Chapter 15

Reporting cash flows

REAL WORLD CASE

Review of the period: cash flow

There was a net cash inflow from operating activities of £119m during the half year. The operating profit of £483m and depreciation of £162m were partially offset by an increase in working capital requirements of £333m, reflecting higher debtors associated with the increase in average revenue and an increase in slab stock ahead of next year's blast furnace reline at IJmuiden. Interest payments were £71m in the first half of the year. Taxation paid was £113m reflecting the improvements in overseas profits. A net outflow of £170m was incurred on investing activities. Capital expenditure increased to £167m (2004: £139m) as the Group continued with its investment programme, including the completion of UK Restructuring capital expenditure in the period. After taking account of a £3m outflow on financing activities, cash and cash equivalents decreased by £54m (£58m including the impact of foreign exchange rate changes).

Source: Corus Group Plc Interim Report 2005, pp. 4–5.

Discussion points

1 How does the discussion of cash flow reflect the three main sections of the cash flow statement (operating, investing and financing flows)?

2 The explanation refers to increased revenue causing higher debtors. Is that a sign of progress or of problems?

Contents

Learning outcomes

After reading this chapter you should be able to:

- Explain why cash flow statements are regarded as providing useful information
- Explain the meaning of cash and cash equivalents
- Explain the direct and the indirect forms of presentation of cash flow statements
- Prepare a cash flow statement using the direct and the indirect method.

15.1 Introduction

The cash flow statement is one of the primary financial statements. It provides information that can not be seen in the balance sheet and income statement (profit and loss account) alone. Users of financial statements want to know about changes in financial position. This involves providing information about an entity's ability to generate cash flows and the entity's use of those cash flows.

Chapter 3 gives a very simple introduction to cash flow statements. In particular it shows why cash flow and profit differ because of the different timings of cash flow and profits. Chapter 9 indicates the working capital cycle through which inventories are acquired from suppliers on credit and sold to customers on credit. The cash eventually received from customers is used to pay suppliers and the cycle starts again. Chapter 13 illustrates a cash flow statement prepared from the balance sheets and income statement of the illustrative company used in that chapter. The case study of Safe and Sure plc runs throughout several chapters with outline discussion of the cash flow statement in Chapter 4.

This chapter provides a more thorough explanation of cash flow statements as presented in the IASB system. It explains in sections 15.2 and 15.3 the nature of the two choices – the 'direct' and the 'indirect' methods. Section 15.4 explains the nature and purpose of each line item of a cash flow statement prepared using the indirect system. Section 15.5 explains the nature and purpose of each line item of a cash flow

statement prepared using the direct system. Section 15.6 presents a worked example for those who wish to practise preparation of a cash flow statement based on the IASB system.[1]

15.2 Cash and cash equivalents

The IASB system[2] presents a cash flow statement that explains changes in **cash** and **cash equivalents**.

Definitions

Cash comprises cash on hand and demand deposits.

Cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.[3]

Cash is relatively easy to understand – it is cash that is immediately available. Cash equivalents are investments that are held to meet short-term commitments. To qualify as a cash equivalent the investment must be readily convertible to a known amount of cash and there must be an insignificant risk of changes in value. An investment qualifies as a cash equivalent only when it has a short maturity of, say, three months or less from the date of acquisition.[4]

Bank borrowings are generally considered to be financing activities. However bank overdrafts that are repayable on demand are part of the cash management of a business. The bank balance fluctuates from a positive balance to an overdrawn balance at different times of the year.[5]

15.3 The direct method and the indirect method

There are two approaches to presenting the cash flows arising from operations. The direct method presents cash inflows from customers and cash outflows to suppliers and employees, taken from the entity's accounting records of cash receipts and payments. The indirect method starts with the operating profit and makes a series of adjustments to convert profit to cash. The data in Exhibit 15.1 and Exhibit 15.2 is used to illustrate each method.

Exhibit 15.1
Income statement (profit and loss account), Year 2

	£
Revenue	100
Cost of sales: materials	(40)
Wages	(20)
Depreciation	(10)
Operating profit	30

Exhibit 15.2
Balance sheets, end of years 1 and 2

	Year 2		Year 1	
		£		£
Non-current assets		90		100
Current assets				
Inventory (stock) of materials	55		40	
Trade receivables (debtors)	12		15	
Cash	35		10	
	102		65	
Current liabilities				
Trade payables (creditors)	(11)		(14)	
Current assets net of current liabilities		91		51
Non-current liabilities				
Long-term loans		(100)		(100)
Net assets		81		51
Ownership interest		81		51

15.3.1 Direct method

The direct method reports the cash inflows from customers and cash outflows to suppliers, employees and other aspects of operations. This information is contained in the cash book or in the cash receipts and cash payments records used as input to the bookkeeping records in the general ledger. The direct method calculation is presented in Exhibit 15.3. It is followed by a comment on each line in the calculation.

Exhibit 15.3
Direct method

Operating cash flow, Year 1	
	£
Cash received from customers	103
Cash paid to suppliers	(58)
Wages paid	(20)
Operating cash flow	25

General comment: In the direct method the cash flows are taken from the cash records. The cash records have to be analysed into categories suitable for the cash flow statement. In Chapters 5 and 6 you have seen spreadsheets in which the cash record is the 'cash at bank' column. That column was used as the basis for the simple cash flow statements on the direct method illustrated in those chapters (see sections 5.5.1 and 6.6.1). This chapter does not provide the detail of the cash records of receipts and payments but the following comments explain how the cash figures can be confirmed from the information in the balance sheet and the income statement (profit and loss account).

