can halve the depreciation charge.
4. If we have borrowed the money to finance property, plant and equipment, then we can capitalise the interest payable. We assume here that we will then depreciate this interest over 20 years (the company's new policy for property, plant and equipment). Thus, we are charging £0.3 depreciation on the capitalised interest payable. The interest payable reduces by £6 to £15. Overall, profit increases by £6 – £0.3 = £5.7.
5. Other expenses reduce by the £6 we have transferred to purchases.

The retained loss of £27,000 has been turned into a profit of £10,700. So the directors will get their bonuses if a profit-related bonus scheme is introduced.

Q&A

Chapter 14: International Accounting

Discussion Questions

Q1 What particular features of the UK's accounting environment are distinctive in an international context?

A1 Each country is distinct in its own way. For the UK, it is possible to isolate at least six features. First, the regulatory system is distinct in that it is a blend of an overriding true and fair view, combined with a legal framework (i.e., Companies Act) and a private sector framework (i.e., accounting standards). No other country has quite this combination. Second, the standard-setting system is unique. Although modelled on the US system, no other country has a Financial Reporting Review Panel (which looks at dubious accounting practices). In addition, UK standards are notoriously based on principle rather than on prescriptive detail. Third, finance for industry comes primarily from the stock market. While not unusual in itself (see, for example, the US), the overwhelming preponderance of the institutional investors to the exclusion of the private individual is distinctive. Fourth, the UK accounting profession is unusual in three respects: its long tradition (founded in 1870), the variety of professional bodies and the sheer number of professionally qualified accountants. In the UK, in 2003 there were approximately 247,000 professionally qualified accountants. In Germany, with a bigger population, there were 11,000 accountants. Fifth, in the UK there is an independent tax system in that tax requirements do not specifically influence shareholder accounts. In most countries this is not so. Finally, in the UK there are some distinctive accounting policies, such as the ability of companies to revalue their fixed assets or to capitalise goodwill in their balance sheets.

Q2 International Accounting Standards will inevitably replace national accounting standards. Discuss.

A2 International Accounting Standards (IAS) are issued by the International Accounting Standards Board (IASB). Since its foundation in 1973 the IASB has gradually gained in power and influence. At first, the IASB merely codified the world's standards. However, in 2000 the International Organisation of Securities Commissions (IOSCO) endorsed IAS. In effect, this meant that the body which represents the world's stock exchanges considered IAS as an acceptable alternative to national standards. Many stock exchanges, therefore, now accept IAS. Also, in Spring 2000 the European Union required that from 2005 all listed European companies should comply with IAS. Importantly, however, the US appears reluctant to adopt IAS. The US is concerned about the rigour of IAS and also worried about enforcement.

For listed companies, especially those trading on foreign exchanges, it is therefore extremely likely that IAS will complement and in many cases supplant national standards. However, there is still likely to be a role for national standards. Companies that are not

Q&A

listed may prefer to use national standards as they may better reflect national circumstances. In addition, many countries' national standards will provide additional details over and above the rather minimalist IAS. However, until the US finally accepts or rejects IAS, it is difficult to give a definite answer to this question. If the US finally accepts IAS, then IAS may well replace national accounting standards. If the US finally rejects IAS, then the future status of IAS becomes much more uncertain.

Q3 State whether the following statements are true or false. If false, explain why.

(i) Divergent features are those factors which cause accounting to be different in different countries.

(ii) In the UK and Germany the main source of finance for industry comes from the stock market in the form of equity investment.

(iii) In France and Germany accounting standards have traditionally not been as important as in the UK and the US.

(iv) The UK and the US are examples of 'macro' accounting countries.

(v) In Spring 2000 the Securities and Exchange Commission (SEC) in the US endorsed IAS.

A3 True or False?

(i) *True*.

(ii) *False*. In the UK equity investment is the main source of finance. However, in Germany the main source is debt, although this may be raised through the stock market.

(iii) *True*.

(iv) *False*. They are 'micro' countries.

(v) *False*. In Spring 2000 the European Union proposed that by 2005 all listed European companies should comply with IAS.

Chapter 15: Introduction to Management Accounting

Discussion Questions

Q1 Both financial and management accounting provide information for decision-making. However, the crucial distinction is that in financial accounting decisions are made externally to the firm, whereas in management accounting they are made internally.

Discuss this statement.

A1 Broadly this statement is true, although more so for financial accounting than for management accounting. In financial accounting the aim is to provide mainly external users with financial information. The users, for example shareholders, can then make decisions such as whether to buy, sell or hold on to their shares.

Q&A

For management accounting the aim is certainly to provide information for internal users, primarily management. If a wide definition of decision making is taken, then the statement is true for management accounting. However, more conventionally, management accounting is seen as providing information for costing, for planning, control and performance, as well as for decision-making. In other words, decision-making (e.g., whether to make product A or product B, or invest in a particular project) is distinguished from costing, and planning, control and performance. Costing is seen as recovering the costs of making a product or service into its selling price or its stock valuation. Planning, control and performance is budgeting and standard costing. Although costing, and planning, control and performance may lead to managerial decision-making, this a secondary rather than a primary function of the activity.

Q2 The modern industrial environment has changed from national smoke-stack industries to service-based, global, knowledge and technology-driven industries. How has this affected management accounting?

A2 It is certainly true that, over the last century, traditional manufacturing industry has declined, both in the UK and worldwide. Steelmaking and product manufacturing in large factories have become of much less importance in the global economy. They have been replaced by more service industries and more knowledge-based industries (such as the computing industry). As a result, costing has become a less important part of management accounting. New areas of management accounting have arisen such as activity-based costing, strategic management accounting, just-in-time stock valuation and service costing. These new management accounting techniques have attempted to grapple with the requirements of the new industries. Opinions are often divided on the success of these new techniques. Some writers, such as Kaplan, feel that management accounting has in the main failed to adapt. Others are more sanguine.

Chapter 16: Costing

Discussion Questions

Q1 What problems can inadequate costing systems cause for companies?

A1 Costing involves ascertaining all the costs for a product or service so as to form the basis for pricing and for stock valuation. The danger, therefore, is that an inadequate system will provide potentially misleading total costs for particular products or services, and inaccurate stock valuation figures.

Q&A

Taking pricing first, overheads may be allocated on an incorrect basis. For example, a company may recover its overheads on the basis of direct labour hours when it would be more appropriate to use activity-based costing. Individual products may then be costed at too little or too much. This will in turn lead to under- or overpricing. Underpriced goods may not be recovering all their costs, while overpriced goods may lose out to correctly priced goods made by competitors.

If the stock valuation is wrong, this may lead to an inaccurate profit figure. Every pound of extra stock creates a pound of extra profit and vice versa. If stock is misvalued, this will mean that the financial profit reported to shareholders is wrong. Usually, the same stock valuation is used for both financial and management accounting.

Q2 Classify the following as either direct materials, direct labour, production overheads, administrative expenses or selling and distribution costs:

(a) Factory supervisors' wages
(b) Advertising campaign costs
(c) Machinery maintenance costs
(d) Personnel officer's salary
(e) Depreciation on sales van
(f) Machine shop workers' wages
(g) Raw materials
(h) Cost of computer for wages
(i) Bank interest
(j) Depreciation on factory computer

A2

Direct Materials	*Direct Labour*	*Production Overheads*	*Administrative Expenses*	*Selling and Distribution Costs*
(g) Raw materials	(f) Machine shop workers' wages	(a) Factory supervisors' wages (c) Machinery maintenance costs (j) Depreciation on factory computer	(d) Personnel officer's salary (h) Cost of computer for wages (i) Bank interest	(b) Advertising campaign costs (e) Depreciation on sales van

Q&A

Numerical Questions

Q1 Any Factory Plc has the following costs:

	£
General administrative overheads	8,000
Salaries of administrative employees	65,000
Wages of factory supervisors	80,000
Computer overhead expenses (1/3 in factory, 1/3 in administration, 1/3 distribution)	12,000
Interest on loan	2,000
Wages: selling and distribution	26,000
Salaries: marketing	35,000
General selling and distribution overheads	16,000
Royalties	4,000
Raw materials used in production	400,000
Labour costs directly connected with production	100,000
Other production overheads	60,000
Commission paid to sales force	5,000
Auditing costs	3,500
Telephone costs (1/3 office, 2/3 selling and distribution)	15,000
Depreciation	
Machinery used for production	9,000
Office fixtures and fittings	2,000
Delivery vans	4,000
Buildings (1/3 factory, 1/3 office, 1/3 sales)	9,000

Required:
A determination of Any Factory Plc's (i) prime cost, (ii) production cost, and (iii) total cost.

A1 Any Factory Plc

Any Factory Plc
Costing Statement

	£	£	£
Direct materials			400,000
Direct labour			100,000
Royalties			4,000
(i) *Prime Cost*			504,000
Production Overheads			
Factory supervisors' wages		80,000	
Depreciation (£9,000 + £3,000)		12,000	
Computer		4,000	
Other overheads		60,000	156,000

Q&A

A1 Any Factory Plc (*continued*)

	£	£	£
(ii) *Production Cost*			660,000
Other Costs			
Administrative Expenses			
General	8,000		
Salaries	65,000		
Depreciation (£2,000 + £3,000)	5,000		
Computer	4,000		
Telephone	5,000		
Interest on loan	2,000		
Auditing	3,500	92,500	
Selling and Distribution Costs			
General	16,000		
Wages	26,000		
Marketing salaries	35,000		
Telephone	10,000		
Computer	4,000		
Commission	5,000		
Depreciation (£4,000 + £3,000)	7,000	103,000	195,500
(iii) *Total Cost*			855,500

Q2 Toycare has four departments: departments A, B and C actually produce the toys, Department D supplies service support. There were the following overhead costs:

Expenses	£	*Apportionment basis*
Light and heat	50,000	Meterage
Supervisors' salaries	30,000	Number of employees
Computer advisory	12,000	Number of computers
Rent and business rates	15,000	Floor area
Depreciation on machinery	22,000	Cost
	129,000	

You have the following information for the four departments:

(i) Department A 1,000 units metered; B 200 units metered; C 300 units metered; D 500 units used.

(ii) Department A 2,000 employees; B 1,000 employees; C 1,000 employees; D 1,000 employees.

(iii) Department A 12,000 sq. feet; B 8,000 sq. feet; C 5,000 sq. feet; D 5,000 sq. feet.

(iv) Department A machinery costs £30,000; B £15,000; C £20,000. There is no machinery in Department D.

Q&A

(v) Department A 500 computers; B 250 computers; C 250 computers; D 250 computers.

(vi) Department D's facilities will be reallocated 50 % for A, 25 % for B, 25 % for C.

(vii)

Department	A	B	C
Direct labour hours	60,000	60,000	40,000
Machine hours	50,000	30,000	20,000

Required:

An apportionment of the overheads to products A, B and C

(i) using direct labour hours; and

(ii) using machine hours.

