CHAPTER THREE

# The accounting process

## Learning objectives

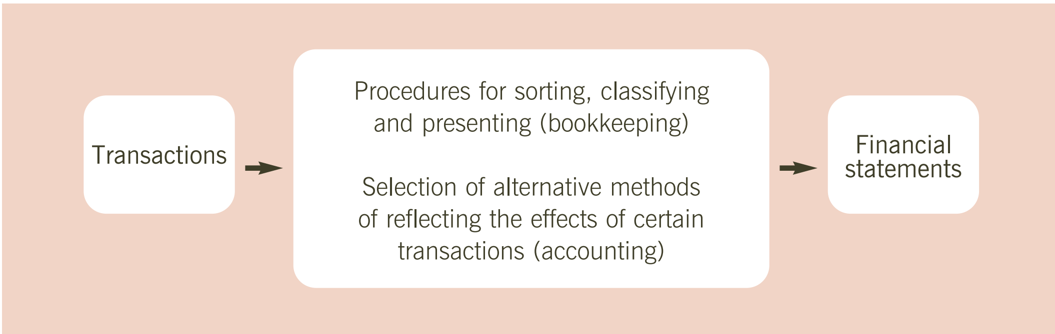
After studying this chapter you should be able to:

1. Expand the basic accounting equation to include income and expenses.
2. Explain how the expanded accounting equation stays in balance after every transaction.
3. Explain how the income statement is linked to the balance sheet through owners' equity.
4. Analyse a transaction and determine the effects of the transaction on the financial statements.
5. Answer the five questions of transaction analysis.

**OVERVIEW** In order to understand how different transactions affect the financial statements and, in turn, to make sense of the data on the financial statements, it is necessary to understand the mechanical operation of the bookkeeping process. The principal objectives of this chapter are to explain this mechanical process and to introduce a method of analysing the effects of a transaction on the financial statements. Appendix 2 includes explanations of the conventions and mechanical processes of double-entry bookkeeping. These issues have been specifically excluded from this chapter to permit you to focus on the conceptual issues underpinning the accounting process.

# The accounting process

The accounting process begins with transactions (economic interchanges between entities that are accounted for and reflected in financial statements) and culminates in financial statements. This flow was illustrated in Chapter 2 as follows:




This chapter presents an overview of accounting processes that are used in the technology of accounting. Your objective is not to become a technocrat but to learn enough about the mechanical process of accounting so that you can determine the effects of any transaction on the financial statements. This conceptual ability is crucial to the process of making informed judgments and decisions from the financial statements. There are some special terms to describe the accounting processes, and you will have to learn these terms. Once you understand the language of the technology, you will see that the process is quite straightforward.

## The balance sheet equation—a mechanical key

Recall from earlier chapters that the balance sheet equation expresses the equality between an entity's assets and the financing of those assets and is expressed as:

$$\text{Assets} = \text{Liabilities} + \text{Owners' Equity}$$

For illustrative purposes, let us consider a firm without liabilities. What do you suppose happens to the amounts in the equation if the entity operates at a profit? Well, assets (perhaps cash) increase and, if the equation is to balance (and it must), then, clearly, owners' equity must also increase. Profits increase owners' equity and, to keep the equation in balance, assets will increase and/or liabilities will decrease. Every financial transaction that is accounted for will cause a change somewhere in the balance sheet equation, and the equation will remain in balance after every transaction.

## THE INSIDER'S VIEW

## Could I get by without a knowledge of accounting?

When I took over the business, armed with my accounting knowledge, I made a lot of changes. Basically, my father's yardstick on profitability was how much money was in the cheque account. I changed the accountants and made sure we put systems in place that I could understand. I meet with my accountant a minimum of once a month. My assistant prepares reports on MYOB. These show me the income stream and expenses for every part of the business so that I know how every division is performing. Each division's performance is expressed as a percentage of the group, and we also measure against last year, month by month, and year to date. We do the same for expenses. This means that for any financial decisions we make—for instance, buying equipment—it is easy to see the cost impact and whether there is a saving on the bottom line, whether there is improved income etc. I can see progressively how we are doing, and also see what the reasons for any anomalies might be. We also have a running balance sheet and a tight list of creditors and debtors. In addition, I run spreadsheets that show me the individual performance of every person who works for me.