Cash received from customers: The cash inflows from customers may be confirmed by starting with the revenue earned in the period. Some of the revenue has been earned from selling to customers on credit. The amounts receivable from customers (debtors) at the start of the period will have been collected in cash during the period. The amounts shown as receivable from customers (debtors) at the end of the period are the revenue not yet collected in cash. This analysis is presented in the following calculation:

	£m
Revenue of the period	100
Add receivables at the start of the period	15
Less receivables at the end of the period	(12)
Cash received from customers	103

Cash paid to suppliers: The cash outflows to suppliers may be confirmed by starting with the materials purchased in the period. Some of the purchases have been obtained from suppliers on credit. The amounts payable to suppliers (creditors) at the start of the period will have been paid in cash during the period. The amounts shown as payable to suppliers (creditors) at the end of the period are the payments not yet made.

The next question is – how to confirm the figure for purchases?

The purchases of materials are needed to supply the goods sold and to provide an inventory at the end of the period. If there is an inventory (stock) at the start of the period this reduces the need to make purchases. This analysis is presented in the following calculation:

	£m
Cost of materials sold in the period	40
Add inventory at the end of the period	55
Less inventory at the start of the period	(40)
Purchases of materials	55

Then the payment to suppliers is calculated.

	£m
Purchases of the period	55
Add payables at the start of the period	14
Less payables at the end of the period	(11)
Cash paid to suppliers	58

Wages paid: Usually the wages are paid as soon as the work is done so the amount shown for wages in the income statement (profit and loss account) is the same as the cash payment. To confirm the wages payment, if any amount of wages remains unpaid at the start or end of the period then the wages cost must be adjusted for these unpaid amounts in a manner similar to the calculation of cash paid to suppliers.

15.3.2 Indirect method

The indirect method starts with the operating profit and makes adjustments to arrive at cash flow from operations. The indirect method calculation is presented in Exhibit 15.4. It is followed by an explanation of each line in the calculation.

Exhibit 15.4
Indirect method

Operating cash flow, Year 1	
	£
Operating profit	30
Add back depreciation	10
	40
(Increase) in inventory	(15)
Decrease in receivables	3
(Decrease) in payables	(3)
Operating cash flow	25

Operating profit: This figure is taken from the income statement in Exhibit 15.1.

Add back depreciation: **Depreciation** is an accounting expense that does not involve any flow of cash. It is an **allocation** of the cost of the non-current (fixed) asset. So if we are looking for the cash generated by making profits, this depreciation needs to be excluded. It was deducted as an expense to calculate profit, so now it is added back to exclude it.

(Increase) in inventory: When a business acquires inventory it uses up cash. The cash is recovered when the inventory is sold. The greater the build-up of inventory, the greater the amount of cash that the business is waiting to recover. So an increase in inventory uses cash. A decrease in inventory releases cash and so is a source of cash.

Decrease in receivables: When a business sells goods or services to customers on credit it has to wait to collect the cash. The greater the increase in receivables (debtors) the greater is the amount of cash that the business is waiting to collect. So an increase in receivables has the effect of decreasing cash flow. A decrease in receivables releases cash and so is a source of cash.

(Decrease) in payables: When a business buys goods or services from suppliers on credit it delays payment of the cash. The greater the increase in payables (creditors) the greater is the amount of cash payment that the business is delaying. So an increase in payables has the effect of increasing cash flow by postponing payments. A decrease in payables means that suppliers are being paid sooner and so is equivalent to a use of cash.

Change in cash in the balance sheet: Finally it is important to check that the cash flow matches the change in cash in the balance sheet. Looking at the balance sheets in Exhibit 15.2 you will see that the cash has increased from £10m to £35m which equals the positive cash flow of £25m calculated by both the direct and the indirect method.

15.3.3 Which to choose – direct or indirect?

When students are asked at this point whether they prefer the direct or the indirect method they usually choose the direct method because it looks less cumbersome. In practice almost all companies choose the indirect method because it can be prepared from the opening and closing balance sheets and the income statement (profit and loss account). Some supporters also argue that it is useful to highlight the effect of working capital on cash flows.

The direct method needs more work to identify all the operating flows from the cash records. Bookkeeping records, as illustrated in the supplements to previous chapters in this book, are based on ledger accounts which include non-cash items. The sales ledger account, for example, combines cash sales and credit sales. All expense accounts combine expenses paid in cash and expenses obtained on credit. In practice the direct method creates additional work in analysing the accounting records, because there are many aspects to operating cash flow. Supporters of cash flow reporting advocate the direct method because it gives a clearer picture of cash flows. It also provides information on details of cash flows that is not available under the indirect method.

The standard setters recognise that there are valid arguments for and against each method and so continue to permit both. The IASB 'encourages' entities to report cash flow from operating activities using the direct method[6] but this encouragement appears to have been ineffective in many cases.

15.4 Preparing a cash flow statement: the indirect method

Most companies prepare their cash flow statement using the **indirect method**. This means they start with the reported operating profit and then make adjustments to work back to the cash amounts that are incorporated in profit and in working capital. This section explains the indirect method. A format for a cash flow statement is presented in Exhibit 15.5. Line numbers have been added at the left-hand side. Each line is explained in the section following Exhibit 15.5.

Exhibit 15.5
Format for cash flow statement, indirect method

Line		£m	£m
1	**Cash flows from operating activities**		
2	Profit before taxation		xx
3	Adjustment for items not involving a flow of cash:		
4	Depreciation, amortisation, gain or loss on disposal of non-current assets etc		xx
5	*Adjusted profit*		xx
6	(Increase)/decrease in inventories	xx	
7	(Increase)/decrease in trade receivables	xx	
8	(Increase)/decrease in prepayments	xx	
9	*Increase/(decrease) in cash due to (increases)/decreases in current assets*	xx	
10	Increase/(decrease) in trade payables	xx	
11	Increase/(decrease) in accruals	xx	
12	*Increase/(decrease) in cash due to increases/(decreases) in liabilities*	xx	
13	*Increase/(decrease) in cash due to working capital changes*		xx
14	Cash generated from operations		xx
15	Interest paid		(xx)
16	Taxes paid		(xx)
17	*Net cash inflow from operating activities*		xx
18	**Cash flows from investing activities**		
19	Purchase of non-current assets	xx	
20	Proceeds from sale of non-current assets	xx	
21	Interest received	xx	
22	Dividends received	xx	
23	*Net cash used in investing activities*		xx
24	**Cash flows from financing activities**		
25	Proceeds from issue of share capital	xx	
26	Proceeds from long-term borrowing	xx	
27	Dividends paid	xx	
28	*Net cash used in financing activities*		*xx*
29	Increase/(decrease) in cash and cash equivalents		xx
30	**Cash and cash equivalents at the start of the period**		xx
31	**Cash and cash equivalents at the end of the period**		xx

Line 1 Cash flows from operating activities

This line indicates the start of the first major section of the cash flow statement, showing how cash flows are generated from the operations of the business.

