

# Paper F1

## Finance Operations

The secret to answering questions requiring you to produce cash flow statements is to take a methodical approach to taking out the non-cash items

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All that a cash flow question actually asks you to do is to take the statement of comprehensive income and the statement of financial position (the balance sheet to you and me) and turn this into cash. That entails getting rid of the non-cash stuff – depreciation and receivables and so on. Here’s a step-by-step guide to doing it.

### Step one: take your operating profit figure and add back all non-cash items.

The first task is to add back all non-cash expenses to the operating profit (PBIT) and take off all non-cash receipts. Magically, you’ll be left with cash. There are seven non-cash items to consider: depreciation; amortisation; impairment; profit/loss on sale of non-current assets; increase/decrease in inventory; increase/decrease in receivables; and increase/decrease in payables. For the last three of these, if it’s an increase in receivables or inventory, you take off from operating profit; if it’s a decrease, you add back. The opposite applies to payables. All of this goes into the “Cash flow from operating activities” section of the cash flow statement.

### Step two: continue down the income statement after PBIT: calculate the cash and put it into the cash flow statement.

Let’s assume that the next item in the income statement is interest and that it says interest expense (\$200). The question to consider is whether this \$200 is all cash or not. Before we look at that, let me give you a scenario: at the start of year you owed me £100. During the year you bought more things from me (on credit) worth £40. At the end of the year you should owe me £140, obviously. But, if I were to tell you that you owed me only £120, what must have happened? You must have paid me £20 in cash – and it’s this cash that goes into the cash flow statement.

**‘There are seven non-cash items to consider: depreciation, amortisation, impairment, sale of non-current assets, inventory, receivables and payables’**

Let’s use the principles of this scenario in a cash flow question. You need three figures:

- What you owe or are owed at the start of the year (opening receivable/payable): £100.
- What was bought or sold in the year (income statement figure): £40.
- What you owe or are owed at the end of the year (closing receivable/ payable): £120.

Using our scenario, we therefore have a cash paid of:  $£100 + £40 - £120 = £20$ .

Let’s get back to the question where I said that the interest figure in the income statement was \$200. Now let me tell you that the interest payable at the start of the year was \$1,000 and the payable at the end of the year was \$900. How much interest cash has been paid out during the year?  $\$1,000 + \$200 - \$900 = \$300$ . This figure goes into the “Cash flow from operating activities” section of the cash flow statement.

Let’s assume that the income statement next shows a taxation expense of \$400. There is an opening payable of \$90 and a closing payable of \$120. What is the tax cash paid that goes into the “Cash flow from operating activities” section of the cash flow statement?  $\$90 + \$400 - \$120 = \$370$ .

Lastly, let’s assume there are dividends in the statement of changes in equity of \$300 and no dividends payable. As there’s nothing payable, this is all cash and goes into the cash flow statement in the “Cash flow from financing activities” section.

You simply follow this procedure for all items in the income statement after operating profit, putting the cash amounts into the cash flow statement as you go along.

### Step three: go down the statement of financial position (SFP), find the cash and put it into the cash flow statement.

The first item you will encounter is non-current assets. These can be tricky, so let’s leave them until the end. Many of the SFP items we have already sorted out – payables, receivables etc – so let’s look at four items we haven’t yet dealt with:

- **Shares.** Consider the following illustration:

SFP	X2	X1
Share capital (\$)	200	140
Share premium (\$)	150	80
Opening (\$)	140 + 80	
Cash received (\$)	130 (balancing figure)	
Closing payable (\$)	200 + 150	

**STATEMENT OF COMPREHENSIVE INCOME**

Sales (\$)	1,000
Cost of sales (\$)	(400)
Admin (\$)	(100)
Distribution (\$)	(100)
Finance costs (\$)	(80)
Tax (\$)	(50)
Profit after tax (\$)	270

**OTHER COMPREHENSIVE INCOME**

Revaluation gain (\$)	1,000
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Self-test: see whether you can derive your own statement of cash flows from the sample statements in these two panels before turning to the solution on page 50

The proceeds from share issue – ie, the \$130 – go to the “Financing activities” section of the statement of cash flows.

• **Loans.** Consider the following illustration:

SFP	X2	X1
10% loan (\$)	100	140
Opening (\$)	140	
Cash paid (\$)	(40) (balancing figure)	
Closing payable (\$)	100	

Loan repayments go to the “Financing activities” section of the statement of cash flows.

• **Bank.** Consider the following illustration:

SFP	X2	X1
Cash at bank (\$)	200	140

Here you simply take the increase in cash of \$60 and put it at the bottom of the cash flow statement in the “Increase in cash and cash equivalents” section. Note that this is the total of your statement of cash flows, so you should check the addition of your statement results in this figure also.

• **Property, plant and equipment.** This needs to be handled slightly differently: first you write down the property, plant and equipment (PPE) figures per the accounts and then you work out the cash element of each item (if any). Consider the following illustration:

SFP	X2	X1
PPE (\$)	200	140

Notes to the exam question: depreciation in year = \$50; revaluation = \$100; disposal = asset sold for \$100, making \$20 profit.

The key here is to try to find the balancing figure, which will be additions in the year. Note that we are dealing with net book values (NBV).