**Chris Shellabear**
Shellabear Real Estate

I think any manager worth his or her salt has a broader understanding of accounting than they would like to admit to. Every day of our working and private lives revolves around having a knowledge of accounting. Whether it's working out the change for a shopping purchase or the viability of a new title we all need to have a good understanding of the figures.

**Ken Brundell**
Senior Business Manager
McGraw-Hill Australia

At uni, I only did Accounting 1. I've worked in the business now for over 15 years, but I know my short suit is Finance and Accounting. So I surround myself with good people; especially I have a business coach/mentor who is a chartered accountant.

**Chris Robb**
Managing Director/Owner
Sporting Spectrum

**1 learning objective**

Expand the basic accounting equation to include income and expenses.

You have already seen that a firm's net profit or loss is the difference between the income and expenses reported on its income statement (Exhibit 2-2, page 42). Likewise, you have seen that net profit from the income statement is reported as one of the factors causing a change in the retained earnings part of the statement of changes in owners' equity (Exhibit 2-3, page 45). The other principal element of owners' equity is the amount of capital invested by the owners, that is, the share capital of Exhibit 2-3. Given these components of owners' equity, it is possible to modify the basic balance sheet equation as follows:

Assets = Liabilities + Owners' Equity

Assets = Liabilities + Share Capital + Retained Earnings

Assets = Liabilities + Share Capital + Retained Earnings (beginning balance) + Income – Expenses

## Transactions

To illustrate the operation of the modified balance sheet equation and the effect of several transactions, study how the following **transactions** are reflected in Exhibit 3-1. Note that in the exhibit some specific assets and liabilities have been identified within those general categories and a column has been established for each.

**EXHIBIT 3–1** / Transaction summary

| | Assets | | | | = Liabilities | | + Owners' equity | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Transaction | Cash | + Accounts receivable | + Inventory | + Equipment | = Loan payable | + Accounts payable | + Contributed capital | + Retained earnings | + Income | – Expenses |
| 1. | +30 | | | | | | +30 | | | |
| 2. | –25 | | | +25 | | | | | | |
| 3. | +15 | | | | +15 | | | | | |
| 4. | –10 | | +20 | | | +10 | | | | |
| 5. | +2 | +5 | | –7 | | | | | | |
| 6. | +5 | –5 | | | | | | | | |
| Total | 17 | 0 | 20 | 18 | 15 | 10 | 30 | | | |
| 7. Revenues | | +20 | | | | | | | +20 | |
| 7. Expenses | | | –12 | | | | | | | –12 |
| 8. | | | | | | +3 | | | | –3 |
| Total | 17 | 20 | 8 | 18 | 15 | 13 | 30 | +5 | +20 | –15 |

1. Investors organised the firm and invested $30. (In this example, the broad category *contributed capital* is used rather than *ordinary share capital*. There is no beginning balance in *retained earnings*, because the firm is just getting started.)
2. Equipment costing $25 was purchased for cash.
3. The firm borrowed $15 from a bank.
4. Merchandise costing $20 was purchased for resale; $10 cash was paid and $10 of the cost was charged on account.
5. Equipment that cost $7 was sold for $7; $2 was received in cash, and $5 will be received later.
6. The $5 account receivable from the sale of equipment was collected.

   Each column of the exhibit has been totalled after transaction 6. Notice that the total of all the asset columns equals the total of all the liability and owners' equity columns. They must, unless a numeric error has been made.