Line 2 Profit before taxation

The indirect method always starts with the operating profit *before* deducting interest and taxation, taken from the income statement (profit and loss account). This is because interest is seen as a separate payment to reward lenders and taxation is seen as a separate outflow of cash to government which need to be emphasised. If the

operating profit includes any investment income or interest received this must also be removed because it is reported in the separate section for investing activities (see lines 21 and 22). So the following checklist should be used to ensure the correct starting point:

	£m
Operating profit before taxes	xx
Is there any interest expense included in this figure? If so add it back to arrive at:	xx
Operating profit before deducting interest payable and taxes	xx
Is there any interest received/receivable or any dividends received in this figure? If so deduct it to arrive at:	(xx)
Operating profit before deducting interest payable and taxes and before including interest receivable and dividends received.	xx

Line 3 Adjustment for items not involving a flow of cash

The finance director now looks at the profit figure and asks, 'Are there any items in here that do not involve a flow of cash? If so we want to remove these so that we can get closer to cash.' Most income statements (profit and loss accounts) contain depreciation and amortisation, which have no effect on cash. Other items to look out for are changes in provisions, unrealised gains and losses on foreign currency translation.

Line 4 Adding back depreciation, amortisation, gain or loss on disposal etc

So the depreciation and amortisation are 'added back' to remove them from the profit figure. This usually causes some problems for readers of cash flow statements. If it worries you, just ask yourself – how did the depreciation get in there in the first place? The answer is that it was deducted as an expense, so if we add it back we exclude the expense. Other items that could come under this heading of 'not involving a flow of cash' are changes in provisions charged through income statement and gains or losses calculated on disposal of a non-current (fixed) asset. The following table summarises the action to be taken in the cash flow statement:

Item in calculation	*Reason*
Add back any **expenses** that do not involve a flow of cash (e.g. depreciation, amortisation, loss on disposal of non-current assets).	These expenses reduced the profit but they do not involve any flow of cash and so must be excluded by adding back.
Deduct any **revenue** that does not involve a flow of cash (e.g. gain on disposal of non-current assets).	These revenues increased the profit but they do not involve any flow of cash and so must be excluded by deducting.

Line 5 Adjusted profit

In some presentations of the cash flow statement this line is not shown separately, but it it is a useful subtotal to remind yourself that you have now removed all non-cash items and you are ready to think about how working capital changes affect cash flow from operations.

Line 6 (Increase)/decrease in inventories (stocks)

When a business buys inventories of raw materials or produces work-in-progress and finished goods, it uses up cash. The cash is only recovered when the inventories are sold. While the inventories are increasing the cash invested in them is increasing and there is a negative impact on cash flow.

The following table summarises the action to be taken in the cash flow statement:

Item in calculation	*Reason*
Deduct increase in inventories	Allowing inventories to increase takes up more cash in paying for them, or prevents cash being obtained through sale.
Add decrease in inventories	Allowing inventories to decrease reduces the cash needed to pay for them, or allows cash to be obtained through sale.

Line 7 (Increase)/decrease in trade receivables (debtors)

When a business sells goods and services on credit to customers, these customers are given some time to pay. They become debtors of the business until they pay cash. Selling goods and services on credit encourages customers to buy from the business but it delays the flow of cash to the business. The longer the period of credit taken by customers, the longer the delay. The danger of allowing the period of credit to increase is that the customer may become increasingly reluctant to pay. Chapter 13 explains how to estimate the average period of credit taken by credit customers.

The following table summarises the action to be taken in the cash flow statement:

Item in calculation	*Reason*
Deduct increase in receivables	Allowing amounts of receivables to increase means that cash is not being collected from credit customers.
Add decrease in receivables	Allowing amounts of receivables to decrease means that cash is being collected faster from credit customers.

Line 8 (Increase)/decrease in prepayments

When a business makes payments for expenses in advance of enjoying the benefit of the payment, there is an outflow of cash. Examples are rent in advance or insurance premiums in advance (see Chapter 9 for the accounting treatment of prepayments). If the business is making more prepayments, there is a greater outflow of cash. If the business reduces its prepayments the cash flow position improves.

The following table summarises the action to be taken in the cash flow statement:

Item in calculation	*Reason*
Deduct increase in prepayments	If prepayments increase then more cash is being used to make payments in advance.
Add decrease in prepayments	If prepayments decrease then less cash is being used to make payments in advance.

Line 9 Increase/(decrease) in cash due to (increases)/decreases in current assets

This line adds all the increases in current assets and deducts all the decreases in current assets. If the current assets have increased in total then the cash flow has decreased.

If the current assets have decreased in total then the cash flow has increased. It is good practice to delete the alternative words here that do not apply to the particular circumstances of the company. Some published cash flow statements leave all the words in the statement but this can be very confusing to readers.

Line 10 Increase/(decrease) in trade payables (creditors)

When a business buys goods or services on credit, the supplier often allows a period of credit. This helps the cash flow of the business in the gap between buying inputs and selling outputs of goods or services. The longer the period of credit taken from the supplier, the better the effect on cash flow. The danger of delaying payment beyond an agreed date is that the supplier may refuse to supply more goods or services and may even begin legal action for recovery of amounts owing. Chapter 13 explains how to calculate the average period of credit taken from suppliers.