**STATEMENT OF FINANCIAL POSITION**

	X1 (\$)	X2 (\$)
<b>Non-current assets</b>		
Property, plant and equipment	10,000	12,000
<b>Current assets</b>		
Cash	400	600
Receivables	1,000	2,000
Inventory	1,000	900
<b>Total assets</b>	<b>12,400</b>	<b>15,500</b>
<b>Equity and liabilities</b>		
Equity shares of \$1 each	5,000	6,630
Share premium	500	800
Retained earnings	4,000	4,270
Revaluation reserve	1,000	2,000
<b>Equity</b>	<b>10,500</b>	<b>13,700</b>
<b>Non-current liabilities</b>		
Loan	1,000	800
<b>Current liabilities</b>		
Trade payables	700	810
Interest payable	100	80
Tax payable	100	110
<b>Total equity and liabilities</b>	<b>12,400</b>	<b>15,500</b>

Notes: the depreciation charged to cost of sales in the year was \$200 and there was a disposal of PPE for \$600, making a profit of \$100.

First, we write down the PPE figures per the accounts as follows:

Opening (\$)	140
Depreciation (\$)	(50)
Revaluation (\$)	100
Disposal (\$)	(80) (NBV = \$100 – \$20)
Closing (\$)	200

The balancing figure is \$90, therefore, and this is additions. Next, we work out the cash element of each item (if any) as follows:

	Cash
Opening (\$)	140
Depreciation (\$)	(50) Add back to operating activities
Revaluation (\$)	100
Disposal (\$)	(80) 100
Additions (\$)	90 (90)
Closing (\$)	200

All PPE items go the investing activities section of the statement of cash flows.

Now, let’s put this all together in a worked example using the statements in the two panels at the top of the page. We start with PBIT and add back or take away all non-cash items as follows: ➡

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Profit before interest and tax (\$)	400
Depreciation (\$)	200
Profit on sale of asset (\$)	(100)
Decrease in inventory (\$)	100
Increase in receivables (\$)	(1,000)
Increase in payables (\$)	110

All of this goes to the “Cash flow from operating activities” section of the statement of cash flows.

Next we continue with the rest of the statement of comprehensive income, calculating the cash and putting it into the statement of cash flows as follows.

• **Finance costs.** The opening payable is \$100, the figure on the income statement is £80 and the closing payable is £80, meaning that  $\$100 + \$80 - \$80 = \$100$  in cash must have been paid. This figure goes to the “Cash flow from operating activities” section of the statement of cash flows.

• **Taxation.** The opening payable is \$100, the figure on the income statement is \$50 and the closing payable is \$110, meaning that  $\$100 + \$50 - \$110 = \$40$  in cash must have been paid. This figure also goes to the “Cash flow from operating activities” section of the statement of cash flows.

Now we go through the SFP to deal with all remaining items, find the cash and put it into the statement of cash flows.

• **PPE.** First we write down the relevant figures per the accounts as follows:

Opening (\$)	10,000
Depreciation (\$)	(200)
Revaluation (\$)	1,000 (the increase in the revaluation reserve)
Disposal (\$)	(500) (NBV = 600 – 100)
Closing (\$)	12,000

The balancing figure is \$1,700 and this is additions. This goes to the “Cash flow from investing activities” section of the statement of cash flows. The disposal cash of \$600 goes there as well.

• **Cash at bank.** Looking at the SFP, we can see that the cash at bank has increased by  $\$600 - \$400 = \$200$ . This figure goes into the “Net increase in cash and cash equivalents” section of the statement of cash flows.

• **Loans.** Again, looking at the SFP, we can see that the cash paid on the loan in the year is  $\$1,000 - \$800 = \$200$ . This figure goes to the “Cash flow from financing activities” section of the statement of cash flows.

• **Shares.** Looking at the SFP, we can see the following picture:

	X1	X2
Share capital (\$)	5,000	6,630
Share premium (\$)	500	800
Opening (\$)	5,000 + 500	
Cash received (\$)	1,930 (balancing figure)	
Closing payable (\$)	6,630 + 800	

The share proceeds of \$1,930 go to the “Cash flow from financing activities” section.

So now we can compile the statement of cash flows for the year 20X2 (see panel below).

### STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 20X2

	\$	\$
<b>CASH FLOW FROM OPERATING ACTIVITIES</b>		
Profit before interest and tax		400
Adjustments for:		
Depreciation	200	
Profit on sale of asset	(100)	100
Working capital adjustments:		
Decrease in inventory	100	
Increase in trade receivables	(1,000)	
Increase in payables	110	(790)
Cash generated from operations		(290)
Interest paid	(100)	
Tax paid	(40)	(140)
Net cash used in operating activities		(430)
<b>CASH FLOW FROM INVESTING ACTIVITIES</b>		
Purchase of PPE	(1,700)	
Sale of PPE	600	
Net cash from investing activities		(1,100)
<b>CASH FLOW FROM FINANCING ACTIVITIES</b>		
Loan repayment	(200)	
Share issue	1,930	
Net cash from financing activities		1,730
Net increase in cash and cash equivalents		200
Cash and cash equivalents at beginning of period		400
Cash and cash equivalents at end of period		600