   The firm has no revenue or expense transactions yet, and it is hard to make a profit without them, so the transactions continue:

7. Sold inventory that had cost $12 for a selling price of $20; the sale was made **on account** (i.e. on credit), and the customer will pay later. Notice that in Exhibit 3-1 this transaction is shown on two lines; one reflects the revenue of $20 and the other reflects the expense, or cost of the merchandise sold, of $12.
8. Wages of $3 have been recorded as an expense, although the amount has not yet been paid. Wages are seldom paid daily. This means that the expense is recorded, even though it has not yet been paid. The wages have been earned by employees (the expense has been incurred) and are owed; they will be paid in the next accounting period. The accrual is made in this period so that revenues and expenses of the current period will be matched (the matching concept), and net profit will reflect the economic results of this period's activities.

2 learning objective

Explain how the expanded accounting equation stays in balance after every transaction.

Again, each column of the exhibit has been totalled, and the total of all the asset columns equals the total of all the liability and owners' equity columns. If the accounting period were to end after transaction 8, the income statement would report net profit of $5, and the balance sheet would show total owners' equity of $35. Simplified financial statements for Exhibit 3-1 data after transaction 8 are presented in Exhibit 3-2.

| **1. What does it mean to determine 'what kind of account' an account is?** | **what does it mean?** |
|---|---|

Notice, especially in Exhibit 3-2, how *net profit* on the income statement gets into the balance sheet via the *retained earnings* section of owners' equity. In the equation from Exhibit 3-1, income and expenses were treated as a part of owners' equity to keep the equation in balance. For financial reporting purposes, however, income and expenses are shown in the income statement. In order to have the balance sheet balance, it is necessary that *net profit* be reflected in the balance sheet, and this is achieved using *retained earnings*. If any retained earnings are distributed to the owners as a dividend, the dividend does not show on the income statement but is a deduction from the retained earnings, shown in the statement of changes in owners' equity. This is because a dividend is not an expense (it is not incurred in the process of generating income). A *dividend* is a distribution of profit or earnings to the owners of the firm.

3 learning objective

Explain how the income statement is linked to the balance sheet through owners' equity.

**EXHIBIT 3–2** / Financial Statements for Exhibit 3-1 data

| **Exhibit 3-1 data Income Statement for transactions (1) to (8)** | | **Exhibit 3-1 data Statement of Changes in Owners' Equity** | |
|---|---|---|---|
| | **$** | | **$** |
| Income | 20 | Beginning balance | 0 |
| Expenses | (15) | Share capital | 30 |
| | | Net profit | 5 |
| | | Dividends | (0) |
| Net profit | 5 | Ending balance | $35 |

**Exhibit 3-1 data**
**Balance Sheet after transaction 8**

| | **$** | | **$** |
|---|---|---|---|
| **Assets** | | **Liabilities** | |
| Cash | 17 | Accounts payable | 13 |
| Accounts receivable | 20 | Loan payable | 15 |
| Inventory | 8 | Total liabilities | 28 |
| Equipment | 18 | | |
| | | **Owners' Equity** | |
| | | Share capital | 30 |
| | | Retained earnings | 5 |
| | | Total owners' equity | 35 |
| Total assets | 63 | Total liabilities & owners' equity | 63 |

What has just been discussed is the essence of the accounting process, or transaction analysis. Transactions are analysed to determine which asset, liability or owners' equity category is affected, and how each is affected. The amount of the effect is recorded, the amounts are totalled and financial statements are prepared.

4 learning objective

Analyse a transaction and determine the effects of the transaction on the financial statements.

## Understanding the effects of transactions on the financial statements

Whereas accountants use journal entries, debits and credits and ledgers to explain the effects of transactions on the financial statements, the financial statement relationship first introduced in Chapter 2 is quite adequate for achieving this purpose. The **horizontal model** is as follows:

| **Balance sheet** | **Income statement** |
|---|---|
| Assets = Liabilities + Owners' equity | ← Net profit = Income − Expenses |

The key to using this model is to keep the balance sheet in balance. The arrow from net profit in the income statement to owners' equity in the balance sheet indicates that net profit affects retained earnings, which is a component of owners' equity. For a transaction affecting