The following table summarises the action to be taken in the cash flow statement:

Item in calculation	*Reason*
Deduct decrease in payables	Allowing amounts of payables to decrease means that more cash is being paid to suppliers and other creditors.
Add increase in payables	Allowing amounts of payables to increase means that less cash is being paid to suppliers and other creditors.

Line 11 Increase/(decrease) in accruals

Accruals is the general description for unpaid expenses. If a business delays paying expenses there is a benefit for cash flow. If the accruals increase then there is a greater benefit for cash flow. The danger of delaying payment beyond an agreed dates is that the supplier may refuse to supply more goods or services and may even begin legal action for recovery of amounts owing.

The following table summarises the action to be taken in the cash flow statement:

Item in calculation	*Reason*
Deduct decrease in accruals	Allowing amounts of unpaid expenses (accruals) to decrease means that more cash is being paid to settle these obligations.
Add increase in accruals	Allowing amounts of unpaid expenses (accruals) to increase means that less cash is being paid to settle these obligations.

Line 12 Increase/(decrease) in cash due to increases/(decreases) in liabilities

This line adds all the increases in current liabilities and deducts all the decreases in current liabilities. If the current liabilities have increased in total then the cash flow has benefited – less cash has been paid to settle current liabilities. If the current liabilities have decreased in total then the cash flow has suffered – more cash has been paid to settle liabilities. It is good practice to delete the alternative words here that do not apply to the particular circumstances of the company. Some published cash flow statements leave all the words in the statement but this can be very confusing to readers.

Line 13 Increase/(decrease) in cash due to working capital changes

This line shows the result of comparing the change in current assets with the change in current liabilities. There are several combinations of increases and decreases in current assets and liabilities so the easiest way to think about the outcome is to ask 'what has happened to working capital (current assets less current liabilities) overall?

If the working capital has *increased*, then cash flow has *decreased*.
If the working capital has *decreased*, then cash flow has *increased*.

Line 14 Cash generated from operations

This is a subtotal combining the cash flow effect of the adjusted profit and the cash flow effect of the changes in working capital.

Line 15 Interest paid

Interest must be paid on loans. If it is not paid on time the lender will take action to demand payment of the interest and might even demand immediate repayment of the loan in full, depending on the conditions of the loan agreement. The interest expense in the income statement represents the interest cost of the accounting period but if the payment dates fall outside the accounting period there may be an accrual of unpaid interest in the balance sheet. A calculation is required to arrive at the amount of cash paid during the accounting period.

Item in calculation	*Reason*
Interest expense in income statement	We are starting with the expense in the income statement, to adjust it to a cash figure.
minus liability at end of period	This is the part of the expense that has not yet been paid in cash.
plus liability at start of period	During this period the liability at the start of the period has been paid.
equals cash paid to lenders	

Line 16 Taxes paid

There is a corporation tax expense in the income statement (profit and loss account). The due dates for payment depend on the size of the company, as explained in Chapter 10. Any unpaid taxation at the start or end of the period will appear as a liability in the balance sheet. A calculation is required to arrive at the amount of tax paid in the accounting period.

Item in calculation	*Reason*
Taxation expense in income statement	We are starting with the expense in the income statement, to adjust it to a cash figure.
minus liability at end of period	This is the part of the expense that has not yet been paid in cash.
plus liability at start of period	During this period the liability at the start of the period has been paid.
equals cash paid to tax authorities	

Line 17 Net cash inflow from operating activities

This is a subtotal that indicates the end of the first major section of the cash flow statement.

Line 18 Cash flows from investing activities

This line starts the second major section of the cash flow statement showing how cash has been used for making new investment in non-current assets and also released from sales of existing investment in non-current assets.

Line 19 Purchase of non-current assets

In many cases the amount spent on non-current assets will be known from the accounting records. However if you are preparing a cash flow statement using only the balance sheet and income statement plus some notes, you may find that you need to calculate the amount spent on non-current assets. The following table summarises the calculation of changes in non-current assets which includes the cash payment. It assumes that all assets of one type are recorded together as one category (e.g. vehicles; plant and machinery). The following table summarises the calculation of changes in non-current assets which includes the cash payment for additions to non-current assets.

Item in calculation	*Reason*
Original cost of non-current assets in a specified category at start of period	Begin with the amount of the assets at the start of the period.
***plus* cash paid for additions**	**Cash is spent during the period on additions to the assets.**
Minus disposals at original cost	Assets are removed – see later calculation of gain or loss on disposal.
equals Non-current assets at end of period	The result is the amount of the assets at the end of the period.

Line 20 Proceeds from sale of non-current assets

This line reports the cash received from sale or disposal of non-current assets. It is important to use the cash received from the disposal of the asset and not the gain or loss on disposal recorded in the income statement (profit and loss account). Look back to Chapter 8 and you will see that the gain or loss on disposal arises only when the cash received is different from the book value. If the depreciation had been calculated with perfect foresight then the net book value would be equal to the cash received and there would be no gain or loss. A gain or loss on disposal is the result of estimating depreciation at the start of the asset's life when the proceeds on disposal have to be estimated.

The following table summarises the calculation relating to the sale or disposal of non-current assets which includes the cash received.

Item in calculation	*Comment*
Original cost of non-current asset at start of period	This item of information is shown as 'disposal' in the 'cost' section of the schedule of non-current assets.
Minus accumulated depreciation of non-current asset at start of period	This item of information is shown as 'disposal' in the 'accumulated depreciation' section of the schedule of non-current assets.
***Minus* cash received on disposal**	**This is the amount of cash received for the asset sold.**
equals gain or loss on disposal	The gain or loss on disposal is reported in the income statement.

Line 21 Interest received

Interest received is a reward for investment and so it is regarded as part of the cash flows relating to investing activities. Look back to the calculations in the workings for line 2 and you will see the item:

Is there any interest received/receivable or any dividends received in this figure? If so deduct it.