A2 Toycare

	Total	Basis of Allocation	A	B	C	D
	£		£	£	£	£
Light and heat	50,000	Meterage	25,000	5,000	7,500	12,500
Supervisors' salaries	30,000	No. of employees	12,000	6,000	6,000	6,000
Computer advisory	12,000	No. of computers	4,800	2,400	2,400	2,400
Rent and business rates	15,000	Floor area	6,000	4,000	2,500	2,500
Depreciation	22,000	Cost	10,154	5,077	6,769	–
Allocated	129,000		57,954	22,477	25,169	23,400
Reallocation of service support department D's costs			50 %	25 %	25 %	(100 %)
			11,700	5,850	5,850	(23,400)
Total Allocation	129,000		69,654	28,327	31,019	

(i) *Labour Hours*	60,000	60,000	40,000
Rate per hour	£1.16	£0.47	£0.78
(ii) *Machine Hours*	50,000	30,000	20,000
Rate per hour	£1.39	£0.94	£1.55

Q3 Tree makes the Branch and the Trunk. These two products are made in two departments, X and Y, and incur the costs below. The indirect overheads are absorbed on the basis of labour hours.

		Branch		*Trunk*	
Dept. X	Direct labour	8 hours	£8 per hour	7 hours	£9 per hour
	Direct materials	10 metres	£5 per metre	8 metres	£8 per kilo
	Indirect overheads		£5 per labour hour		£4 per labour hour
Dept. Y	Direct labour	12 hours	£9 per hour	10 hours	£10 per hour
	Direct materials	10 kilos	£12 per kilo	8 kilos	£11 per kilo
	Indirect overheads		£6 per labour hour		£5 per labour hour

Required:
The prices at which Tree should sell Branch and Trunk, if the selling price is to be 25 % on cost.

A3 Tree

		Branch £		Trunk £
Dept. X	Direct labour	64		63
	Direct materials	50		64
		114		127
Dept. Y	Direct labour	108		100
	Direct materials	120		88
		228		188
Prime Cost		342		315
Overheads X (£5 × 8 hours)		40	X (£4 × 7 hours)	28
Y (£6 × 12 hours)		72	Y (£5 × 10 hours)	50
Total Cost		454		393
Profit: Cost plus 25 %		113.50		98.25
Selling Price		567.50		491.25

Q4 Transport Ltd wishes to compare its product costs using traditional product costing and activity-based costing. The company makes two products: the Bike and the Scooter. There are the following details of the overheads and cost drivers:

Production Overheads	*Total Cost* (£)	*Cost Driver*	*Total*
(i) Manufacturing	20,000	Assembly-line hours	160,000 hours
(ii) Materials handling	80,000	Number of stores issues	25,000 stores issues
(iii) Inspection	5,000	Number of inspections	500 inspections
(iv) Set-ups	1,000	Number of set-ups	400 set-ups

You have the following information about the products:

	Bike	*Scooter*
Number of units	6,000	10,000
Number of stores issues	17,000	8,000
Number of inspections	280	220
Number of set-ups	250	150
Assembly-line hours (direct labour) per unit	20	4
Direct labour per hour	£6	£6
Direct materials per unit	£40	£7

Q&A

Required:

A calculation of a product cost using

(i) Traditional total absorption costing, recovering overheads using direct labour hours

(ii) Activity-based costing, and

(iii) A discussion of any differences.

A4 Transport Ltd

(i) Transport Ltd: Traditional overhead allocation

$$\frac{\text{Total costs}}{\text{Assembly hours}} = \frac{£20{,}000 + £80{,}000 + £5{,}000 + £1{,}000}{160{,}000} = \frac{£106{,}000}{160{,}000} = £0.66 \text{ per labour hour}$$

Product Costs	*Bike*		*Scooter*	
	£		£	
Direct materials	40.00		7.00	
Direct labour	120.00	(20 hours × £6)	24.00	(4 hours × £6)
Prime Cost	160.00		31.00	
Overheads	13.20	(20 hours × 0.66)	2.64	(4 hours × 0.66)
Total Cost	173.20		33.64	

(ii) Transport Ltd: Activity-based costing

(a) Calculation of activity cost driver rates

Cost driver	*Assembly* £20,000 / 160,000 hours	*Despatch* £80,000 / 25,000 issues	*Inspection* £5,000 / 500 inspections	*Set-up* £1,000 / 400 set-ups
Cost per unit of cost driver	£0.125	£3.20	£10	£2.50

(b) Costs absorbed into products

Cost Allocated	*Assembly*	*Despatch*	*Inspection*	*Set-up*	*Total*
Bike	£15,000 (120,000 × £0.125)	£54,400 (17,000 × £3.20)	£2,800 (280 × £10)	£625 (250 × 2.50)	£72,825
Scooter	£5,000 (40,000 × £0.125)	£25,600 (8,000 × £3.20)	£2,200 (220 × £10)	£375 (150 × £2.50)	£33,175
Total Costs	£20,000	£80,000	£5,000	£1,000	£106,000

Total Overhead Costs	*Total Overheads*	*Units*	*Overheads Per Unit*
Bike	£72,825	6,000	£12.14
Scooter	£33,175	10,000	£3.32

Product Costs	*Bike*		*Scooter*	
	£		£	
Direct materials	40.00		7.00	
Direct labour	120.00	(20 hours × £6)	24.00	(4 hours × £6)
Prime Cost	160.00		31.00	
Overheads	12.14		3.32	
Total Cost	172.14		34.32	

(iii) Comments

In this case the differences between the costing systems are not great. For Bike, the costs are £172.14 using activity-based costing, but £173.20 using traditional cost recovery. For Scooter, the activity-based costs were £34.32 and the traditional costs were £33.64. We can be reasonably confident in our cost recovery whichever method we use.

Chapter 17: Planning, Control and Performance: Budgeting

Discussion Question

Q1 Budgeting enables a company's objectives to be operationalised. Discuss.

A1 The role of budgets in operationalising a company's objectives is very important. Top management will agree a set of corporate objectives. These will often flow from a company's overall mission statement or *raison d'être*. The objectives are turned into financial, quantitative plans. These financial plans thus give substance to the company's objectives. The financial plans will usually involve many individual budgets, such as a cash budget, which are dovetailed into an overall master budget comprising a budgeted profit and loss account and a budgeted balance sheet.

The budgets are set in advance. When the actual results are obtained for the budgetary period, they are compared to the budget. Any differences from the budget are then generally investigated. The results of this evaluation are then compared to the company's objectives. If necessary, these objectives will be amended.

Numerical Questions

Q1 There is the following information about Clare Bishop's business for the six months 1 July to 31 December:

(i) Opening cash balance 1 July will be overdrawn by £1,000.

Q&A

(ii) Sales at £30 per unit:

	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Units	110	120	130	140	150	160	170	180	190

Debtors will pay one month after they have bought the goods.

(iii) Production in units:

	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Jan.
Units	100	130	120	150	140	170	160	170	200	200

(iv) Raw materials costs of £8 per unit are delivered in the month of production and will be paid for two months after the goods are used in production.

(v) Direct labour of £5 per unit will be payable in the same month as production.

(vi) Other variable production expenses will be £3 per unit. One-third of this cost will be paid for in the same month as production and two-thirds in the month following production.

(vii) Other expenses of £150 per month will be paid one month in arrears. These expenses have been at this rate for the past two years.

(viii) A van will be sold in September. It is estimated that it will fetch £4,400. A replacement van will be purchased in the same month for £9,000.

(ix) Clare Bishop plans to borrow £3,300 from a relative in November. This will be banked immediately.

Required:

(i) Prepare Clare Bishop's cash budget 1 July to 31 December, and

(ii) Using your projections, advise Clare Bishop how she might improve her cash management.

A1 Clare Bishop

(i)

Clare Bishop
Cash Budget for the Six Months Ending December

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
	£	£	£	£	£	£	£
Opening cash	(1,000)	570	2,520	(230)	2,000	7,550	(1,000)
Add *Receipts*							
Debtors	3,900	4,200	4,500	4,800	5,100	5,400	27,900
Sale of van			4,400				4,400
Loan receipt					3,300		3,300
	3,900	4,200	8,900	4,800	8,400	5,400	35,600

Q&A

A1 Clare Bishop (*continued*)

	July £	Aug. £	Sept. £	Oct. £	Nov. £	Dec. £	Total £
Less Payments							
Raw materials	1,040	960	1,200	1,120	1,360	1,280	6,960
Direct labour	750	700	850	800	850	1,000	4,950
Production expenses (1/3)	150	140	170	160	170	200	990
Production expenses (2/3)	240	300	280	340	320	340	1,820
Other expenses	150	150	150	150	150	150	900
Purchase of van			9,000				9,000
	2,330	2,250	11,650	2,570	2,850	2,970	24,620
Cash flow	*1,570*	*1,950*	*(2,750)*	*2,230*	*5,550*	*2,430*	*10,980*
Closing cash	570	2,520	(230)	2,000	7,550	9,980	9,980

(ii) Over the period there will be a positive cash flow of £10,980. This suggests that Clare Bishop is in a healthy cash position. She might improve her cash management in several ways. First, she might consider not taking up the loan in November; she will then save any loan interest. Second, she might consider purchasing investments with her surplus cash or even putting it into a high-earning investment account.

Q2 There are the following details for the Goal and the Foul, two products of Football Plc:

(i) The Goal will sell 250 units in January and this will increase by 50 units per month. From January to April each Goal will sell at £25, with the price rising to £30 in May and £31 in June.

(ii) The Foul will sell 300 units in January and this will increase by 10 units per month. From January to March each Foul will sell for £10 then from April to June its selling price will rise to £15.

Required:

Prepare the sales budget for Football Plc from January to June.

Q&A

A2 Football Plc

Football Plc
Sales Budget for the Six Months Ending June

	Jan.	Feb.	March	April	May	June	Total
	£	£	£	£	£	£	£
Goal (1)	6,250	7,500	8,750	10,000	13,500	15,500	61,500
Foul (2)	3,000	3,100	3,200	4,950	5,100	5,250	24,600
	9,250	10,600	11,950	14,950	18,600	20,750	86,100
(1) Goal (units)	250	300	350	400	450	500	2,250
(2) Foul (units)	300	310	320	330	340	350	1,950

Helpnote: Multiply the units by the price per unit.

Q3 Mary Christmas has opening debtors of £5,000 (November £3,400, December £1,600). The debtors will pay two months in arrears. Credit sales in January will be £3,000, rising by £300 per month until April; from May to June they decline by 10 % each month.

Required:
Prepare Mary Christmas's debtors budget for January to June.