## BUSINESS IN PRACTICE

### Bookkeeping language in everyday English

Many bookkeeping and accounting terms have found their way into the language, especially in the business context. *Debit* and *credit* are no exceptions to this, and some brief examples will illustrate their use. The terms *debit* and *credit* are used by banks to describe additions to or subtractions from an individual's cheque account. For example, your account is credited for interest earned and is debited for a service charge or for the cost of any chequebooks that are provided to you. From the bank's perspective, your account is a liability; that is, the bank owes you the balance in your account. Interest earned by your account increases that liability; hence, the interest is credited. Service charges reduce your claim on the bank—its liability to you—so those are debits. Perhaps because of these effects on a cheque or savings account balance, many people think that debit is a synonym for bad and that credit means good. In certain contexts these synonyms may be appropriate, but they do not apply in accounting.

An alternative to the credit card that merchants and banks have developed is the 'debit card'. This term reflects the bank's perspective because, when a debit card is used at an electronic point-of-sale terminal, the purchaser's bank account balance is immediately reduced by the amount of the purchase, and the seller's bank account balance is increased. As you can imagine, consumers have been reluctant to switch from credit cards to debit cards because they would rather pay later than sooner, for several reasons, not the least of which is that they may not have the cash until later.

both the balance sheet and the income statement, the balance sheet will balance only when the income statement effect on owners' equity is included. In this model, the account name is entered under the appropriate financial statement category, and the dollar effect of the transaction on that account is entered, with a plus or minus sign below the account name. For example, to record the investment of $30 in the firm by the owners, the figures would be shown in this horizontal model as follows:

| Balance sheet | | | | | Income statement | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Assets | = | Liabilities | + | Owners' equity | ← | Net profit | = | Income | – | Expenses |
| Cash<br>+ 30 | | | | Contributed capital<br>+ 30 | | | | | | |

To further illustrate the model's use, assume a transaction in which the firm paid $12 for advertising. The effect on the financial statements is:

| Balance sheet | | | | | Income statement | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Assets | = | Liabilities | + | Owners' equity | ← | Net profit | = | Income | – | Expenses |
| Cash<br>–12 | | | | | | | | | | Advertising expense<br>–12 |

Notice that in the horizontal model the amount of advertising expense is shown with a minus sign. This is because the expense reduces net profit, which reduces owners' equity. A plus or minus sign is used in the context of each financial statement equation (A = L + OE, and

NP = I – E). Thus, a minus sign for expenses means that net profit is reduced (expenses are greater), not that expenses are lower.

It is possible that a transaction can affect two accounts in a single balance sheet or income statement category. For example, assume a transaction in which a firm receives $40 that was owed to it by a customer for services performed in a prior period. The effect of this transaction is shown as follows:

| Balance sheet | | | | | Income statement | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Assets | = | Liabilities | + | Owners' equity | ← | Net profit | = | Income | – | Expenses |
| Cash<br>+40<br>Accounts receivable<br>– 40 | | | | | | | | | | |

It is also possible for a transaction to affect more than two accounts. For example, assume a transaction in which a firm provided $60 worth of services to a client, $45 of which was collected when the services were provided and $15 of which will be collected later. The effect on the financial statements is:

| Balance sheet | | | | | Income statement | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Assets | = | Liabilities | + | Owners' equity | ← | Net profit | = | Income | – | Expenses |
| Cash<br>+45<br>Accounts receivable<br>+15 | | | | | | | | | | Service revenues<br>+60 |

Recall that revenues and expenses from the income statement are increases and decreases, respectively, to owners' equity. Thus, the horizontal model and its two financial statement equations can be combined into a single equation:

Assets = Liabilities + Owners' Equity (beginning balance) + Income – Expenses

Notice that, as the balance sheet equation (Assets = Liabilities + Owners' Equity) is expanded to include the results of the income statement (Net profit = Income – Expenses), the model includes each of the five broad categories of accounts. Remember that dividends reduce retained earnings, which is part of the owners' equity. A separate term 'Dividends' has not been included in the model because dividends are not considered a separate account category. Note the equal sign in the horizontal model between assets and liabilities. You can check that a transaction recorded in the horizontal model keeps the balance sheet in balance by mentally (or actually) putting an equal sign between assets and liabilities as you use the model to record transaction amounts.