The interest receivable is removed in calculating operating profit at line 2 so that interest received can be inserted at line 21. The following table summarises the action to be taken in the cash flow statement:

Item in calculation	*Reason*
Interest receivable in the income statement	We are starting with the revenue reported in the income statement, to adjust it to a cash figure.
minus asset at end of period	This is the part of the revenue that has not yet been received in cash.
plus asset at start of period	During this period the asset at the start of the period has been received.
equals interest received in cash	

Line 22 Dividends received

The dividends received relate to equity investments held by the company. The calculation is very similar to that for interest received.

Item in calculation	*Reason*
Dividend receivable in the income statement	We are starting with the revenue reported in the income statement, to adjust it to a cash figure.
minus asset at end of period	This is the part of the revenue that has not yet been received in cash.
plus asset at start of period	During this period the asset at the start of the period has been received.
equals dividend received in cash	

Line 23 Net cash used in investing activities

This sub-total indicates the end of the second major section of the cash flow statement. It will usually be a negative figure showing that the business is expanding through more investment in non-current assets. Less commonly, a business may be selling off existing investments to raise cash for future plans. Having the separate sub-total draws attention to the magnitude and direction of investing activities.

Line 24 Cash flows from financing activities

This line starts the third and final major section of the cash flow statement showing how cash has been raised from financing activities. This usually means issuing new share capital and raising or repaying long-term loans.

Line 25 Proceeds from issue of share capital

Chapter 12 explains the process of issuing share capital, both when the business starts and when it looks for more finance some time later. In many cases the shares are issued at market price which is higher than nominal value. The difference is called a share premium. The total cash raised is measured in terms of the market price but company law requires separate reporting of the change in nominal value and the changes in the share premium. The calculation required is as follows:

Item in calculation	*Reason*
Increase in nominal value of share capital. *Increase* in share *plus* premium reserve. *equals* cash received from issue of shares.	The amount of cash raised by issuing shares at market price is the nominal value plus the share premium.

Line 26 Proceeds from long-term borrowings

The proceeds from long-term borrowings can be seen from the change in the balance sheet figures for long-term borrowings, after allowing for any long-term borrowings that have changed category to short term in the accounting period.

Item in calculation	*Reason*
Long-term borrowing in balance sheet at the start of the period.	We are starting with amount reported in the balance sheet at the start of the accounting period.
minus long-term reclassified as short-term during the period.	This is the part of loan that is reclassified but remains in the balance sheet.
plus new loans taken up in cash.	Cash received.
minus loans repaid.	Cash paid out.
equals Long-term borrowing in balance sheet at the end of the period.	The amount reported in the balance sheet at the end of the accounting period.

Line 27 Dividends paid

The dividend paid during the period may be a combination of the dividend paid in respect of the previous year's profit plus an interim dividend for the current year.

Chapter 12 explains in more detail the accounting procedures for reporting dividends. The amount of dividend paid will appear in the statement of changes in equity.

Line 28 Net cash used in financing activities

This sub-total indicates the end of the third section of the cash flow statement.

Line 29 Increase/(decrease) in cash and cash equivalents

This line is the arithmetic total of the three separate sections as reported in lines 17 + 23 + 28.

Lines 30 and 31 Cash and cash equivalents at the start and end of the period

This is the moment of truth where you find out whether you have made errors on the way through the cash flow statement. Lines 30 and 31 are taken from the balance sheet. If your cash flow statement is correct then line 29 plus line 30 will equal line 31. The following table is used to record the information extracted from the balance sheet.

	Start of period	End of period
Cash on hand and balances with banks	xx	xx
Short-term investments	xx	xx
Cash and cash equivalents	xx	xx

15.5 Preparing a cash flow statement: the direct method

Exhibit 15.6
Format for cash flow statement, direct method

Line		£m	£m
1	**Cash flows from operating activities**		
2	Cash receipts from customers		xx
3	Cash paid to suppliers		xx
4	Cash paid to employees		xx
5–13	*(Lines not used)*		
14	Cash generated from operations		xx
15	Interest paid		(xx)
16	Taxes paid		(xx)
17	*Net cash inflow from operating activities*		xx
18	**Cash flows from investing activities**		
19	Purchase of non-current assets	xx	
20	Proceeds from sale of non-current assets	xx	
21	Interest received	xx	
22	Dividends received	xx	
23	*Net cash used in investing activities*		xx
24	**Cash flows from financing activities**		
25	Proceeds from issue of share capital		
26	Proceeds from long-term borrowing		
27	Dividends paid		
28	*Net cash used in financing activities*		
29	Increase/(decrease) in cash and cash equivalents		
30	**Cash and cash equivalents at the start of the period**		
31	**Cash and cash equivalents at the end of the period**		

Line 1 Cash flows from operating activities

This line indicates the start of the first major section of the cash flow statement, showing how cash flows are generated from the operations of the business.

Line 2 Cash receipts from customers

This line reports the total cash received from customers in the period. Some customers may have paid immediate cash for goods and services. Others may have taken credit and paid later.

Line 3 Cash paid to suppliers

This line reports the total cash paid to suppliers in the period. The business may have paid immediate cash for some goods and services. In other cases the suppliers may have allowed a period of credit to be paid later.

Line 4 Cash paid to employees

This line reports the total cash paid to employees in the period. Usually the employees are paid promptly each week or each month and so the cash payments are closely related to the wages expense.

Lines 14 to 31 have the same meaning as described for these lines in Section 15.4.

15.6 Interpretation of cash flow information

The cash flow information is useful in itself in showing trends in the company's cash resources. Some businesses operate on cycles lasting several years where the cash position moves from negative to positive. The industry position is often a useful starting point for understanding company cash flows. If the industry is cyclical and all companies in the sector have negative cash flow then we might expect any company in the sector to show the same trends. Equally, any company in the sector should be showing signs of improvement as the cycle moves upwards.