A3 Mary Christmas

Mary Christmas
Debtors Budget for the Six Months Ending June

	Jan.	Feb.	March	April	May	June	Total
	£	£	£	£	£	£	£
Opening debtors	5,000	4,600	6,300	6,900	7,500	7,410	5,000
Credit sales	3,000	3,300	3,600	3,900	3,510	3,159	20,469
	8,000	7,900	9,900	10,800	11,010	10,569	25,469
Cash received	(3,400)	(1,600)	(3,000)	(3,300)	(3,600)	(3,900)	(18,800)
Closing debtors	4,600	6,300	6,900	7,500	7,410	6,669	6,669

Q4 Ron Ollover has opening creditors of £3,600 (£2,000 November, £1,600 December). Credit purchases in January will be £3,000, increasing by £150 per month for the first two months, then rising to £4,000 in April, and finally running at £3,800 in May and June. Creditors will be paid two months in arrears.

Required:
Prepare R. Ollover's creditors budget for January to June.

Q&A

A4 R. Ollover

R. Ollover
Creditors Budget for the Six Months Ending June

	Jan.	Feb.	March	April	May	June	Total
	£	£	£	£	£	£	£
Opening creditors	3,600	4,600	6,150	6,450	7,300	7,800	3,600
Credit purchases	3,000	3,150	3,300	4,000	3,800	3,800	21,050
	6,600	7,750	9,450	10,450	11,100	11,600	24,650
Cash paid	(2,000)	(1,600)	(3,000)	(3,150)	(3,300)	(4,000)	(17,050)
Closing creditors	4,600	6,150	6,450	7,300	7,800	7,600	7,600

Q5 Ron Burns will have production costs per unit of £6.00 raw materials, £8.00 direct labour and £1.50 variable production overheads. Production will be 800 units in January, rising by 100 units per month.

Required:
Prepare Ron Burns' production cost budget for January to June.

A5 R. Burns

R. Burns
Production Cost Budget for the Six Months Ending June

	Jan.	Feb.	March	April	May	June	Total
	£	£	£	£	£	£	£
Raw materials	4,800	5,400	6,000	6,600	7,200	7,800	37,800
Direct labour	6,400	7,200	8,000	8,800	9,600	10,400	50,400
Production overheads	1,200	1,350	1,500	1,650	1,800	1,950	9,450
	12,400	13,950	15,500	17,050	18,600	20,150	97,650
Units	800	900	1,000	1,100	1,200	1,300	6,300

Q6 Dangerous Dan has £2,000 opening stocks of raw materials. In January purchases are estimated to be £1,000, rising by £200 each month until and including April. In May purchases will be £1,900 and in June they will be £1,700. Production will be 300 units from January to March at £5 for material per unit, rising to 350 units per month at £6 for material per unit from April to June.

Required:
Prepare Dangerous Dan's raw materials budget for January to June. Have you any comments on the projected budget?

Q&A

A6 Dangerous Dan

Dangerous Dan
Raw Materials Budget for the Six Months Ending June

	Jan.	Feb.	March	April	May	June	Total
	£	£	£	£	£	£	£
Opening stock	2,000	1,500	1,200	1,100	600	400	2,000
Purchases	1,000	1,200	1,400	1,600	1,900	1,700	8,800
	3,000	2,700	2,600	2,700	2,500	2,100	10,800
Used in production	(1,500)	(1,500)	(1,500)	(2,100)	(2,100)	(2,100)	(10,800)
Closing stock	1,500	1,200	1,100	600	400	–	–

There is a steady rundown of closing stock from £2,000 at the start of January to nothing at the end of June. Raw materials stock is too low. Unexpected delays in stock delivery or unexpectedly high rates of usage would cause a stock-out. The budget needs to be revised to increase the level of purchases.

Q7 Tony Brinn has £11,000 of finished goods stocks. In July 1,600 units will be produced at a production cost of £12 each. Production will increase at 50 units per month. The production costs are constant until November. In November and December, production costs will rise to £14. Sales will be £19,000 in July, rising by £1,000 per month in August and September. In October, November and December, sales are expected to be £20,500, £21,000 and £23,000, respectively. Gross profit is 15 % of sales.

Required:
Prepare T. Brinn's finished goods budget for July to December.

A7 T. Brinn

T. Brinn
Finished Goods Budget for the Six Months Ending December

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
	£	£	£	£	£	£	£
Opening stock	11,000	14,050	16,850	19,400	22,975	30,325	11,000
Produced	19,200	19,800	20,400	21,000	25,200	25,900	131,500
	30,200	33,850	37,250	40,400	48,175	56,225	142,500
Cost of sales*	(16,150)	(17,000)	(17,850)	(17,425)	(17,850)	(19,550)	(105,825)
Closing stock	14,050	16,850	19,400	22,975	30,325	36,675	36,675
*85 % of sales	19,000	20,000	21,000	20,500	21,000	23,000	124,500

Q&A

Q8 Jumping Jack is a small manufacturer. There are the following details of the current balance sheet and the estimated income and expenses for the period up to 30 June 2007:

Jumping Jack Plc
Abridged Balance Sheet as at 31 December 2006

	£	£	£
Fixed Assets			100,000
Current Assets			
Debtors (Nov. £18,000, Dec. £17,000)	35,000		
Stock (raw materials)	9,000		
Stock (finished goods)	8,000	52,000	
Current Liabilities			
Accruals	(3,000)		
Creditors (Nov. £4,000, Dec. £4,500)	(8,500)		
Bank	(7,500)	(19,000)	
Net current assets			33,000
Total assets			133,000
Share Capital and Reserves			£
Share Capital			
Ordinary share capital			120,000
Reserves			
Profit and loss account			13,000
Total shareholders' funds			133,000

1. Purchases will be £5,000 in January, increasing by £300 per month until and including March. In April, May and June they are estimated to be £5,200, £8,000 and £10,000, respectively. Purchases will be payable two months after purchase.
2. Credit sales of Flash are estimated to be £20,000 in January, increasing by £1,000 per month and payable two months in arrears. They will be based on market price with no formal mark-up from gross profit. Sales will be 440 units per month in January, rising by 20 units per month.
3. In addition, cash sales of Flash are estimated to be £5,000 per month.
4. Fixed assets are at cost. Depreciation is charged at 15 % per year on a straight-line basis.
5. Production costs per unit are estimated to be as follows: direct materials £15, direct labour £12, production overheads £3 (direct labour and production overheads will be paid in the month incurred). Production will be 500 units per month.
6. Expenses will run at £9,000 per month. Two-thirds will be paid in the month incurred, one-third in the next month. The accruals represent £3,000 expenses owing at the balance sheet date.

Q&A

Required:
Prepare the sales budget, cash budget, debtors budget, creditors budget, production cost budget, raw materials budget, finished goods budget, trading and profit and loss account, and balance sheet for the six months ending 30 June 2007.

A8 Jumping Jack Plc

Jumping Jack Plc
Budgets for the Six Months Ending June 2007
Sales Budget

	Jan. £	Feb. £	March £	April £	May £	June £	Total £
Credit sales	20,000	21,000	22,000	23,000	24,000	25,000	135,000
Cash sales	5,000	5,000	5,000	5,000	5,000	5,000	30,000
	25,000	26,000	27,000	28,000	29,000	30,000	165,000

Cash Budget

	Jan. £	Feb. £	March £	April £	May £	June £	Total £
Opening cash	(7,500)	(5,000)	(4,000)	(500)	3,700	8,600	(7,500)
Add *Receipts*							
Debtors	18,000	17,000	20,000	21,000	22,000	23,000	121,000
Cash	5,000	5,000	5,000	5,000	5,000	5,000	30,000
	23,000	22,000	25,000	26,000	27,000	28,000	151,000
Less *Payments*							
Payments for goods	4,000	4,500	5,000	5,300	5,600	5,200	29,600
Non-production overheads	9,000	9,000	9,000	9,000	9,000	9,000	54,000
Direct labour	6,000	6,000	6,000	6,000	6,000	6,000	36,000
Production overheads	1,500	1,500	1,500	1,500	1,500	1,500	9,000
	20,500	21,000	21,500	21,800	22,100	21,700	128,600
Cash flow	*2,500*	*1,000*	*3,500*	*4,200*	*4,900*	*6,300*	*22,400*
Closing cash	(5,000)	(4,000)	(500)	3,700	8,600	14,900	14,900

Debtors Budget

	Jan. £	Feb. £	March £	April £	May £	June £	Total £
Opening debtors	35,000	37,000	41,000	43,000	45,000	47,000	35,000
Credit sales	20,000	21,000	22,000	23,000	24,000	25,000	135,000
	55,000	58,000	63,000	66,000	69,000	72,000	170,000
Cash received	(18,000)	(17,000)	(20,000)	(21,000)	(22,000)	(23,000)	(121,000)
Closing debtors	37,000	41,000	43,000	45,000	47,000	49,000	49,000

Q&A

A8 Jumping Jack Plc (*continued*)

Creditors Budget

	Jan.	Feb.	March	April	May	June	Total
	£	£	£	£	£	£	£
Opening creditors	8,500	9,500	10,300	10,900	10,800	13,200	8,500
Credit purchases	5,000	5,300	5,600	5,200	8,000	10,000	39,100
	13,500	14,800	15,900	16,100	18,800	23,200	47,600
Cash paid	(4,000)	(4,500)	(5,000)	(5,300)	(5,600)	(5,200)	(29,600)
Closing creditors	9,500	10,300	10,900	10,800	13,200	18,000	18,000

Production Cost Budget

	Jan.	Feb.	March	April	May	June	Total
	£	£	£	£	£	£	£
Direct labour	6,000	6,000	6,000	6,000	6,000	6,000	36,000
Direct materials	7,500	7,500	7,500	7,500	7,500	7,500	45,000
Production overheads	1,500	1,500	1,500	1,500	1,500	1,500	9,000
	15,000	15,000	15,000	15,000	15,000	15,000	90,000

Raw Materials Budget

	Jan.	Feb.	March	April	May	June	Total
	£	£	£	£	£	£	£
Opening stock	9,000	6,500	4,300	2,400	100	600	9,000
Purchases	5,000	5,300	5,600	5,200	8,000	10,000	39,100
	14,000	11,800	9,900	7,600	8,100	10,600	48,100
Used in production	(7,500)	(7,500)	(7,500)	(7,500)	(7,500)	(7,500)	(45,000)
Closing stock	6,500	4,300	2,400	100	600	3,100	3,100

Finished Goods Budget

	Jan.	Feb.	March	April	May	June	Total
	£	£	£	£	£	£	£
Opening stock	8,000	9,800	11,000	11,600	11,600	11,000	8,000
Produced (500 units per month)	15,000	15,000	15,000	15,000	15,000	15,000	90,000
	23,000	24,800	26,000	26,600	26,600	26,000	98,000
Cost of sales*	(13,200)	(13,800)	(14,400)	(15,000)	(15,600)	(16,200)	(88,200)
Closing stock	9,800	11,000	11,600	11,600	11,000	9,800	9,800

