5 The accounting equation and the statement of financial position (balance sheet)

Specific objectives

After you have studied this chapter you should be able to:

- understand the accounting equation
- understand what is meant by assets, liabilities and capital
- construct statements of financial position after different transactions have occurred
- explain the meaning of the terms assets, capital, liabilities, accounts receivable (debtor) and accounts payable (creditor).

5.1 The accounting equation

The whole of accounting is based upon a very simple idea, called the accounting equation or the balance sheet equation. It sounds complicated, but in fact it is easy to understand. It can be explained by saying that if a business decides to set up and start trading, it will require resources. Assuming that the owner of the new business supplies all the resources then this can be shown as:

Resources supplied by the owner = Resources in the business

In accounting, special terms are used to describe many things. The amount of the resources supplied by the owner is called capital. The actual resources that are then in the business are called assets. This means that when the owner has supplied all of the resources, the accounting equation can be shown as:

Capital = Assets

Usually, however, other people besides the owner have supplied some of the assets. The amounts owing to these people for these assets are called liabilities. The accounting equation has now changed to:

Capital = Assets – Liabilities

This is the most common way in which the accounting equation is presented. It can be seen that the two sides of the equation will have the same totals. This is because we are dealing with the same thing from two different points of view: the value of the owners' investment in the business and the value of what is owned by the business and ultimately by the owners.

Unfortunately, with this form of the accounting equation, we can no longer see at a glance what value is represented by the resources in the business. You can see this more clearly if you switch assets and capital around to give an alternative form of the accounting equation.

Assets = Capital + Liabilities

This can then be replaced with the words describing the resources of the business:

Resources: what they are = Resources: who supplied them
(Assets) (Capital + Liabilities)

It is a fact that no matter how you present the accounting equation, the totals of both sides will always equal each other, and this will always be true no matter how many transactions there may be. The actual assets, capital and liabilities may change, but the total of the assets will always equal the total of capital + liabilities. Or, reverting to the more common form of the accounting equation, the capital will always equal the assets of the business minus the liabilities.

Assets consist of property of all kinds, such as buildings, machinery, inventories (stocks of goods) and motor vehicles. Other assets include debts owed by customers and the amount of money in the bank.

Liabilities include amounts owed by the business for goods and services supplied to the business and for expenses incurred by the business but still outstanding. Funds borrowed by the business are also included.

Capital is often called the owner's equity or net worth. It comprises the funds invested in the business by the owner plus any profits retained for use in the business less any share of the profits paid out of the business to the owner.

5.2 The statement of financial position (balance sheet) and the effects of business transactions

Helpful Hint!
... are the meanings ... words 'assets,' ... and 'capital' ... ing? How do ... ings differ from ... everyday use of these

The accounting equation is expressed in a financial statement called the statement of financial position (balance sheet). The statement of financial position (balance sheet) shows the financial position of an organisation at a point in time. The statement of financial position and the balance sheet are the same but the former name is now more commonly used in the world of work.

In other words, it presents a snapshot of the organisation at the date when the statement of financial position was prepared. The statement of financial position is not the first accounting record to be made, nor the first that you will learn how to record, but it is a convenient place to start to consider accounting.

Let us now see how a series of transactions affects the statement of financial position (balance sheet).

The introduction of capital

On 1 May 2017, B. Blake started in business and put $50,000 into a bank account for the business. The statement of financial position (balance sheet) would appear:

B. Blake
Statement of Financial Position (Balance Sheet) as at 1 May 2017

	$
Assets: Cash at bank	50,000
Capital	50,000

Note how the top part of the statement of financial position (balance sheet) contains the assets and the bottom part contains the capital. This is the convention in which information is always presented in the statement of financial position (balance sheet).

The purchase of an asset by cheque

When Blake has a bank account, he can use cheques as payment. On 3 May 2017, Blake buys shop premises for $30,000, paying by cheque. The effect of this transaction is that the cash at the bank is reduced and a new asset, shop premises, appears:

B. Blake
Statement of Financial Position (Balance Sheet) as at 3 May 2017

		$
Assets:	Shop premises	30,000
	Cash at bank	20,000
		50,000
Capital		50,000

Note how the two parts of the statement of financial position (balance sheet) 'balance', that is, the total of the assets equals the total of the liabilities.