Now spend some time becoming familiar with the horizontal model (by working through Exercise 3.1, page 98, for example) so that it will be easier to understand the effects on the financial statements of transactions that you will encounter later in the book and in the 'real world'. As a financial statement user (as opposed to a financial statement preparer), you will find that the horizontal model is an easy analysis tool. With practice, it is possible to become proficient at understanding how an amount shown on either the balance sheet or the income statement probably affected other parts of the financial statements when it was recorded.

| 2. What does it mean when ‘the books are in balance’? | what does it mean? |
|---|---|

## Adjustments

After the end of the accounting period, bookkeepers normally have to record an **adjustment** to certain account balances to reflect **accrual** accounting in the financial statements. As discussed in Chapters 1 and 2, accrual accounting recognises income and expenses as they occur, even though the cash receipt from the revenue or the cash payment related to the expense may occur before or after the event that causes the item of income or expense to be recognised. Although prepared after the end of the accounting period (when all of the necessary information has been gathered), adjustments are dated and recorded as of the end of the period to which they relate.

Adjustments result in income and expenses being reported in the appropriate financial period. For example, income may *be earned* in the financial year of 2008 from selling a product or providing a service, and the customer or client may not pay until the financial year of 2009. (Most firms pay for products purchased or services after receiving the product or service, and the payment period will depend on the credit arrangements established with the supplier.) It is also likely that some expenses *incurred* in the financial year of 2008 will not be paid for until the financial year of 2009. (Water, light and electricity costs and employee wages are examples.) Alternatively, it is possible that an entity will receive a cash deposit from a customer or client for a product or service in the financial year of 2008, and the product will not be sold or the service provided until the next financial year. (Subscription fees and insurance premiums are usually received in advance.) Likewise, the entity may pay for an item in the financial year of 2008, but the expense applies to the next financial year. (Insurance premiums and rent are usually paid in advance.) These alternative activities are illustrated on the following timeline:

| Financial 2007 | 30 June 2007 | Financial 2008 | 30 June 2008 | Financial 2009 |
|---|---|---|---|---|
| Cash received | | Product sold or service provided and revenue earned | | Cash received |
| Cash paid | | Expense incurred | | Cash paid |

There are two categories of adjustments:

1. *Accruals*. This involves transactions for which cash has not yet been received or paid, but the effect of which must be recorded in the accounts in order to accomplish a matching of revenues and expenses and accurate financial statements.
2. *Reclassifications*. The initial recording of a transaction, although a true reflection of the transaction at that time, does not result in aligning income to the period in which it was earned or expenses to the period in which they were incurred, so an amount must be reclassified from one account to another.

The first type of adjustment is illustrated by the accrual of wages expense and wages payable. For example, work performed by employees during March, for which they will be paid in April, results in wages expense to be included in the March income statement and a wages payable liability to be included in the 31 March balance sheet. To illustrate this accrual, assume that employees earned $60 in March that will be paid to them in April. Using the horizontal model, the **accrued** wages adjustment has the following effect on the financial statements:

| Balance sheet | | | | | Income statement | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Assets | = | Liabilities | + | Owners' equity | ← Net profit | = | Income | – | Expenses |
| | | Wages payable + 60 | | | | | | | Wage expense – 60 |

Thus, the 31 March balance sheet will reflect the wages payable liability, and the income statement for March will include all of the wages expense incurred in March. Again, note that the recognition of the expense of $60 is shown with a minus sign, because, as expenses increase, net profit and owners' equity (retained earnings) decrease. The balance sheet remains in balance after this adjustment because the $60 increase in liabilities is offset by the $60 decrease in owners' equity. When the wages are paid in April, both the cash account and the wages payable account will be decreased. (Wages expense will not be affected by the cash payment entry because it was already affected when the accrual was made.)