* 440 units in January rising by 20 units per unit at £30 per unit

Q&A

A8 Jumping Jack Plc (*continued*)

Jumping Jack Plc
Trading and Profit and Loss Account for the Six Months Ending 30 June 2007

	£	£
Sales		165,000
Less *Cost of Sales*		88,200
Gross Profit		76,800
Less *Expenses*		
Depreciation	15,000	
Expenses (i.e., non-production overheads)	54,000	69,000
Net Profit		7,800

Balance Sheet as at 30 June 2007

	£ *Cost*	£ *Accumulated depreciation*	£ *Net book value*
Fixed Assets	100,000	(15,000)	85,000
Current Assets			
Debtors	49,000		
Stock of raw materials	3,100		
Stock of finished goods	9,800		
Bank	14,900	76,800	
Current Liabilities			
Accruals	(3,000)		
Creditors	(18,000)	(21,000)	
Net current assets			55,800
Total net assets			140,800
		£	£
Capital and Reserves			
Share Capital			
Ordinary share capital			120,000
Reserves			
Opening profit and loss account		13,000	
Add Profit for year		7,800	20,800
Total shareholders' funds			140,800

Q&A

Q9 Maurice Rogers manages a department. He has been allocated this budget for the following year:

	£	£
Sales		200,000
Purchases	(60,000)	
Advertising	(15,000)	
Training	(12,000)	
Repairs	(15,000)	
Travelling	(12,000)	
General expenses	(16,000)	
Wages and salaries	(26,000)	(156,000)
Profit		44,000

Maurice receives a bonus of 20 % of the profit exceeding £10,000, for any quarter. Profits of less than £10,000 earn no bonus, losses incur no penalty. The expenses are a mixture of discretionary and non-discretionary costs. Half of the sales and purchases must be incurred steadily throughout the year. The other half are discretionary. The advertising, training and repairs are completely discretionary. A third of the travel costs and half of the general expenses are discretionary. The non-discretionary costs are spread evenly throughout the year. Wages and salaries are non-discretionary and are paid equally throughout the year.

Required:
Calculate the maximum and minimum bonus Maurice could expect.

A9 Maurice Rogers
(i) For the maximum bonus, take all the discretionary sales and all the discretionary costs in different quarters (e.g., quarters 2 and 4).

Quarter	1	2	3	4	Total
	£	£	£	£	£
Sales	25,000	25,000	25,000	125,000	200,000
Purchases	(7,500)	(37,500)	(7,500)	(7,500)	(60,000)
Advertising		(15,000)			(15,000)
Training		(12,000)			(12,000)
Repairs		(15,000)			(15,000)
Travel costs	(1,000)	(9,000)	(1,000)	(1,000)	(12,000)
General expenses	(2,000)	(10,000)	(2,000)	(2,000)	(16,000)
Wages and salaries	(6,500)	(6,500)	(6,500)	(6,500)	(26,000)
Profit (Loss)	8,000	(80,000)	8,000	108,000	44,000
Bonus	nil	nil	nil	£19,600	£19,600

Q&A

A9 Maurice Rogers (*continued*)

Maurice's bonus will thus be 20 % of the £108,000 profit in quarter 4 after taking away the first £10,000. It is thus £19,600 (£108, 000 − £10, 000 × 20 %).

(ii) For the minimum bonus, spread the costs evenly.

Quarter	1	2	3	4	Total
	£	£	£	£	£
Sales	50,000	50,000	50,000	50,000	200,000
Purchases	(15,000)	(15,000)	(15,000)	(15,000)	(60,000)
Advertising	(3,750)	(3,750)	(3,750)	(3,750)	(15,000)
Training	(3,000)	(3,000)	(3,000)	(3,000)	(12,000)
Repairs	(3,750)	(3,750)	(3,750)	(3,750)	(15,000)
Travel costs	(3,000)	(3,000)	(3,000)	(3,000)	(12,000)
General expenses	(4,000)	(4,000)	(4,000)	(4,000)	(16,000)
Wages and salaries	(6,500)	(6,500)	(6,500)	(6,500)	(26,000)
Profit	11,000	11,000	11,000	11,000	44,000
Bonus	£200	£200	£200	£200	£800

Maurice's bonus is thus £800.

Maurice will, therefore, try to adopt the first scenario, even if it has dire consequences for the firm.

Chapter 18: Planning, Control and Performance: Standard Costing

Discussion Question

Q1 'Standard costing involves comparing the standard sales and costs against the actual sales and actual costs to determine variances. These variances are then split into controllable and uncontrollable variances. Those responsible for controllable favourable variances should be rewarded, but those responsible for controllable unfavourable variances should be punished'. Discuss.

A1 There are several steps in standard costing. The first involves determining a set of standards for sales, direct labour, direct materials, variable overheads and fixed overheads. These standards represent what is expected to happen within a future budgeted period. These

Q&A

elements are then split into quantity and price components. Thus, the standard for direct labour might expect *X* hours (quantity standard) to be incurred at a rate per hour of *Y* (price standard).

The actual results are then compared against these budgeted results. Variances will arise. These variances can indeed be divided into controllable and uncontrollable variances. An uncontrollable variance might be a general price rise for bought-in materials that was unexpected. A controllable variance, for example, might be excessive use of raw materials due to a purchasing error where inferior quality material was purchased. Controllable variances are thus those traceable to individuals. Some companies do reward those responsible for favourable variances and punish those responsible for unfavourable variances. However, it is necessary to be very aware that such measures may have unintended behavioural consequences. It is true that rewards may motivate individuals, but if individuals are penalised then this will often have dysfunctional consequences.

Numerical Questions

Q1 Gogo Manufacturing has the following results for December 2005 for production of its toy, the Dancer. It budgeted to sell 20,000 Dancers at £8.00 each. In actual fact, 18,000 Dancers were sold at £9.00 each. The budgeted and actual costs are as follows:

	Budget £	Actual £
Material cost	40,000	38,000
Labour cost	55,000	53,000
Variable overheads	5,500	6,000
Fixed overheads	7,000	6,500

Required:

(i) Calculate the flexed budget.
(ii) Calculate the sales price variance.
(iii) The overall cost variances for materials, labour, variable overheads and fixed overheads.

Note that you do not have enough information to calculate the more detailed variances.

(iv) Calculate the sales quantity variance.
(v) Discuss the variances. In particular, highlight what extra information might be needed.

Q&A

A1 Gogo Manufacturing

(i) to (iii)

	Budget	*Flexed*	*Actual Budget*	*Sales Price and Overall Cost Variances**	
Number of Dancers	20,000	18,000	18,000		
	£	£	£	£	
Sales	160,000	144,000	162,000	18,000	Fav.
Material cost	(40,000)	(36,000)	(38,000)	(2,000)	Unfav.
Labour cost	(55,000)	(49,500)	(53,000)	(3,500)	Unfav.
Variable overheads	(5,500)	(4,950)	(6,000)	(1,050)	Unfav.
Contribution	59,500	53,550	65,000	11,450	Fav.
Fixed overheads	(7,000)	**(7,000)	(6,500)	500	Fav.
Profit	52,500	46,550	58,500	11,950	Fav.

Helpnotes:
*The sales price variance is £18,000 Fav. The overall cost variances are material cost (i.e., direct materials) variance £2,000 Unfav., labour cost variance £3,500 Unfav., overall variable overheads cost variance £1,050 Unfav., and fixed overheads variance £500 Fav.
**Remember, fixed costs remain unchanged whatever the level of activity, so we do not flex these.

(iv)

$$\text{Sales quantity variance} = (\text{standard quantity of units sold} - \text{actual quantity of units sold}) \times \text{standard contribution per unit}$$

$$= (20{,}000 - 18{,}000)\frac{£59{,}500}{20{,}000}$$

$$= (£5{,}950) \text{ Unfav.}$$

Note this is simply the flexed profit (£46,550) less the original budget (£52,500) = £5,950 Unfav.

(v)

(a) *Sales variances*. The sales quantity variance is unfavourable. Two thousand fewer Dancers were sold than expected, creating a £5,950 unfavourable variance. However, there is a favourable price variance of £18,000 as each Dancer sold for £1 more than expected.

(b) *Material cost*. We paid £2,000 more than expected. This may be due to increased prices or increased quantity used. We need more information on this.

Q&A

(c) *Labour cost*. We paid £3,500 more than expected. Either we paid more per hour or we used more hours than expected. We need more information.
(d) *Variable overheads*. This was an unfavourable variance of £1,050. This is linked to the method of overhead recovery. We need more information.
(e) *Fixed overheads*. This was £500 less than expected.

Q2 Office Traders makes filing cabinets. Here are the details of its May production:

	Estimated	Actual
Number of filing cabinets	15,000	16,000
Kilos of metal	120,000	140,000
Price per kilo (pence)	70	75

Required:
Calculate the:
(i) Overall direct materials cost variance
(ii) Direct materials price variance
(iii) Direct materials quantity variance.

A2 Office Traders

(i) Overall material variance

	£	
Standard cost of materials for actual production (8 kilos of metal* at 70p × 16,000)	89,600	
Actual cost of materials used in production (140,000 kilos × 75p)	105,000	
*Each filing cabinet is estimated to take 8 kilos of metal (120,000 kilos ÷ 15,000 filing cabinets)	(15,400)	Unfav.

(ii) Material price variance

$$\begin{aligned}\text{Material price variance} &= (\text{standard price per unit of material} - \text{actual price per unit of material}) \times \text{actual quantity of materials used}\\ &= (70\text{p} - 75\text{p}) \times 140{,}000 \text{ kilos}\\ &= (£7{,}000) \text{ Unfav.}\end{aligned}$$

Q&A

(iii) Material quantity variance

Material quantity variance = (standard quantity of materials for production – actual quantity of materials used) × standard material price per unit

= (16,000 × 8 kilos – 140,000 kilos) × 70p

= (£8,400) Unfav.

Q3 Resteasy makes armchairs. There are the following details of direct labour used to make armchairs for June:

(a) Standard: 600 armchairs at 4 hours at £4.80 per hour

(b) Actual production: 700 armchairs at 3,000 hours for £13,500

Required:

Calculate the:

(i) Overall direct labour cost variance

(ii) Direct labour price variance

(iii) Direct labour quantity variance.

A3 Resteasy

(i) Overall labour variance

	£	
Standard cost of labour for actual production (700 armchairs at 4 hours) – £4.80	13,440	
Actual cost of labour used in production	13,500	
	(60)	Unfav.

(ii) Labour price variance

Labour price variance = (standard labour price per hour – actual price per hour) × actual quantity of labour used

= (£4.80 – £4.50*) × 3,000 hours

= £900 Fav.

