However, in order to produce the finished goods, Telcon must also ensure that it has purchased sufficient raw materials. Once again, it wishes to have one month's inventory of raw materials (2 kg of the materials are required for each unit of finished goods). There are 2,000 units of raw materials at the beginning of January. Table 16.8 shows the materials purchases budget.

Table 16.8 Telcon Manufacturing Materials budget.

	Jan	Feb	Mar	Apr	May	Jun	Total
Total units to be produced	1,100	1,200	1,200	1,300	1,300	1,400	
Total kg of materials (units × 2 kg)	2,200	2,400	2,400	2,600	2,600	2,800	
Inventory units at end of month	2,400	2,400	2,600	2,600	2,800	2,800	
Inventory units at beginning of month	2,000	2,400	2,400	2,600	2,600	2,800	
Increase in inventory	400	0	200	0	200	0	
Materials required							
Kg used in production	2,200	2,400	2,400	2,600	2,600	2,800	
Increase in inventory	400	0	200	0	200	0	
Total kg to be purchased	2,600	2,400	2,600	2,600	2,800	2,800	
Purchase cost @ £2/kg	5,200	4,800	5,200	5,200	5,600	5,600	31,600

The purchases budget of £31,600 is more than the materials usage of £30,000 from the production budget because an additional 800 kg of materials is bought at £2 per kg (i.e. £1,600), due to the need to increase raw materials inventory.

Cash forecasting

Once a profit budget has been constructed, it is important to understand the impact on cash flow. The purpose of the cash forecast is to ensure that sufficient cash is available to meet the level of activity planned by the sales and production budgets and to meet all the other cash inflows and outflows of the business. Cash surpluses and deficiencies need to be identified in advance to ensure effective business financing decisions, e.g. raising short-term finance or investing short-term surplus funds.

There is a substantial difference between profits and cash flow (for a detailed explanation see Chapter 6) because of:

- the timing difference between when income is earned and when it is received (i.e. receivables);
- increases or decreases in inventory for both raw materials and finished goods;
- the timing difference between when expenses are incurred and when they are paid (i.e. payables);
- non-cash expenses (e.g. depreciation);

- capital expenditure;
- income tax;
- dividends;
- new borrowings and repayments; and
- proceeds from new share issues and repurchases of shares.

Case study 16.4 provides a cash forecasting example for a retail business.

Case study 16.4: Retail News Group – cash forecasting example

Retail News is a store selling newspapers, magazines, books, confectionery etc. Its budget for six months has been prepared and is shown in Table 16.9.

Table 16.9 Retail News Group budget.

	Jan	Feb	Mar	Apr	May	Jun	Total
Sales	10,000	12,000	15,000	12,000	11,000	9,000	69,000
Cost of sales (40%)	4,000	4,800	6,000	4,800	4,400	3,600	27,600
Gross profit	6,000	7,200	9,000	7,200	6,600	5,400	41,400
Less expenses							
Salaries and wages	2,000	2,000	2,000	2,200	2,200	2,200	12,600
Selling and distribution expenses (7.5%)	750	900	1,125	900	825	675	5,175
Rent	1,000	1,000	1,000	1,000	1,000	1,000	6,000
Electricity, telephone etc.	500	500	500	500	500	500	3,000
Insurance	500	500	500	500	500	500	3,000
Depreciation	500	500	500	500	500	500	3,000
Total expenses	5,250	5,400	5,625	5,600	5,525	5,375	32,775
Net profit	750	1,800	3,375	1,600	1,075	25	8,625

Retail News makes half of its sales in cash and half on credit to business customers, who typically pay their account in the month following that in which the sale is made. Credit sales in December to customers who will pay during January amount to £3,500. Retail News' sales receipts budget is shown in Table 16.10.

Retail News' receivables have increased by £1,000 from £3,500 to £4,500, since 50% of the sales in June (£9,000) will not be received until July.

Table 16.10 Retail News Group sales receipts budget.