The purchase of an asset and the incurring of a liability

On 6 May 2017, Blake buys some goods for $5,000 from D. Smith and agrees to pay for them sometime within the following two weeks. The effect of this is that a new asset, inventory, is acquired, and a liability for the goods is created. A person to whom money is owed for goods is known in accounting language as an accounts payable (creditor).

The statement of financial position (balance sheet) becomes:

B. Blake
Statement of Financial Position (Balance Sheet) as at 6 May 2017

		$
Assets:	Shop premises	30,000
	Inventory	5,000
	Cash at bank	20,000
		55,000
Less	Accounts payable (creditors)	5,000
		50,000
Capital		50,000

Note how the liability (the accounts payable) is shown as a deduction from the assets. This is how the calculation is presented in the most common form of the accounting equation.

Sale of an asset on credit

On 10 May 2017, goods that had cost $1,000 were sold to J. Brown for the same amount, the money to be paid at a later date. The effect is a reduction in inventory (stock of goods) and the creation of a new asset. A person who owes the firm money is known in accounting terms as an accounts receivable (debtor). The statement of financial position (balance sheet) now appears as:

B. Blake
Statement of Financial Position as at 10 May 2017

		$
Assets:	Shop premises	30,000
	Inventory	4,000
	Accounts receivable (debtors)	1,000
	Cash at bank	20,000
		55,000
Less	Accounts payable (creditors)	5,000
		50,000
Capital		50,000

Sale of an asset for immediate payment

On 13 May 2017, goods that had cost $2,000 were sold to D. Daley for the same amount, Daley paying for them immediately by cheque. Here, one asset, inventory, is reduced, while another asset, cash at bank, is increased. The statement of financial position (balance sheet) now appears as:

B. Blake
Statement of Financial Position (Balance Sheet) as at 13 May 2017

		$
Assets:	Shop premises	30,000
	Inventory	2,000
	Accounts receivable (debtors)	1,000
	Cash at bank	22,000
		55,000
Less	Accounts payable (creditors)	5,000
		50,000
Capital		50,000

The payment of a liability

On 15 May 2017, Blake pays a cheque for $3,000 to D. Smith in part payment of the amount owing. The asset bank is therefore reduced, and the liability of the creditor is also reduced. The statement of financial position (balance sheet) now appears as:

B. Blake
Statement of Financial Position (Balance Sheet) as at 15 May 2017

		$
Assets:	Shop premises	30,000
	Inventory	2,000
	Accounts receivable (debtors)	1,000
	Cash at bank	19,000
		52,000
Less	Accounts payable (creditors)	2,000
		50,000
Capital		50,000

Collection of an asset

On 31 May 2017, J. Brown, who owes Blake $1,000, makes a part payment of $750 by cheque. The effect is to reduce one asset, accounts receivable, and to increase another asset, bank. The statement of financial position (balance sheet) after these transactions is now shown as:

B. Blake
Statement of Financial Position (Balance Sheet) as at 31 May 2017

		$
Assets:	Shop premises	30,000
	Inventory	2,000
	Accounts receivable (debtors)	250
	Cash at bank	19,750
		52,000
Less	Accounts payable (creditors)	2,000
		50,000
Capital		50,000

5.3 Equality of the accounting equation

It can be seen that every transaction has affected two items. Sometimes it has changed two assets by reducing one and increasing the other. In other cases, the effect has been different. You will notice, however, that in all cases apart from the very first (when the owner started the business by putting in cash of $50,000), no change has been made to the total of either section of the statement of financial position (balance sheet) and the equality between the two totals has remained the same. The accounting equation has held true throughout the example and, in fact, always will.

The effect of each of the seven transactions, shown above, upon the two sections of the statement of financial position (balance sheet) is now illustrated in Exhibit 5.1.

	Type of transaction	Effect		Effect	
1	Owner pays capital into the bank	Increase asset (Bank)	↑	Increase capital	↑
2	Purchase of shop premises by cheque	Decrease asset (Bank)	↓	Increase asset (Shop premises)	↑
3	Buy goods on credit	Increase asset (Inventory)	↑	Increase liability (Accounts payable)	↑
4	Sale of goods on credit	Decrease asset (Inventory)	↓	Increase asset (Accounts receivable)	↑
5	Sale of goods for cash or cheque	Increase asset (Cash or Bank)	↑	Decrease asset (Inventory)	↓
6	Pay supplier	Decrease asset (Bank)	↓	Decrease liability (Accounts payable)	↓
7	Customer pays money owing by cheque	Increase asset (Bank)	↑	Decrease asset (Accounts receivable)	↓