For the indirect method, which reports the cash flow effects of working capital, it may be useful to link the increases or decreases in working capital items to the number of days in the working capital cycle. The calculation of the working capital cycle appears in Chapter 13. For example, if there is an increase in cash invested in inventory there are two possible causes: one is a lengthening of the stock holding period and the other is an increase in sales volume causing more inventory to be held. The stock holding period helps to narrow down the possible cause. If the trade receivables increase there are two possible causes. One is that customers are taking longer to pay and the other is that credit sales are increasing. The period of credit given to customers helps to narrow down the cause here.

The amount of cash invested in capital expenditure is an important sign of the continuing development of the business. Ratios are used by analysts in comparing capital expenditure to depreciation and comparing capital expenditure to the existing asset base.

15.7 Illustration

The following information is used to illustrate the indirect method and then compare the direct method of preparing and presenting a cash flow statement.

Income statement Year 2

	£m
Revenue	246
Cost of sales	(110)
Gross profit	136
Investment income – interest received	4
Gain on disposal of equipment	5
Depreciation	(30)
Administrative and selling expenses	(10)
Operating profit before interest	105
Interest expense	(15)
Profit after deducting interest	90
Taxation	(30)
Profit after tax	60

Balance sheets at 31 December

	Year 2		Year 1	
	£m	£m	£m	£m
Non-current assets				
Property, plant and equipment at cost		150		100
Accumulated depreciation 40 + 30 – 10		(60)		(40)
		90		60
Investments		100		100
Current assets				
Inventory (stock)	20		15	
Trade receivables (debtors)	18		16	
Cash and cash equivalents	32		5	
	70		36	
Current liabilities				
Trade payables (creditors)	(14)		(13)	
Interest payable	(6)		(7)	
Taxes payable	(8)		(7)	
	(28)		(27)	
		42		9
Non-current liabilities				
Long-term loans		(20)		(15)
Net assets		212		154
Capital and reserves				
Share capital		140		130
Share premium		20		18
Retained earnings		52		6
		212		154

Further information

1 The dividend paid during Year 2 was £14m. The retained earnings increased by £60m profit of the period and decreased by the amount of the dividend £14m.
2 During Year 2 the company acquired property, plant and equipment costing £80m.
3 During Year 2 the company sold property, plant and equipment that had an original cost of £30m and accumulated deprecation of £10m. The proceeds of sale were £25m.

15.7.1 Indirect method

A cash flow statement using the indirect method is presented in Exhibit 15.7.

Exhibit 15.7

Cash flow statement using the indirect method

Notes		£m	£m
	Cash flows from operating activities		
1	Profit before taxation		101
	Adjustment for items not involving a flow of cash:		
2	Depreciation	30	
3	Gain on disposal of equipment	(5)	
			25
	Adjusted profit		126
4	(Increase) in inventories	(5)	
5	(Increase) in trade receivables	(2)	
6	Increase in trade payables	1	
	Increase/(decrease) in cash due to working capital changes		(6)
	Cash generated from operations		120
7	Interest paid		(16)
8	Taxes paid		(29)
	Net cash inflow from operating activities		75
	Cash flows from investing activities		
9	Purchase of non-current assets	(80)	
10	Proceeds from sale of non-current assets	25	
11	Interest received	4	
	Net cash used in investing activities		(51)
	Cash flows from financing activities		
12	Proceeds from issue of share capital	12	
13	Proceeds from long-term borrowing	5	
14	Dividends paid	(14)	
	Net cash used in financing activities		3
	Increase/(decrease) in cash and cash equivalents		27
15	**Cash and cash equivalents at the start of the period**		**5**
15	**Cash and cash equivalents at the end of the period**		**32**

Working note 1

	£m
Operating profit before taxes	90
Is there any interest expense included in this figure? If so add it back to arrive at:	15
Operating profit before deducting interest payable and taxes	105
Is there any interest received/receivable or any dividends received in this figure? If so deduct it to arrive at:	(4)
Operating profit before deducting interest payable and taxes and before including interest receivable and dividends received.	101

Working note 2

The depreciation is seen in the income statement (profit and loss account). It is added back to exclude the effect of a non-cash item.

Working note 3

The gain on disposal is seen in the income statement (profit and loss account). It is added back to exclude the effect of a non-cash item.

Working note 4

There is an increase in inventory seen by comparing the balance sheets at the end of year 1 and year 2. This decreases the cash flow.

Working note 5

There is an increase in trade receivables (debtors) seen by comparing the balance sheets at the end of year 1 and year 2. This decreases the cash flow.

Working note 6

There is an increase in trade payables (creditors) seen by comparing the balance sheets at the end of year 1 and year 2. This has a positive effect on the cash flow by increasing the amount unpaid.

Working note 7

Interest paid is calculated from the profit and loss account expense £15m plus the unpaid interest at the start of the year £7m minus the unpaid interest at the end of the year, £6m.

Working note 8

Taxes paid are calculated from the profit and loss account charge £30m plus the unpaid liability at the start of the year £7m minus the unpaid liability at the end of the year £8m.

Working note 9

The purchase cost of non-current assets is given in the further information. It can be checked by taking the cost at the start of the year £100m, adding £80m and deducting the £30m cost of the disposal to leave £150m as shown in the balance sheet at the end of the year.

Working note 10

The proceeds of sale £25m are given in the further information. This can be checked by taking the net book value of the asset sold (£30m – £10m = £20m) and adding the gain on disposal £5m shown in the income statement.

Working note 11

The interest received is taken from the income statement. There is no interest receivable shown in the balance sheet so the profit and loss account figure must be the same as the cash figure.

Working note 12

The proceeds from the share issue are the total of the increase in share capital £10m plus the increase in share premium £2m.

Working note 13

The proceeds from long-term borrowings are the increase in long-term loans calculated by comparing the opening and closing balance sheets.