	Jan	Feb	Mar	Apr	May	Jun	Total
50% of sales received in cash	5,000	6,000	7,500	6,000	5,500	4,500	34,500
50% of sales on credit – 30-day terms	3,500	5,000	6,000	7,500	6,000	5,500	33,500
Total receipts	8,500	11,000	13,500	13,500	11,500	10,000	68,000

As in the previous case studies we also need to determine the purchases budget for Retail News, which needs inventory equal to one month's sales (at cost price) at the end of each month. The inventory at the beginning of January is £4,500. The sales and cost of sales estimated for July are £12,000 and £4,800, respectively. The purchases budget is shown in Table 16.11.

Table 16.11 Retail News Group purchase budget.

	Jan	Feb	Mar	Apr	May	Jun	Total
Inventory at end of month	4,800	6,000	4,800	4,400	3,600	4,800	4,800
Inventory at beginning of month	4,500	4,800	6,000	4,800	4,400	3,600	4,500
Increase/-decrease in inventory	300	1,200	−1,200	−400	−800	1,200	300
Sales during month (at cost)	4,000	4,800	6,000	4,800	4,400	3,600	27,600
Total purchases	4,300	6,000	4,800	4,400	3,600	4,800	27,900

Purchases are £27,900 compared with a cost of sales of £27,600, because inventory has increased by £300 (from £4,500 to £4,800). However, purchases are on credit and Retail News has arranged with its suppliers to pay on 60-day terms. Therefore, for example, purchases in January will be paid for in March. Retail News will pay for its November purchases in January (£3,800) and its December purchases in February (£3,500). The creditor payments budget is shown in Table 16.12.

Table 16.12 Retail News Group supplier payments budget.

	Jan	Feb	Mar	Apr	May	Jun	Total
Payment on 60-day terms	3,800	3,500	4,300	6,000	4,800	4,400	26,800

Retail News payables have increased by £1,100 from £7,300 (£3,800 for November and £3,500 for December) to £8,400 (£3,600 for May and £4,800 for June).

We can now construct the cash forecast for Retail News using the sales receipts budget and creditor payments budget. We also need to identify the timing of cash flows for all expenses. In this case, we determine that salaries and wages, selling and distribution costs and rent are all paid monthly, as those expenses are incurred. Electricity and telephone are paid quarterly in arrears in March and June. The annual insurance premium of £6,000 is paid in January. Income tax of £5,000 is due in April. As we know, depreciation is an expense that does not involve any cash flow.

However, the business also has a number of other cash payments that do not affect profit. These non-operating payments are:

- capital expenditure of £2,500 committed in March;
- £3,000 of dividends due to be paid in June;
- a loan repayment of £1,000 due in February.

The opening bank balance of Retail News is £2,500. The cash forecast in Table 16.13 shows the total cash position.

Table 16.13 Retail News Group cash forecast.

	Jan	Feb	Mar	Apr	May	Jun	Total
Receipts from sales	8,500	11,000	13,500	13,500	11,500	10,000	68,000
Payments to suppliers	3,800	3,500	4,300	6,000	4,800	4,400	26,800
Salaries and wages	2,000	2,000	2,000	2,200	2,200	2,200	12,600
Selling and distribution expenses	750	900	1,125	900	825	675	5,175
Rent	1,000	1,000	1,000	1,000	1,000	1,000	6,000
Electricity, telephone etc.			1,500			1,500	3,000
Insurance	6000						6,000
Total payments	13,550	7,400	9,925	10,100	8,825	9,775	59,575
Operating cash flow	−5,050	3,600	3,575	3,400	2,675	225	8,425
Income tax paid				5,000			5,000
Capital expenditure			2,500				2,500
Dividends paid						3,000	3,000
Loan repayments		1,000					1,000
							0
Net cash flow	−5,050	2,600	1,075	−1,600	2,675	−2,775	−3,075
Opening bank balance	2,500	−2,550	50	1,125	−475	2,200	
Closing bank balance	−2,550	50	1,125	−475	2,200	−575	

In summary, the bank balance has reduced from an asset of £2,500 to a liability (bank overdraft) of £575 due to a net cash outflow of £3,075. The main issue here is that, in anticipation of the overdrawn position of the bank account in January, April and June, Retail News needs to make arrangements with its bankers to extend its facility.