Similar adjustments are made to accrue income (e.g. for services performed but not yet billed, or for interest earned but not yet received) and other expenses, including various operating expenses, interest expense and income tax expense.

The effect on the financial statements, using the horizontal model, of accruing $50 of interest income that has been earned but not yet received is shown as follows:

| Balance sheet | | | | | Income statement | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Assets | = | Liabilities | + | Owners' equity | ← Net profit | = | Income | – | Expenses |
| Interest receivable + 50 | | | | | | | Interest income + 50 | | |

An example of the second kind of adjustment is the reclassification for supplies. If the purchase of supplies at a cost of $100 during February was recorded initially as an increase in the supplies (asset) account and a decrease in the cash account, the cost of supplies used during February must be removed from the asset account and recorded as 'supplies expense'. Assuming that supplies costing $35 were used during February, the reclassification adjustment would be reflected as follows:

| Balance sheet | | | | | Income statement | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Assets | = | Liabilities | + | Owners' equity | ← Net profit | = | Income | – | Expenses |
| Supplies – 35 | | | | | | | | | Supplies expense – 35 |

Adjustments for prepaid insurance (insurance premiums paid in a financial period before the insurance expense has been incurred) and revenues received in advance (cash received from customers before the service has been performed or the product has been sold) are also reclassification adjustments.

The result of adjustments is to make both the balance sheet at the end of the accounting period and the income statement for the accounting period more accurate. That is, asset and liability account balances are correctly stated, all income earned during the period is reported, and all expenses incurred in generating that income are subtracted to arrive at net profit. By properly applying the matching concept, the entity's profitability and liquidity will be valid measures of results of operations and financial position.

| | |
|---|---|
| **3. What does it mean that income or expense must be accrued?**<br>**4. What does it mean when an adjustment must be made?** | **what does it mean ?** |

## Transaction analysis methodology

5 learning objective

Answer the five questions of transaction analysis.

The key to being able to understand the effect of any transaction on the financial statements is having the ability to analyse the transaction. **Transaction analysis methodology** involves answering five questions:

1. What's going on?
2. Which accounts are affected?
3. How are they affected?
4. Does the balance sheet balance?
5. Does the analysis make sense?

1. **What's going on?** To analyse any transaction, it is necessary to understand the transaction—that is, to understand the activity that is taking place between the entity for which the accounting is being done and the other entity involved in the transaction. This is why most elementary accounting texts, including this one, explain many business practices. It is impossible to understand the effect of a transaction on the financial statements if the basic activity being accounted for is not understood. One of your principal objectives is to learn about business activities.

2. **Which accounts are affected?** This question is frequently answered by the answer to 'What's going on?', because the specific account name is often included in that explanation. This question may be answered by a process of elimination. First, think about whether one of the accounts is an asset, a liability, owners' equity, income or an expense. From the broad category, it is usually possible to identify a specific account.

3. **How are they affected?** Answer this question with the word *increasing* or *decreasing*. Accountants think in terms of the effect of a transaction on the account balance, the total of the transactions affecting that account, and whether the balance is increasing or decreasing.

4. **Does the balance sheet balance?** If the horizontal model is being used, it is possible to determine easily that the balance sheet equation is in balance by observing the arithmetic sign and the amounts involved in the transaction. Remember that the operational equal sign in the model is between assets and liabilities. You know by now that if the balance sheet equation is not in balance, your analysis of the transaction is wrong!

5. **Does the analysis make sense?** This is the most important question, and it involves standing back from the trees to look at the forest. You must determine whether the results from your analysis cause changes in account balances and the financial statements that are consistent with your understanding of what's going on. If the analysis doesn't make sense to you, go back to question 1 and start again. (Often the lack of sense is due to an addition error!)

Application of this five-question transaction analysis routine is illustrated in Exhibit 3-3. You are learning transaction analysis to understand more fully how the amounts reported on financial statements got there, which, in turn, will improve your ability to make decisions and informed judgments from those statements.