▲ **Exhibit 5.1**

Each transaction has, therefore, maintained the same total for assets as for capital + liabilities. This can be shown:

Number of transactions as above	Assets	Capital and liabilities	Effect on statement of financial position totals
1	+	+	Each side added to equally
2	– and +		A *minus* and a *plus* both on the assets side, *cancelling out* each other
3	+	+	Each side added to equally
4	– and +		A *minus* and a *plus* on the assets side
5	+ and –		A *plus* and a *minus* both on the assets side *cancelling out* each other
6	–	–	Each side reduced equally
7	+ and –		A *plus* and a *minus* on the assets side

Exhibit 5.2

5.4 More detailed presentation of the statement of financial position (balance sheet)

The statements of financial position (balance sheet) shown in this chapter are presented in what is referred to as the 'vertical presentation'. This method will be used throughout the book since it is the most common method of presentation used today.

A more detailed statement of financial position (balance sheet) for B. Blake is shown below reflecting the presentation you will learn in later stages of your studies.

B. Blake
Statement of Financial Position (Balance Sheet) as at 31 May 2017

	$	$
Non-current assets		
Shop premises		30,000
Current assets		
Inventory	2,000	
Accounts receivable	250	
Cash at bank	19,750	
	22,000	
Less Current liabilities		
Accounts payable	2,000	20,000
		50,000
Capital		50,000

You will have noticed the use of the terms non-current asset, current assets and current liabilities. Chapter 12 contains a full and proper examination of these terms. At this point we will simply say that:

- **Non-current assets** are assets which are expected to be kept for a few years at least, for example buildings, machinery, fixtures, motor vehicles. They are used in the business to enable it to carry on the purpose of earning income and are not intended for resale.
- **Current assets** are assets which change from day to day, for example the value of inventory goes up and down as it is bought and sold. Similarly, the amount of money owing to us by debtors will change quickly, as we sell more to them on credit and they pay their debts. The amount of money in the bank will also change as we receive and pay out money.
- **Current liabilities** are those liabilities that have to be paid within the near future, for example accounts payable for goods bought.

Helpful Hint!

Examination tip:
Remember to always head your statement of financial position correctly. Check to ensure that you have put in the name of the company, name of the statement followed by the words 'as at' and the relevant date.

Summary

- The whole of accounting is based on the accounting equation, namely that resources supplied by the owner (the capital) will always equal the resources in the business (the assets).
- Other people may also supply some of the assets to the business. The name given to any amounts that are owed by the business to other people is liabilities.
- When assets are supplied by other people as well as the owner of the business the accounting equation becomes:

  Capital = Assets – Liabilities.

- The two sides of the accounting equation are represented by the two sections of the statement of financial position (balance sheet).
- The statement of financial position (balance sheet) is a financial statement prepared at a particular point in time. It contains assets, capital and liabilities.
- The two totals of each part of the statement of financial position (balance sheet) should always agree, that is, they balance.
- Every transaction affects two items in the accounting equation. Sometimes that may involve the same item being affected twice, once positively (going up) and once negatively (going down).
- Every transaction affects two items in the statement of financial position (balance sheet).

There is a Glossary of accounting terms in Appendix A at the end of the book.

Chapter 5 Exercises

5.1 Fill in the gaps in the following table.

	Assets	Liabilities	Capital
	$	$	$
(a)	12,500	1,800	?
(b)	28,000	4,900	?
(c)	16,800	?	12,500
(d)	19,600	?	16,450
(e)	?	6,300	19,200
(f)	?	11,650	39,750

5.2X Fill in the gaps in the following table.

	Assets	Liabilities	Capital
	$	$	$
(a)	55,000	16,900	?
(b)	?	17,200	34,400
(c)	36,100	?	28,500
(d)	119,500	15,400	?
(e)	88,000	?	62,000
(f)	?	49,000	110,000

5.3 In the following list distinguish the items that are liabilities from those that are assets:

(a) Office machinery
(b) Loan from C. Shirley
(c) Fixtures and fittings
(d) Motor vehicles
(e) We owe for goods
(f) Cash at bank.

5.4X Classify the following items into assets and liabilities:

- Motor vehicles
- Premises
- Accounts payable
- Inventory
- Accounts receivable
- Owing to bank
- Cash in hand
- Loan from D. Jones
- Machinery.