* £13,500 labour cost divided by 3,000 hours

Q&A

(iii) Labour quantity variance

Labour quantity variance = (standard quantity of labour hour for production – actual quantity of labour hours used) × standard labour price per hour

= (4 hours × 700 armchairs – 3,000 hours) × £4.80

= (£960) Unfav.

Q4 Keepfit has the following details for its variable overheads for July on its health product, the Uplift. A total of 125,000 Uplifts are expected to take 375,000 labour hours. Variable overheads are expected to be £1.25 per labour hour. In fact, it makes 105,000 Uplifts using 308,000 labour hours. Budgeted fixed overheads were £19,600. However, actually it spends £20,600 on fixed overheads. Actual variable overheads are £405,000.

Required:
Calculate the:
(i) Overall variable overhead cost variance
(ii) Variable overheads price variance
(iii) Variable overheads quantity variance
(iv) Fixed overheads variance.

A4 Keepfit

(i) Overall variable overhead cost variance

Standard cost of variable overheads for actual production	£	
105,000 Uplifts at 3 labour hours at £1.25*	393,750	
Actual cost of variable overheads for production	405,000	
*375,000 labour hours ÷ 125,000 Uplifts	(11,250)	Unfav.

(ii) Variable overheads price variance
(Standard variable overheads price per hour – actual variable overheads price per hour) × actual quantity of labour hours used
= (£1.25 – £1.31*) × 308,000 hours
= (£20,000) Unfav.

* Variable overheads £405,000 ÷ 308,000 actual labour hours (rounded to £1.31)

Q&A

A4 Keepfit (*continued*)

(iii) Variable overheads quantity variance

(Standard quantity of labour hours for actual production – actual quantity of labour hours used) × standard variable overheads price per hour
= (105,000 × 3 hours – 308,000 hours) × £1.25
= £8.750 Fav.

(iv) Fixed overheads variance

Fixed overhead variance = Standard fixed overheads less actual fixed overheads
= £19,600 – £20,600
= (£1,000) Unfav.

Q5 Craven Computers assembles components for personal computers. In June there are the following financial details for its manufacture of the computer mouse. It was expected that 300,000 mice would be sold at £3.80 each. However, 290,000 mice were actually sold at £3.75 each. The cost data is provided below.

	Budgeted Data	*Actual Data*
Direct labour	150,000 hours at £6.00 per hour	140,000 hours at £6.10 per hour
Direct materials	75,000 sheets of plastic at £0.50 each	80,000 sheets of plastic at £0.48 each
Variable overheads	£75,000 recovered at £0.50 per direct labour hour	£72,000
Fixed overheads	£11,000	£10,600

Required:

(i) Calculate the flexed budget and overall variances
(ii) Calculate the individual price and quantity variances
(iii) Calculate a standard cost reconciliation statement for June
(iv) Comments on the results.

Q&A

A5 Craven Computers

(i) Flexed Budget for Craven Computers

	*Budget**	*Flexed Budget***	*Actual*	*Sales Price and Overall Cost Variances*	
Volume	300,000	290,000	290,000		
	£	£	£	£	
Sales	1,140,000	1,102,000	1,087,500	(14,500)	Unfav.
Direct materials	(37,500)	(36,250)	(38,400)	(2,150)	Unfav.
Direct labour	(900,000)	(870,000)	(854,000)	16,000	Fav.
Variable overheads	(75,000)	(72,500)	(72,000)	500	Fav.
Contribution	127,500	123,250	123,100	(150)	Unfav.
Fixed overheads	(11,000)	(11,000)	(10,600)	400	Fav.
Profit	116,500	112,250	112,500	250	Fav.

*Standard
**Standard quantity of actual production

(ii) Individual Variances for Craven Computers

(a) Sales Quantity Variance

Sales quantity variance = (standard quantity of units sold − actual quantity of units sold) × standard contribution per unit

$= (300,000 - 290,000) \times £0.425^{*}$

$= (£4,250)^{**}$ Unfav.

$^{*}£0.425 = \dfrac{\text{Contribution}}{\text{Budgeted sales volume}} = \dfrac{£127,500}{300,000}$

**Represents budgeted profit £116,500 minus flexed budget profit £112,250

(b) Sales Price Variance

This can be taken directly from the flexed budget, or it can be calculated as follows:

Sales price variance = (standard selling price per unit − actual selling price per unit) × actual quantity of units sold

= (£3.80 − £3.75) × 290,000 units

= (£14,500) Unfav.

Q&A

A5 Craven Computers (*continued*)

The next four variances are cost variances; they can be divided into price variances and quantity variances (except for fixed overheads where there is only a quantity variance).

Price	Quantity
(Standard price per unit – actual price per unit) × actual quantity	(Standard quantity of actual production – actual quantity of production) × standard price
(c) Direct Material Variances	
(£0.50 per sheet – £0.48 per sheet) ×80,000 sheets = £1,600 Fav.	(290,000 mice × 0.25 sheets per mouse* gives 72,500 sheets – 80,000 sheets) × £0.50 = *£3,750 Unfav.* *75,000 sheets ÷ 300,000 mice. This gives the amount of material per mouse.
(d) Direct Labour Variances	
(£6.00 per hour – £6.10 per hour)× 140,000 hours = (£14,000) Unfav.	(290,000 mice × 0.50 hours* gives 145,000 hours – 140,000 hours) × £6.00 = *£30, 000* Fav. *150,000 hours ÷ 300,000 mice. This gives the standard amount of the labour per mouse.
(e) Variable Overheads Variances	
(£0.50 per hour – £0.51 per hour*)× 140,000 hours = (£2,000) Unfav. *0.51 per hour = £72,000÷ 140,000 hours (rounded to £0.51)	(290,000 mice × 0.50 hours* gives 145,000 hours – 140,000 hours) × £0.50 = *£2,500 Fav.* *150,000 hours ÷ 300,000 mice. This gives the standard amount of labour per mouse and we are recovering our variable overheads on the labour hours.
(f) Fixed Overheads Variance	
	£11,000 standard fixed overheads –£10,600 actual fixed overheads = *£400 Fav.*

Q&A

(iii) Craven Computers Plc

Craven Computers Plc
Standard Cost Reconciliation Statement for June

	£	£	£	
Budgeted Profit			116,500	
Sales quantity variance			(4,250)	Unfav.
Budgeted profit at actual sales			112,250	
Variances	Fav.	Unfav.		
Sales price		14,500		
Direct materials price	1,600			
Direct materials quantity		3,750		
Direct labour price		14,000		
Direct labour quantity	30,000			
Variable overheads price		2,000		
Variable overheads quantity	2,500			
Fixed overheads variance	400			
	34,500	34,250	250	
Actual Profit			112,500	

(iv) Comments

The actual profit for Craven Computers is £4,000 (£116,500 – £112,500) less than budgeted. Craven Computers has actually sold 10,000 fewer mice than anticipated, creating an unfavourable sales quantity variance of £4,250. However, it has also reduced the price slightly, creating an unfavourable sales price variance of £14,500.

On the cost variances, there is a favourable direct materials price variance of £1,600 as the sheets are cheaper than anticipated. However, more sheets were used than anticipated, possibly because they were of poorer quality. There is thus an unfavourable quantity variance of £3,750. The labour price variance of £14,000 is unfavourable since Craven Computers paid £6.10 per hour rather than the budgeted £6.00. However, perhaps because a better quality of labour was used, fewer labour hours than expected were used to produce the actual quantity of mice, creating a favourable quantity variance of £30,000. For variable overheads, more overheads than anticipated were incurred, creating an unfavourable price variance of £2,000. As fewer labour hours were worked than expected (and as variable overheads are recovered using labour hours), fewer overheads were recovered into the product, causing a favourable quantity variance of £2,500. Finally, fixed overheads were £400 less than anticipated.

Q&A

Chapter 19: Short-Term Decision-Making

Discussion Question

Q1 Contribution is simple, easy to use and extremely flexible. Discuss.

A1 Contribution, without doubt, is an extremely useful concept for management accountants. It is a simple idea (i.e., sales less variable costs). Once you have identified the variable costs in a business (not always straightforward) it becomes easy to apply. There are a number of applications in which it can be used. It forms the basis of a number of short-term decisions. What are the most and least profitable products? Should the business cease production of any products? Should we make a product in-house or buy it in? How should we maximise profit when we have a limited resource (such as a restricted number of direct labour hours or a restricted amount of raw materials)? In addition, contribution forms the basis for two useful management accounting techniques. First, it is an essential element in break-even analysis, helping to determine the break-even point. Second, it forms a key element in the contribution/sales ratio and is important when drawing up a contribution graph.

Numerical Questions

Q1 Sellhouse, a department store, has four divisions: food, furniture, electrics and clothing. In total, sales are £300,000 and costs £240,000 (variable costs £200,000 and fixed costs £40,000). Sellhouse has the following split for sales and variable costs:

	Food	Furniture	Electrics	Clothing
	%	%	%	%
Sales	20	30	30	20
Variable costs	35	30	25	10

Required:
Advise Sellhouse on how to achieve the maximum profitability for the four divisions.

A1 Sellhouse

	Food	Furniture	Electrics	Clothing	Total
	£	£	£	£	£
Sales	60,000	90,000	90,000	60,000	300,000
Variable costs	(70,000)	(60,000)	(50,000)	(20,000)	(200,000)
Contribution	(10,000)	30,000	40,000	40,000	100,000
Fixed costs					(40,000)
Net Profit					60,000
Contribution/sales	(16.67 %)	33.33 %	44.4 %	66.67 %	

Q&A

It seems that all the divisions are making a positive contribution, except for food. However, the clothing division is actually the most profitable. Certainly Sellhouse should consider shutting down the food division and increase profits to £70,000 (contributions from furniture (£30,000), electrics (£40,000) and clothes (£40,000) = £110,000 less fixed costs £40,000). Perhaps, it should also focus even more on the clothing. However, Sellhouse should be careful that shutting the food division will not have a knock-on effect on the other divisions.

Q2 Joe Cool owns two ice-cream vans he calls the Cornet and the Flake. Normally, both are stationed in different lay-bys for 40 hours per week. Labour is £4.50 per hour. Last week's results, which are typical (when both were fully operating and 80 labour hours were available), are set out below. Unfortunately, next week's labour is restricted to 65 hours.

	Van 1: The Cornet		Van 2: The Flake	
	£	£	£	£
Sales		500		600
Less *Variable Costs*				
Direct labour	180		180	
Direct materials	100		120	
Variable overheads	60	340	70	370
Contribution		160		230

Required:
A maximisation of the profits using the 65 hours of labour.

A2 Joe Cool
The short way of doing this is by just dividing the contribution by the number of hours:

$$\text{Van 1} \quad \frac{£160}{40 \text{ hours}} = £4 \text{ per hour}$$

$$\text{Van 2} \quad \frac{£230}{40 \text{ hours}} = £5.75 \text{ per hour}$$

Q&A

Alternatively, we could calculate the contribution per labour hour in full.