THE INSIDER'S VIEW

## What does it mean if the numbers look 'too good' or 'too bad'?

Always apply the logic test. Do they look too good or too bad? What number did we expect? Do not just accept computer figures. Most times if they look wrong, they are wrong.

**Richard Trigg**
Finance Manager
Golden Plains Shire Council

If the numbers look 'too good' or 'too bad', I go back and double-check. It's usually because I have keyed in something incorrectly!

**Donna Douglas**
Step Into Life
Cheltenham

Transaction analysis methodology can be used to understand the activity that is recorded in an account. Which transactions caused a reduction to this account? The answer: receipt of cash from entities that owed this firm interest. What causes 'interest receivable' to increase? The answer: accrual of interest income that was earned this month.

**EXHIBIT 3–3** / Transaction analysis

**Situation**

On 1 September 2009, Cruisers Ltd borrowed $2500 from its bank at an interest rate of 12 per cent per annum. The loan agreement provided that the loan principal, plus interest, was to be repaid in 10 months.

**Required**

Analyse the transaction and use the horizontal model to record the transaction.

**Solution**

*Analysis of transaction*:

What's going on? The firm signed a loan agreement with the bank and received cash from the bank.
What accounts are affected? 'Loan payable' (a liability) and 'Cash' (an asset).
How are they affected? Loan payable increases and Cash increases.
Does the balance sheet balance? Using the horizontal model, the effect of the loan transaction on the financial statements is:

| Balance sheet | | | | | Income statement | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Assets | = | Liabilities | + | Owners' equity | ← | Net profit | = | Income | − | Expenses |
| Cash<br>+ 2500 | | Loan payable<br>+ 2500 | | | | | | | | |

Yes, the balance sheet does balance; assets and liabilities each increased by $2500.

Does the analysis make sense? Yes, because a balance sheet prepared immediately after this transaction will show an increased amount of cash and the liability to the bank. The interest associated with the loan is not reflected in this entry, because at this point Cruisers Ltd has not incurred any interest expense, nor does the firm owe any interest; if the loan were to be repaid immediately there would be no interest due to the bank. Interest expense and the liability for the interest payable will be recorded as adjustments over the life of the loan.

Let's get a preview of things to come by looking at how the interest would be accrued each month (the expense and liability have been incurred, but the liability has not yet been paid) and by looking at the ultimate repayment of the loan and accrued interest. The interest rate on the loan is 12 per cent (remember, an interest rate is an annual rate unless otherwise specified). Interest expense for one month would be calculated as follows:

$$\begin{aligned}
\text{Annual interest} &= \text{Principal} \times \text{Annual rate} \times \text{Time (in years)} \\
\text{Monthly interest} &= \text{Principal} \times \text{Annual rate} \times \text{Time}/12 \\
&= \$2500 \times 0.12 \times 1/12 \\
&= \$25
\end{aligned}$$

It is reasonable that the monthly financial statements of Cruisers Ltd reflect accurately the firm's interest expense for the month and its interest payable liability at the end of the month. To achieve this accuracy, an adjustment would need to be made at the end of every month of the 10-month life of the loan. The effects of the monthly adjustments would be:

| Balance sheet | | | | | Income statement | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Assets | = | Liabilities | + | Owners' equity | ← | Net profit | = | Income | – | Expenses |
| | | Interest payable + 25 | | | | | | | | Interest expense – 25 |

Remember, a minus sign for expenses means that net profit is reduced, not that expenses are reduced.

As explained earlier, if the two financial statement equations are combined into the single equation:

Assets = Liabilities + Owners' equity + Income – Expenses

the equation's balance will be preserved after each transaction or adjustment.

At the end of the tenth month, when the loan and accrued interest are paid, the following effects on the financial statements occur:

| Balance sheet | | | | | Income statement | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Assets | = | Liabilities | + | Owners' equity | ← | Net profit | = | Income | – | Expenses |
| Cash – 2750 | | Loan payable – 2500<br><br>Interest payable – 250 | | | | | | | | |

Apply the five questions of transaction analysis to both the monthly interest expense (or interest payable accrual) and the payment. Also, think about the effect of each of these entries on the financial statements. What is happening to net profit each month? What has happened to net profit for the ten months?