Working note 14

The dividend paid is given in the further information. It can be checked by taking the retained earnings at the start of the period £6m, add the profit of the period £60m and deduct dividend £14m to arrive at the retained earnings at the end of the period, £52m.

Working note 15

The cash and cash equivalents at the start and end of the period are taken from the balance sheet.

15.7.2 Direct method

A cash flow statement presented by the direct method is presented in Exhibit 15.8.

Exhibit 15.8
Cash flow statement using the direct method

Notes		£m	£m
	Cash flows from operating activities		
1	Cash receipts from customers		244
2	Cash paid to suppliers and employees		(114)
3	Cash paid for administrative and selling expenses		(10)
	Cash generated from operations		120
4	Interest paid		(16)
5	Taxes paid		(29)
	Net cash inflow from operating activities		75
	Cash flows from investing activities		
6	Purchase of non-current assets	(80)	
7	Proceeds from sale of non-current assets	25	
8	Interest received	4	
	Net cash used in investing activities		(51)
	Cash flows from financing activities		
9	Proceeds from issue of share capital	12	
10	Proceeds from long-term borrowing	5	
11	Dividends paid	(14)	
	Net cash used in financing activities		3
	Increase/(decrease) in cash and cash equivalents		27
12	**Cash and cash equivalents at the start of the period**		**5**
12	**Cash and cash equivalents at the end of the period**		**32**

In practice the cash receipts from customers and cash payments to suppliers and employees are taken from the records of cash received and paid, which requires analysis of the cash records. In this relatively straightforward situation the figures may be confirmed from the information in the balance sheet and income statement (profit and loss account).

Working note 1

The cash receipts from customers may be confirmed from revenue £246m plus receivables at the start of the period £16m minus receivables at the end of the period £18m equals £244m.

Working note 2

There are two stages to the confirmation of cash paid to suppliers. First the purchases are calculated from cost of sales £110m plus inventory at the end £20m minus inventory at the start £15m = £115m. Next the payment to suppliers is confirmed from purchases £115m plus liability at the start £13m minus liability at the end £14m equals £114m. It is assumed that the wages are all paid when the work is done so there is no accrual.

Working note 3

The administrative and selling expenses are seen in the income statement. There is no accrual indicated in the balance sheet and so the cash figure equals the expense figure.

Working notes 4 to 12

See working notes 7 to 15 for the indirect method.

15.7.3 Comment on cash flow statement

The cash flow from operating activities amounted to £75m. The purchase of non-current (fixed) assets cost £80m but this was offset by £25m proceeds of sale of non-current assets no longer required and was also helped by the £4m interest received from investments. The net outflow from investments was £51m. This left £24m of cash flow available to increase cash resources but £14m was required for dividend payments. The remaining £10m was added to the proceeds of a share issue, £12m and an increase in long-term loans, £5m, giving an overall cash inflow of £27m.

15.8 Summary

- The cash flow statement provides information about changes in financial position that adds to the understanding of the business obtainable from the balance sheet and income statement (profit and loss account).
- It explains changes in cash and cash equivalents arising from operating activities, investing activities and financing activities.
- **Cash** comprises cash on hand and demand deposits.
- **Cash equivalents** are short-term, highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.
- The **indirect method** and the **direct method** are alternative approaches to calculating the cash flow arising from operating activities.
- The **indirect method** starts with the profit from operations, eliminates non-cash expenses such as depreciation, and adds on or deducts the effects of changes in working capital to arrive at the cash flow arising from operating activities.
- The **direct method** takes each item of operating cash flow separately from the cash records to arrive at the cash flow arising from operating activities.
- The cash flow is useful in analysis when combined with ratio analysis that shows relationships of liquidity, working capital management, rates of investment in non-current assets and financial gearing.

Further reading

The following standard is too detailed for a first level course but the definitions section may be helpful and the Appendices give illustrations of cash flow statements.

IASB (2004), IAS 7, *Cash flow statements*, International Accounting Standards Board.

QUESTIONS

The Questions section of each chapter has three types of question. 'Test your understanding' questions to help you review your reading are in the 'A' series of questions. You will find the answers to these by reading and thinking about the material in the book. 'Application' questions to test your ability to apply technical skills are in the 'B' series of questions. Questions requiring you to show skills in problem solving and evaluation are in the 'C' series of questions. A letter [S] indicates that there is a solution at the end of the book.

A Test your understanding

A15.1 What is the definition of 'cash'? (Section 15.2)

A15.2 What is the definition of 'cash equivalent'? (Section 15.2)

A15.3 What is meant by the 'direct method' of calculating operating cash flow? (Section 15.3.1)

A15.4 What is meant by the 'indirect method' of calculating operating cash flow? (Section 15.3.2)

A15.5 Why is depreciation 'added back' to operating profit in the indirect method of calculating operating cash flow? (Section 15.3.2)

A15.6 What is the effect on cash flow of an increase in inventory levels? (Section 15.3.2)

A15.7 What is the effect on cash flow of an increase in trade receivables (debtors)? (Section 15.3.2)

A15.8 What is the effect on cash flow of an increase in trade payables (creditors)? (Section 15.3.2)

A15.9 What are the relative benefits of the direct method compared to the indirect method? (Section 15.3.3)

A15.10 What are the three main sections of a cash flow statement? (Section 15.4)

A15.11 What kinds of items in a profit and loss account do not involve a flow of cash? (Section 15.4)

A15.12 What happens to cash flow when working capital increases? (Section 15.4)

A15.13 How is taxation paid calculated from the taxation payable and the taxation liability at the start and end of the period? (Section 15.4)

A15.14 How is the cash paid for additions to fixed assets if we know the opening and closing balances and there are no disposals? (Section 15.4)

A15.15 Explain how the proceeds of sale of a non-current asset differ from the net book value. (Section 15.4)

A15.16 Explain how the cash proceeds of a share issue are calculated from knowledge of the share capital and the share premium reserve. (Section 15.4)

A15.17 Explain how cash received from customers is calculated if we know the sales of the period and the receivables (debtors) at the start and end of the period. (Section 15.5)

A15.18 Explain how the purchases of goods or materials is calculated if we know the cost of goods sold and the inventory (stock) at the start and end of the period. (Section 15.5)

A15.19 Explain how the cash paid to suppliers is calculated if we know the purchases and the payables (creditors) at the start and end of the period. (Section 15.5)

B Application

B15.1 [S]
Sales on credit during Year 2 amount to £120m. The trade receivables (debtors) at the start of Year 2 were £8. The trade receivables (debtors) at the end of Year 2 were £10. What is the amount of cash received from customers during Year 2?