5.5 State which of the following are shown under the wrong classification for J. Wong's business.

Assets	Liabilities
Loan from C. Smith	Inventory
Cash in hand	Accounts receivable
Machinery	Money owing to bank
Accounts payable	
Premises	
Motor vehicles	

5.6X Which of the following are shown under the wrong headings?

Assets	Liabilities
Cash at bank	Loan from J. Graham
Fixtures	Machinery
Accounts payable	Motor vehicles
Building	
Inventory	
Accounts receivable	

5.7 A. Smart sets up a new business. Before he actually sells anything, he buys a motor vehicle for $8,000, premises at a cost of $20,000 and inventory for $4,000. He did not pay in full for his inventory and still owes $1,600 in respect of them. Smart also borrows $12,000 from D. Bevan. After the events just described, and before trading starts, he has $400 cash in hand and $2,800 cash at bank. You are required to calculate the amount of his capital.

5.8X T. Chin starts a business. Before he actually starts to sell anything, he buys fixtures at $2,000, a motor vehicle for $5,000 and inventory for $3,500. Although he has paid in full for the fixtures and the motor vehicle, he still owes $1,400 for some of the goods. J. Preston had lent Chin $3,000. Chin, after the above, has $2,800 in the business bank account and $100 cash in hand. You are required to calculate his capital.

5.9 Draw up A. Foster's statement of financial position (balance sheet) as at 31 December 2017 using the following information.

	$
Capital	23,750
Accounts receivable	4,950
Motor vehicle	5,700
Accounts payable	2,450
Fixtures	5,500
Inventory	8,800
Cash at bank	1,250

5.10X Draw up Kelly's statement of financial position (balance sheet) as at 30 June 2018 from the following information.

	$
Capital	13,000
Office machinery	9,000
Accounts payable	900
Inventory	1,550
Accounts receivable	275
Cash at bank	5,075
Loan from C. Smith	2,000

5.11 Complete the columns to show how the assets, liabilities and capital have been changed by the following transactions.

(a) We pay a supplier $700 in cash.
(b) We bought fixtures paying $2,000 by cheque.
(c) We bought goods $2,750 on credit.
(d) The proprietor introduces another $5,000 cash into the firm.
(e) J. Walker lends the firm $2,000 in cash.
(f) A customer pays us $500 by cheque.
(g) We return goods costing $600 to a supplier whose bill we had not paid.
(h) We bought additional shop premises paying $50,000 by cheque.

Effects upon

Assets	Liabilities	Capital

5.12X Complete the columns to show how much the assets, liabilities and capital have been changed by the following transactions.

(a) We bought a motor van $5,000 on credit.
(b) We repaid by cash a loan owed to P. Smith $1,000.
(c) We bought goods for $1,500 paying by cheque.
(d) The owner puts a further $5,000 cash into the business.
(e) A customer returns to us $800 worth of goods. We agree to make an allowance for them.
(f) We bought goods $2,200 on credit.
(g) The owner takes out $1,000 cash for his personal use.
(h) We paid a supplier $1,900 by cheque.

Effects upon

Assets	Liabilities	Capital

5.13 C. Sangster has the following items in his statement of financial position (balance sheet) as at 30 April 2017. Capital $18,900; Loan from T. Sasso $2,000; Accounts payable $1,600; Fixtures $3,500; Motor vehicle $4,200; Inventory $4,950; Accounts receivable $3,280; Cash at bank $6,450; Cash in hand $120.

During the first week of May 2017, Sangster:

(a) bought extra stock of goods $770 on credit
(b) received $280 in cash from a customer
(c) bought extra fixtures $1,000 by cheque.

You are to draw up a statement of financial position (balance sheet) as at 7 May 2017 after the above transactions have been completed.

5.14X C. Samuels has the following statement of financial position (balance sheet) as at 31 March 2017.

Statement of Financial Position (Balance Sheet) as at 31 March 2017

Assets			$
	Buildings		6,000
	Motor vehicle		4,000
	Stock of goods (Inventory)		2,000
	Accounts receivable		2,800
	Cash at bank		3,200
			18,000
Less	Loan from L. Stennett	2,000	
	Accounts payable	1,600	3,600
			14,400
Capital			14,400

Draw up a statement of financial position (balance sheet) on 10 April 2017 after the transactions have been completed.

The following transactions take place:
(a) 2 April Paid a cheque of $500 to a supplier.
(b) 8 April A customer paid C. Samuels $300 by cheque.
(c) 10 April L. Stennett is repaid $1,000 by cheque.