	Van 1				Van 2			
	Total		Per hour (40 hours)		Total		Per hour (40 hours)	
	£	£	£	£	£	£	£	£
Sales		500		12.50		600		15.00
Less *Variable Costs*								
Direct labour	180		4.50		180		4.50	
Direct materials	100		2.50		120		3.00	
Variable overheads	60	340	1.50	8.50	70	370	1.75	9.25
Contribution		160		4.00		230		5.75

To maximise contribution over 65 hours, fully open Van 2 and use the remaining hours for Van 1. This is because there is a higher contribution for each labour hour for Van 2.

Van 2	**Van 1**
40 hours	25 hours
£5.75 per hour contribution	£4.00 per hour contribution
40 hours × £5.75 per hour = £230.00	25 hours × £4.00 per hour = £100.00

The total contribution is, therefore, £230 + £100 = £330.

Q3 Gifts and Presents make four main products: the hamper, the box, the carton and the basket. Direct labour (last year and this year) is paid at £5 per hour. Next year the maximum sales (in units) are 2,300 Hampers, 2,500 Boxes, 3,100 Cartons and 4,800 Baskets. For next year there are only 1,500 direct labour hours. For last year there were the following results:

	Hamper		Box		Carton		Basket	
Units sold		2,000		1,800		3,000		4,500
	£	£	£	£	£	£	£	£
Sales		4,000		3,400		4,500		4,800
Less *Variable Costs*								
Direct labour	1,500		1,750		1,625		2,500	
Direct materials	1,500		800		850		1,250	
Variable overheads	120		200		180		360	
Fixed overheads	500		500		500		500	
(equal allocation)		3,620		3,250		3,155		4,610
Net Profit		380		150		1,345		190

Q&A

Required:
A calculation of the most profitable production schedule, given that direct labour, the limiting factor, is restricted to 1,500 hours.

A3 Gifts and Presents

(i) Labour hours worked

	Hamper	Box	Carton	Basket	Total
Direct labour cost (£)	1,500	1,750	1,625	2,500	7,375
Cost per labour hour (£)	5	5	5	5	5
Number of labour hours	300	350	325	500	1,475

(ii) Contribution per labour hour

	Hamper		Box		Carton		Basket	
Units sold		2,000		1,800		3,000		4,500
	£	£	£	£	£	£	£	£
Sales		4,000		3,400		4,500		4,800
Less *Variable Costs*								
Direct labour	1,500		1,750		1,625		2,500	
Direct materials	1,500		800		850		1,250	
Variable overheads	120	3,120	200	2,750	180	2,655	360	4,110
Contribution		880		650		1,845		690
Labour hours		300		350		325		500
Contribution per labour hour		£2.93		£1.86		£5.68		£1.38
Ranking		2		3		1		4

(iii) Labour hours to make each unit

	Hamper	Box	Carton	Basket
Labour hours worked (from (i))	300	350	325	500
Number of units	2,000	3,000	3,000	45,000
Labour hours per unit	0.15	0.194	0.108	0.111

(iv) Allocating the hours

Therefore, to use the available 1,500 hours, we need to allocate them up to the maximum sales in the order Carton, Hamper, Box and Basket. This order reflects the

Q&A

order of decreasing contribution per labour hour and will give maximum total contribution.

Product	*Maximum Sales (units)*	*Labour Hours (from iii above)*	*Total Hours Used*	*Contribution per Hour* (£)	*Total Contribution* (£)
Carton	3,100	(3,100 × 0.108)	335	5.68	1,903
Hamper	2,300	(2,300 × 0.15)	345	2.93	1,011
Box	2,500	(2,500 × 0.194)	485	1.86	902
Basket	3,015	(3,015 × 0.111)	*335	1.38	462
Total Contribution			1,500		4,278
Fixed costs					(2,000)
Net Profit					2,278

*This is calculated by deduction. So far for Cartons, Hampers and Boxes we have used 1,165 hours. We have 335 hours left of the 1,500 hours available. Each Basket uses 0.111 labour hours. Therefore, we can make 3,015 Baskets.

Q4 An advertising consultancy, Bend-the-Truth, has three branches in London, New York and Paris. Their results are set out below. Direct labour is assumed to be variable.

	Sales Commission £	*Direct Labour* £	*Other Variable Overheads* £
London	360,000	200,000	25,000
New York	480,000	300,000	30,000
Paris	520,000	220,000	40,000

Head-office fixed overheads are £250,000.

Required:

(i) Calculate the contribution/sales ratios

(ii) Draw the contribution graph.

Q&A

A4 Bend-the-Truth

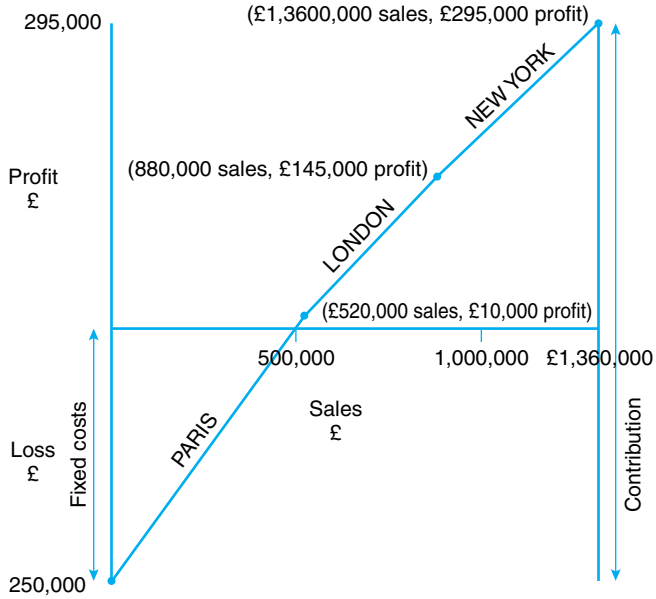
(i) The contribution/sales ratios

	Sales £	*Variable Costs* £	*Contribution* £	*Contribution/Sales*	*Ranking*
London	360,000	225,000	135,000	135,000/360,000 = 38 %	2
New York	480,000	330,000	150,000	150,000/480,000 = 31 %	3
Paris	520,000	260,000	260,000	260,000/520,000 = 50 %	1
	1,360,000	815,000	545,000		
Fixed costs			(250,000)		
Net Profit			295,000		

(ii) Cumulative profit table in contribution/sales ratio ranking

	Cumulative Sales £	*Cumulative Contribution* £	*Cumulative Profit/Loss* £
Fixed costs			(250,000)
Paris	520,000	260,000	10,000
London	880,000	395,000	145,000
New York	1,360,000	545,000	295,000

Bend-the-Truth's Contribution/Sales Graph



Q&A

Chapter 20: Strategic Management Accounting

Discussion Question

Q1 What are the key differences between strategic management accounting and traditional management accounting?

A1 Strategic management accounting was driven by the perceived weaknesses of traditional management accounting that it was 'too late, too aggregated, and too distorted to be relevant for managers' planning and control decisions' (Johnson and Kaplan, 1987, *Relevance Lost*, p. 1). Traditional management accounting was perceived to place too little emphasis on factors external to the firm or on non-financial information. It was also considered to be too orientated towards traditional manufacturing.

Strategic management accounting seeks to address these perceived deficiencies of traditional management accounting. Techniques such as value chain analysis, product life cycle analysis, product portfolio matrix, SWOT analysis, balanced scorecards and benchmarking attempt to contextualise the firm's activities within the wider environment and to utilise non-financial information to help in managerial decision-making. SWOT analysis (strengths, weaknesses, opportunities and threats analysis), for example, seeks to include a whole range of financial and non-financial factors, internal and external factors into the appraisal of an organisation's current position. Activity-based costing is also seen as a strategic management accounting technique which attempts to provide a modern, non-production-driven method of recovering costs.

Numerical Questions

Q1 Alpine Growers is a nursery. The company is a niche company. It specialises in two ranges of plants: the Rockery and the Pond. You have the following financial details:

	Market Share	*Market Growth*	*Sales (000s)*	*Contribution (000s)*
Rockery	40 %	10 %	£50,000	£1,000
Pond	40 %	70 %	£25,000	£5,000

The Rockery range is well established and is marketed throughout Europe; the Pond range is currently only marketed in southern England. The product life cycles are about 10 years. The Rockery is 5 years old; the Pond is 2 years old. The Rockery is facing tough competition from other nurseries and the market growth is slow. There is less competition

Q&A

in other potential export markets. The Pond range market is less competitive. The chief nurseryman has just left, but a new chief salesman has just joined from a rival. A new set of nursery tunnels have just been established. There are potential collaborative North American possibilities.

Required:
Prepare a SWOT analysis.

A1 SWOT Analysis for Alpine Growers

Strengths	Weaknesses
• Pond range very profitable, still early in life cycle • New chief salesman • Niche company • New set of nursery tunnels	• Rockery range is unprofitable • No chief nurseryman
Opportunities	**Threats**
• Market Pond range in Europe • Market both products worldwide, particularly in North America	• Rockery range will drain resources • Lack of chief nurseryman will inhibit growth

Q2 You have gathered the following information for a local health trust:

- The mission statement of the trust is to be profitable, give patients good service, run an efficient service, maintain a good infrastructure and constantly improve.
- The main financial indicators are return on capital employed and return on investment.
- The trust has recently introduced a minimum three-month guaranteed waiting list.
- The trust publishes annual details of the success rates of hospital operations.
- The trust aims to use manpower more efficiently and maximise its bed occupancy rate.
- The trust operates a continual improvement programme based on staff suggestions.
- A new capital expenditure programme has expanded considerably the number of wards.
- A new set of hospital equipment has been purchased.

Required:
From this information, prepare a balanced scorecard.

Q&A

A2 Balanced Scorecard for Local Health Trust

Financial Perspective	
Goals	*Measures*
Profitability	Return on capital employed Return on investment

Customer Perspective	
Goals	*Measures*
Good service	Guaranteed waiting list Success rates of hospital operations

Internal Business Perspective	
Goals	*Measures*
Efficient service	Manpower efficiency Maximise bed occupancy rate

Innovation and Learning Perspective	
Goals	*Measures*
Improve infrastructure Continued improvement	Hospital equipment and new wards Staff suggestions

Q3 Six months after a large supermarket chain launches the new breakfast product Supermix, you gather the following information after an extensive marketing follow-up survey of 200,000 customers. This is the breakdown of sales by customer category. A packet of Supermix costs £ 1.