B15.2 [S]
Purchases on credit during Year 3 amount to £20m. The trade payables (creditors) at the start of Year 3 were £6m. The trade payables (creditors) at the end of Year 3 were £4m. What is the amount of cash paid to suppliers during Year 3?

B15.3 [S]
The equipment at cost account at the start of Year 2 records a total of £34m. The equipment at cost account at the end of Year 2 records a total of £37m. An asset of original cost £5m was sold during the period. What was the amount spent on acquisition of equipment?

B15.4
A vehicle costing £20m and having accumulated depreciation of £12m was sold for £5m. How will this information be reported in the cash flow statement?

B15.5
The share capital account increased by £40m during Year 4. The share premium reserve increased by £20m. What amount of cash was raised by the issue of shares?

B15.6
The corporation tax charge in the income statement (profit and loss account) for Year 2 was £30m. The tax liability in the balance sheet at the start of Year 2 was £6m. The tax liability in the balance sheet at the end of Year 2 was £10m. What was the amount of cash paid in taxation during Year 2?

B15.7
D Ltd has an operating profit of £12m, which includes a depreciation charge of £1m. During the year the trading stock has increased by £4m, trade debtors have increased by £3m and trade creditors have increased by £5m. Prepare a statement of cash flow from operations.

B15.8
E Ltd has an operating profit of £16m, which includes a depreciation charge of £2m. During the year the trading stock has increased by £1m, trade debtors have decreased by £3m and trade creditors have decreased by £2m. Prepare a statement of cash flow from operations.

C Problem solving and evaluation

C15.1 [S]
The directors of Transport plc produced the following income statement (profit and loss account) for Year 2 and balance sheet at the end of Year 2.

Income statement for year 2

	£m
Revenue	320
Cost of sales	(143)
Gross profit	177
Investment income – interest received	5
Gain on disposal of equipment	7
Depreciation	(39)
Administrative and selling expenses	(13)
Operating profit before interest	137
Interest expense	(20)
Profit after deducting interest	117
Taxation	(35)
Profit after tax	82

Balance sheets at 31 December

	Year 2		Year 1	
	£m	£m	£m	£m
Non-current assets				
Vehicles at cost		195		130
Accumulated depreciation		(79)		(52)
		116		78
Investments		100		80
Current assets				
Inventory (stock)	26		20	
Trade receivables (debtors)	23		21	
Cash and cash equivalents	43		6	
	92		47	
Current liabilities				
Trade payables (creditors)	(18)		(13)	
Interest payable	(8)		(7)	
Taxes payable	(10)		(7)	
	(36)		(27)	
		56		20
Non-current liabilities				
Long-term loans		(26)		(18)
Net assets		246		160
Capital and reserves				
Share capital		152		120
Share premium		26		23
Retained earnings		68		17
		246		160

Further information

1. The dividend paid during Year 2 was £31m. The retained earnings increased by £82m profit of the period and decreased by the amount of the dividend £31m.
2. During Year 2 the company acquired vehicles costing £90m.
3. During Year 2 the company sold vehicles that had an original cost of £25m and accumulated depreciation of £12m. The proceeds of sale were £20m.

Required

1. Prepare a cash flow statement using (a) the direct method and (b) the indirect method of calculating operating cash flow.
2. Write a comment on the cash flow of the period.

C15.2

Consider the following:

	£m
Revenue	320
Cost of sales	(143)
Gross profit	177
Investment income – interest received	5
Loss on disposal of equipment	(8)
Depreciation	(39)
Administrative and selling expenses	(13)
Operating profit before interest	122
Interest expense	(6)
Profit after deducting interest	116
Taxation	(39)
Profit after tax	77

Balance sheets at 31 December

	Year 2		Year 1	
	£m	£m	£m	£m
Property, plant and equipment at cost		225		150
Accumulated depreciation		(90)		(60)
		135		90
Investment		70		100
Inventory (stock)	30		22	
Trade receivables (debtors)	27		24	
Cash and cash equivalents	48		8	
	105		54	
Trade payables (creditors)	(21)		(20)	
Interest payable	(9)		(11)	
Taxes payable	(12)		(9)	
	(42)		(40)	
		63		14
Long-term loans		(20)		(15)
Net assets		248		189
Share capital		144		140
Share premium		26		23
Retained earnings		78		26
		248		189

Further information

1 The dividend paid during Year 2 was £25m. The retained earnings increased by £77m profit of the period and decreased by the amount of the dividend, £25m.

2 During Year 2 the company acquired property, plant and equipment costing £94m.

3 During Year 2 the company sold for scrap property, plant and equipment that had an original cost of £19m and accumulated depreciation of £9m. The proceeds of disposal were £2m.

4 Investments were sold during the year for cash proceeds of £30m. There were no purchases of investments.

Required

1 Prepare a cash flow statement using (a) the direct method and (b) the indirect method of calculating operating cash flow.

2 Write a comment on the cash flow of the period.

Notes and references

1. Cash flow statements in published financial statements are often prepared for a group as a whole. The details of group cash flow statements are too complex for a first level text but in general appearance they are similar to those for individual companies.
2. IASB (2004), IAS 7 *Cash flow statements*.
3. IAS 7 para. 6.
4. IAS 7 para. 7.
5. IAS 7 para. 8.
6. IAS 7 para. 18a.