Sales Matrix

Age	*Sales* £	*Geographical Location*	*Sales* £	*Sex*	*Sales* £	*TV Viewing*	*Sales* £	*Paper*	*Sales* £
0–10	45,000	South	20,000	Male	98,000	BBC	65,000	Mirror	15,000
11–20	80,000	Midlands	45,000	Female	102,000	ITV	120,000	Sun	15,000
21–40	20,000	North	80,000			Sky	15,000	Telegraph	5,000
41–60	30,000	South West	10,000					Times	6,000
60+	25,000	Wales	5,000					Express	7,000
		Scotland	40,000					No papers	152,000
	200,000		200,000		200,000		200,000		200,000

Required:

(i) Identify which customers are most likely to buy Supermix
(ii) State whether you need any further information
(iii) State where you might target your advertising campaign.

A3

(i) The evidence collected suggests that young people (especially those under 20) are the most likely to buy Supermix. Sales in the North, Scotland and the Midlands are greatest. Males and females are almost as likely to buy the product. Most customers

Q&A

watch ITV. Although the *Mirror* and the *Sun* are the most read papers, the majority of Supermix buyers do not read the paper (possibly because they are children).

(ii) You would need more information about the interconnectedness of these groups. For instance, could we narrow down our target market to people under 20, living in the North?

(iii) It is likely that a TV campaign on ITV aimed at younger viewers will be the most rewarding advertising opportunity.

Chapter 21: Long-term Decision-Making: Capital Investment Appraisal

Discussion Question

Q1 Capital investment appraisal techniques can be divided into those which do not take into account the time value of money and those which do. The former are crude, but often used; the latter more sophisticated, but rarely used in practice. Discuss.

A1 The first part of this statement is undoubtedly true. The payback method and accounting rate of return do not take into account the time value of money. Payback is based on cash flows and seeks to determine when cumulative net cash inflows will surpass the cash outflows incurred in investing in the project. This method is simple to understand and apply. The accounting rate of return expresses the profitability of the project over a period of time. Like payback, it is relatively easy to understand and apply.

By contrast, the net present value and internal rate of return methods use discounted cash flows to evaluate the viability of capital investment. Net present value discounts future cash flows back to establish whether there is a positive or negative cash flow in today's terms. The internal rate of return seeks to establish the rate of return at which the project makes neither a profit nor a loss. Once this is done it can be compared against the company's cost of capital. Both methods are reasonably sophisticated and rely on many assumptions.

Despite their technical superiority it is, however, true that net present value and internal rate of return are not used in practice as much as one might at first expect. Simple methods, particularly payback, are often preferred. This is because, although more sophisticated, net present value and the internal rate of return are based on many assumptions, especially determining an accurate cost of capital. Many businesses therefore prefer to adopt a simpler method, even though it fails to take into account the time value of money.

Q&A

Numerical Questions

Q1 Greek Products is evaluating three projects: the Alpha, the Beta, and the Delta. The company's cost of capital is 8 %. These projects have the following cash flows. Greek Products only wishes to invest in one project.

Year	*Alpha* £	*Beta* £	*Delta* £
0 (Initial outlay)	(25,000)	(16,000)	(15,000)
Cash inflow			
1	3,000	7,000	4,300
2	3,000	5,000	4,300
3	4,500	3,000	4,300
4	6,000	2,000	4,300
5	8,900	3,000	4,300
6	10,700	1,500	4,300

Required:
A calculation of
(i) the payback period
(ii) the accounting rate of return (assume cash flows equal profits)
(iii) the net present value, and
(iv) the internal rate of return.

A1 Greek Products

(i) Payback

Alpha £	*Beta* £	*Delta* £
$16{,}500 + \frac{8{,}500}{8{,}900}$	$15{,}000 + \frac{1{,}000}{2{,}000}$	$12{,}900 + \frac{2{,}100}{4{,}300}$
4.96 years	3.5 years	3.49 years

(ii) Accounting rate of return

	Alpha	*Beta*	*Delta*
$\frac{\text{Average annual profit(£)}}{\text{Initial investment}}$	$\frac{6{,}017}{25{,}000} = 24.1\,\%$	$\frac{3{,}583}{16{,}000} = 22.4\,\%$	$\frac{4{,}300}{15{,}000} = 28.7\,\%$

Q&A

(iii) Net present value (NPV)

Year	*Alpha* £	*Beta* £	*Delta* £	*Discount Rate 8 %*	*Alpha* £	*Beta* £	*Delta* £
0	(25,000)	(16,000)	(15,000)	1	(25,000)	(16,000)	(15,000)
1	3,000	7,000	4,300	0.9259	2,778	6,481	3,981
2	3,000	5,000	4,300	0.8573	2,572	4,286	3,686
3	4,500	3,000	4,300	0.7938	3,572	2,381	3,413
4	6,000	2,000	4,300	0.7350	4,410	1,470	3,160
5	8,900	3,000	4,300	0.6806	6,057	2,042	2,927
6	10,700	1,500	4,300	0.6302	6,743	945	2,710
Net Present Value (NPV)					1,132	1,605	4,877

Therefore, on all criteria, we will choose Delta. Delta has the quickest payback, the highest accounting rate of return and the greatest NPV.

(iv) Internal rate of return (IRR)

Choose 20 % for all three projects to get a negative NPV.

Year	*Alpha* £	*Beta* £	*Delta* £	*Discount Rate 20 %*	*Alpha* £	*Beta* £	*Delta* £
0	(25,000)	(16,000)	(15,000)	1	(25,000)	(16,000)	(15,000)
1	3,000	7,000	4,300	0.8333	2,500	5,833	3,583
2	3,000	5,000	4,300	0.6944	2,083	3,472	2,986
3	4,500	3,000	4,300	0.5787	2,604	1,736	2,488
4	6,000	2,000	4,300	0.4823	2,894	965	2,074
5	8,900	3,000	4,300	0.4019	3,577	1,206	1,728
6	10,700	1,500	4,300	0.3349	3,583	502	1,440
Net Present Value (NPV)					(7,759)	(2,286)	(701)

Calculate the IRR using this formula:

$$\text{Lowest discount rate} + \left(\text{difference in discount rates} \times \frac{\text{lower discount rate NPV}}{\text{difference in NPVs}}\right)$$

$$\text{Alpha} = 8\,\% + \left(12\,\% \times \frac{1{,}132}{1{,}132 + 7{,}759}\right) = 9.5\,\%$$

$$\text{Beta} = 8\,\% + \left(12\,\% \times \frac{1{,}605}{1{,}605 + 2{,}286}\right) = 12.9\,\%$$

$$\text{Delta} = 8\,\% + \left(12\,\% \times \frac{4{,}877}{4{,}877 + 701}\right) = 18.5\,\%$$

Q&A

As our cost of capital is 8 %, we could potentially undertake all three projects. As Delta has the highest IRR, we would choose this project. Indeed, Delta is best under all four methods.

Q2 Millennium Plc has £60,000 to spend on capital investment projects. There is currently a choice of three projects: Meeney, Miney and Mo. It will choose either Meeney *or* Miney and Mo. The initial capital outlay is on fixed assets with a five-year life. The cost of capital is 10 %.

	£		£		£	
Initial capital outlay	*60,000*		*30,000*		*30,000*	
	Inflows	*Outflows*	*Inflows*	*Outflows*	*Inflows*	*Outflows*
Year	£	£	£	£	£	£
1	52,000	32,000	32,000	15,000	12,000	4,000
2	58,000	24,000	22,000	16,000	10,000	3,000
3	54,000	21,000	19,000	14,000	16,000	4,000
4	4,000	5,000	20,000	13,000	14,000	3,000
5	4,000	2,500	6,000	3,000	12,000	2,000

Required:
A calculation of
(i) the payback period
(ii) the accounting rate of return
(iii) the net present value, and
(iv) the internal rate of return.

A2 Millennium Plc

	Meeney		*Miney*		*Mo*	
Year	*Cash flow*	*Profit**	*Cash flow*	*Profit**	*Cash flow*	*Profit**
0	(60,000)		(30,000)		(30,000)	
1	20,000	8,000	17,000	11,000	8,000	2,000
2	34,000	22,000	6,000	–	7,000	1,000
3	33,000	21,000	5,000	(1,000)	12,000	6,000
4	(1,000)	(13,000)	7,000	1,000	11,000	5,000
5	1,500	(10,500)	3,000	(3,000)	10,000	4,000
Overall		27,500		8,000		18,000

*Cash flows are simply inflows less outflows. Profit is cash flow less depreciation, which is £12,000 per year (initial capital outlay £60,000 ÷ 5 years) for Meeney, and £6,000 per year (initial capital outlay £30,000 ÷ 5 years) for Miney and Mo. Therefore, for Meeney, year 1 profit is £20,000 cash flow less £12,000 depreciation = £8,000 profit.

Q&A

(i) Payback

Meeney £	*Miney* £	*Mo* £
$54{,}000 + \frac{6{,}000}{33{,}000}$	$28{,}000 + \frac{2{,}000}{7{,}000}$	$27{,}000 + \frac{3{,}000}{11{,}000}$
2.18 years	3.29 years	3.27 years

Here we are calculating the point at which the cumulative cash flows cover the initial capital outlay. Meeney is the best project under this criterion.

(ii) Accounting rate of return

	Meeney	*Miney*	*Mo*
$\frac{\text{Annual profit}(£)}{\text{Initial investment}}$	$\frac{27{,}500 \div 5}{60{,}000} = 9.2\,\%$	$\frac{8{,}000 \div 5}{30{,}000} = 5.3\,\%$	$\frac{18{,}000 \div 5}{30{,}000} = 12\,\%$

Using this criterion we would choose Meeney as its return of 9.2 % is better than the average for Miney and Mo of 8.65 % (5.3 % + 12 % ÷ 2).

(iii) Net present value

Year	*Meeney* £	*Miney* £	*Mo* £	*Discount Rate* 10 %	*Meeney* £	*Miney* £	*Mo* £
0	(60,000)	(30,000)	(30,000)	1	(60,000)	(30,000)	(30,000)
1	20,000	17,000	8,000	0.9091	18,182	15,455	7,273
2	34,000	6,000	7,000	0.8264	28,098	4,958	5,785
3	33,000	5,000	12,000	0.7513	24,793	3,757	9,016
4	(1,000)	7,000	11,000	0.6830	(683)	4,781	7,513
5	1,500	3,000	10,000	0.6209	931	1,863	6,209
Net Present Value					11,321	814	5,796

Meeney has an NPV of £11,321, which is more than the combined NPVs of Miney and Mo of £6,610 (£814 and £5,796). We would therefore choose to invest our £60,000 in Meeney.

Q&A

(iv) Internal rate of return (IRR)

Choose a 20 % discount rate to arrive at a negative NPV.

Year	*Meeney* £	*Miney* £	*Mo* £	*Discount Rate 20%*	*Meeney* £	*Miney* £	*Mo* £
0	(60,000)	(30,000)	(30,000)	1	(60,000)	(30,000)	(30,000)
1	20,000	17,000	8,000	0.8333	16,666	14,166	6,666
2	34,000	6,000	7,000	0.6944	23,610	4,166	4,861
3	33,000	5,000	12,000	0.5787	19,097	2,894	6,944
4	(1,000)	7,000	11,000	0.4823	(482)	3,376	5,305
5	1,500	3,000	10,000	0.4019	603	1,206	4,019
Net Present Value					(506)	(4,192)	(2,205)

Calculate the IRR using this formula:

$$\text{Lowest discount rate} + \left(\text{difference in discount rates} \times \frac{\text{lower discount rate NPV}}{\text{difference in NPVs}}\right)$$

$$\text{Meeney} = 10\,\% + \left(10\,\% \times \frac{11{,}321}{11{,}321 + 506}\right) = 19.6\,\%$$

$$\text{Miney} = 10\,\% + \left(10\,\% \times \frac{814}{814 + 4{,}192}\right) = 11.6\,\%$$

$$\text{Mo} = 8\,\% + \left(10\,\% \times \frac{5{,}796}{5{,}796 + 2{,}205}\right) = 17.2\,\%$$

Therefore, as Millennium's cost of capital is 10 %, which is less than these rates, we could undertake all the projects if funds were not limited to £30,000. As we have to choose either Meeney or Miney and Mo, we would choose Meeney as it has the highest IRR.

Overall, we would also choose Meeney because it is best using payback, accounting rate of return, net present value and IRR.

Q3 A supermarket chain, Tesbury's, is considering building a new superstore. The two sites are in Down and Sizing. There are the following expected capital outlays and cash inflows

Q&A

for the two prospective sites. The superstore is estimated to take two years to build. Cash flows are estimated for 10 years. After 10 years a major refurbishment is anticipated.

	Year	*Down* £000	*Sizing* £000
Outlays	0	(5,300)	(5,600)
	1	(4,000)	(5,000)
Net inflows			
	1	600	1,200
	2	950	1,300
	3	1,250	1,350
	4	1,800	1,700
	5	2,100	1,850
	6	2,350	1,900
	7	2,400	2,000
	8	1,900	1,800
	9	1,650	1,700
	10	950	1,300

The supermarket can borrow money, respectively, at (i) 6 %, (ii) 9 %, and (iii) 11 %.

Required:

(a) A calculation of which superstore should be built and at which rate, using net present value

(b) The internal rates of return for the two sites.

A3 Tesbury

(i) Net present value (NPV)

Year	*Down £000*	*Sizing £000*	*Discount Rate 6%*	*Down £000*	*Sizing £000*	*Discount Rate 9%*
0	(5,300)	(5,600)	1	(5,300)	(5,600)	1
1	(3,400)	(3,800)	0.9434	(3,208)	(3,585)	0.9174
2	950	1,300	0.8900	846	1,157	0.8417
3	1,250	1,350	0.8396	1,050	1,133	0.7722
4	1,800	1,700	0.7921	1,426	1,347	0.7084
5	2,100	1,850	0.7473	1,569	1,383	0.6499
6	2,350	1,900	0.7050	1,657	1,340	0.5963
7	2,400	2,000	0.6651	1,596	1,330	0.5470
8	1,900	1,800	0.6274	1,192	1,129	0.5019
9	1,650	1,700	0.5919	977	1,006	0.4604
10	950	1,300	0.5584	530	726	0.4224
Net Present Value (NPV)				2,335	1,366	

Q&A

A3 Tesbury (*continued*)

Year	*Down £000*	*Sizing £000*	*Discount Rate 11%*	*Down £000*	*Sizing £000*
0	(5,300)	(5,600)	1	(5,300)	(5,600)
1	(3,119)	(3,486)	0.9009	(3,063)	(3,423)
2	800	1,094	0.8116	771	1,055
3	965	1,042	0.7312	914	987
4	1,275	1,204	0.6587	1,186	1,120
5	1,365	1,202	0.5935	1,246	1,098
6	1,401	1,133	0.5346	1,256	1,016
7	1,313	1,094	0.4817	1,156	963
8	954	903	0.4339	824	781
9	760	783	0.3909	645	665
10	401	549	0.3522	335	458
Net Present Value (NPV)	815	(82)		(30)	(880)

The Down supermarket makes the best returns. Tesbury's should build it as long as it can borrow funds at 6 % or 9 %, but *not* at 11 %.

(ii) Internal rate of return (IRR)

We can calculate the IRR by looking for discount rates that give a positive and a negative NPV. For both Down and Sizing 6 % gives a positive NPV, while 11 % gives a negative NPV. Then we use the formula:

$$\text{Lowest discount rate} + \left(\text{difference in discount rate} \times \frac{\text{lower discount rate NPV}}{\text{difference in NPVs}}\right)$$

$$\text{Down} = 6\,\% + \left(5\,\% \times \frac{2{,}335}{2{,}335 + 30}\right) = 10.9\,\%$$

$$\text{Sizing} = 6\,\% + \left(5\,\% \times \frac{1{,}366}{1{,}366 + 880}\right) = 9.0\,\%$$

Therefore, if borrowing money at 6 %, option (i), either supermarket could be built. However, if we could borrow money at 9 %, option (ii), we should only consider Down. Under option (iii), borrowing at 11 %, we should build neither supermarket. Overall, Down looks the best project as it has the highest IRR. We would build the Down supermarket if we could borrow funds up to 10.9 %.

Q&A

Chapter 22: Working Capital and Sources of Finance

Discussion Question

Q1 What is the difference between the short-term and long-term financing of a business? Which sources of finance are usually used for each?

A1 Short-term financing is usually used to finance the short-term working capital needs of a business such as stock, debtors or cash. By contrast, long-term financing is normally concerned with infrastructure projects such as investing in a new factory or expansion. For short-term financing, the finance is normally raised either through making working capital work more efficiently or via an external source such as a bank overdraft, a bank loan, invoice discounting, debt factoring or sale and leaseback. The latter three sources include raising money against debtors or stock.

A company normally finances its long-term projects through retained profits or through an external source such as leasing, share capital or long-term borrowings. In leasing, the assets are owned by a third party, but the business pays to use them. For share capital and long-term borrowings, money is raised either from shareholders or loan creditors. It is then used to purchase assets or otherwise fund a business's activities.

Numerical Questions

Q1 Music plc is a small manufacturing firm. It buys in a subcomponent, the Woofer, for £2.00. The cost of each order is £10 and 15,000 Woofers are purchased annually. The cost of insurance and the cost of storage per Woofer are £0.50 and £0.60 per item per year, respectively.

Required:

(a) Calculate the optimal economic order quantity (i) graphically and (ii) algebraically

(b) Calculate the total costs per annum at this level.

A1 Music

(a) (i) Graphical solution

Order Quantity	*Number of Orders per Year*	*Order Cost (£)*	*Total Order Cost (£)*	*Average Quantity in Stock (£)*	*Carrying Cost (£)*	*Total Carrying Cost (£)*	*Total Cost (£)*
300	50	10	500	150	1.10	165.00	665.00
375	40	10	400	187.50	1.10	206.25	606.25
500	30	10	300	250	1.10	275.00	575.00
750	20	10	200	375	1.10	412.50	612.50
1,500	10	10	100	750	1.10	825.00	925.00

Q&A

The graphical method gives the optimal economic order quantity as about 500.

(a) (ii) Algebraic solution

$$Q = \sqrt{\frac{2AC}{i}}$$

where

Q = economic order quantity
A = average annual usage
C = cost of each order being placed
i = carrying cost per unit per annum

$$Q = \sqrt{\frac{2 \times 15{,}000 \times 10}{1.10}} = 522 \text{ Woofers}$$

Q&A

(b) Total costs per annum

		£
Costs of purchase	£2.00 × 522	1,044
Order costs	$\frac{15{,}000}{522} \times$ £10	287
Holding costs	$\frac{522}{2} \times$ £1.10	287
Total costs		1,618

Q2 Fun Fireworks is carrying out a review of its credit collection policy. Currently it has £600,000 sales, a credit policy of 20 days and an average collection period of 25 days. At the moment, 2 % of sales are not paid. Credit control costs are currently £4,000. The cost of capital is 8 % and the average contribution is 25 % on selling price. Assume 360 days in year. There are the following details for other credit collection policies:

Credit Period (days)	*Average Collection Period (days)*	*New Annual Sales (£)*	*Bad Debt Collection*	*Credit Control Costs (£)*
30	35	750,000	3 %	4,500
60	70	900,000	6 %	6,500
90	110	1,000,000	10 %	8,500

Required:
Advise Fun Fireworks whether or not it should revise its credit policy.

A2 Fun Fireworks

	Average Credit Period			
	20 days	30 days	60 days	90 days
	£	£	£	£
Sales	600,000	750,000	900,000	1,000,000
Contribution (25 %)	150,000	187,500	225,000	250,000
Cost of credit control	(4,000)	(4,500)	(6,500)	(8,500)
Bad debts	(12,000)	(22,500)	(54,000)	(100,000)
Cost of capital relating to delay in payment: 8 % of average debtors*	(3,333)	(5,833)	(14,000)	(24,444)
Revised Contribution	130,667	154,667	150,500	117,056

*Average debtors are calculated as follows:

Q&A

Fun Fireworks (*continued*)

	20 days	30 days	60 days	90 days
	£	£	£	£
$\frac{\text{Credit days}}{\text{Total days}} \times \text{Sales}$	$\frac{25}{360} \times$ £600,000	$\frac{35}{360} \times$ £750,000	$\frac{70}{360} \times$ £900,000	$\frac{110}{360} \times$ £1,000,000
Average debtors	£41,667	£72,917	£175,000	£305,555

Thirty days credit, therefore, maximises contribution because at this level of credit the revised contribution of £154,667 is the highest.

Q3 Galaxy plc is investigating its sources of finance. It has 400,000 ordinary shares in issue, with a market price of £1.60 and a current dividend of £0.35. The number of preference shares in issue is 250,000, with a market price of £2.25 and a dividend of 29p. There are 300,000 long-term debentures carrying 8 % interest. These are currently trading at £350,000.

Required:
Galaxy's overall cost of capital

A3 Galaxy

Source of Finance	*Current Market Value*		*Present Cost of Capital*		*Weighted Average Cost of Capital*
	£	%	Notes	%	%
Ordinary shares	640,000	41	(1)	21.9	9.0
Preference shares	562,500	36	(2)	12.9	4.6
Long-term loan	350,000	23	(3)	6.9	1.6
	1,552,500	100			15.2

(1) $\frac{\text{Current dividend}}{\text{Market price}} = \frac{35\text{p}}{160\text{p}} = 21.9\,\%$

(2) $\frac{\text{Current dividend}}{\text{Market price}} = \frac{29\text{p}}{225\text{p}} = 12.9\,\%$

(3) $\frac{\text{Interest paid}}{\text{Market price}} = \frac{£24{,}000}{£350{,}000} = 6.9\,\%$