**5. What does it mean to analyse a transaction?** what does it mean?

## BUSINESS ON THE INTERNET

Is the accounting bug starting to bite you? If so, take a look at some of the career opportunities offered by the accounting profession by visiting the websites of the two accounting professional bodies and searching 'careers' (<www.charteredaccountants.com.au> and <www.cpaonline.com.au>) or visit any of the Big 4 accounting firm websites (see Chapter 1, page 6). It's never too early to start thinking about how to turn your knowledge of assets and liabilities into dollars and cents.

## SO WHAT DO YOU THINK?

You have learned that every financial transaction that is accounted for will cause a change somewhere in the balance sheet equation and that the equation will remain in balance after every transaction. The balance sheet equation is the mechanical key to the accounting process.

In fact, the balance sheet equation, also known as the *accounting equation*, is more than just a mechanical key: it is the basis of the accounting process and it has relevant economic significance.

Assets = Liabilities + Owners' Equity

Do you agree with the preceding statement? Consider the following questions:

1. What are assets? More precisely, what are assets in the accounting context?
2. Why is the equation expressed in terms of assets?
3. What do the terms *liabilities* and *owners' equity* on the right-hand side of the equation mean?
4. What is the fundamental accounting concept that underlies the equation?
5. From whose viewpoint is the equation expressed?
6. What does the equation tell us?
7. Why is the accounting equation also called the *balance sheet equation*?
8. How is the equality of the equation maintained in the accounting process?
9. What are revenues and expenses, and how do they fit in the equation?

*Turn to Appendix 3, page t/c to compare your answers with our views.*

## RECAP

Financial statements result from the bookkeeping process (procedures for sorting, classifying and presenting the effects of a transaction) and the accounting processes (the selection of the appropriate methods of reflecting the effects of certain transactions). Accounting procedures for recording transactions are built on the framework of the accounting equation (Assets = Liabilities + Owners' Equity), which must be kept in balance.

The income statement is linked to the balance sheet through the retained earnings component of owners' equity. Income and expenses of the income statement are really sub-parts of retained earnings that are reported separately as net profit (or net loss). Net profit for a financial period is added to the retained earnings balance from the beginning of the financial period in the process of determining retained earnings at the end of the financial period. Net loss for the financial period would be deducted from the beginning retained earnings balance in the process of determining retained earnings at the end of the financial period.

The horizontal model is an easy and meaningful way of understanding the effect of a transaction on the balance sheet and/or income statement. The representation of the horizontal model is:

| Balance sheet | Income statement |
|---|---|
| Assets = Liabilities + Owners' equity | ← Net profit = Income − Expenses |

The key to using this model is to keep the balance sheet in balance. The arrow from net profit in the income statement to owners' equity in the balance sheet indicates that net profit affects retained earnings, which is a component of owners' equity. For a transaction affecting both the balance sheet and the income statement, the balance sheet will balance when the income statement effect on owners' equity is considered. In this model, the account name is entered under the appropriate financial statement category, and the dollar effect of the transaction on that account is entered with a plus sign or a minus sign below the account name. The horizontal model can be shortened to the single equation:

Assets = Liabilities + Owners' Equity + Income – Expenses

Adjustments describe accruals or reclassifications rather than transactions. Adjustments usually affect both a balance sheet account and an income statement account. Adjustments are part of accrual accounting, and they are required to achieve a matching of revenue and expense so that the financial statements reflect accurately the financial position and results of operations of the entity.

Transaction analysis is the process of determining how a transaction affects the financial statements. Transaction analysis involves asking and answering five questions:

1. What's going on?
2. Which accounts are affected?
3. How are they affected?
4. Does the balance sheet balance?
5. Does the analysis make sense?

Transactions initially can be recorded in virtually any way that makes sense at the time. Prior to the preparation of period-end financial statements, a reclassification adjustment can be made to reflect the appropriate asset/liability and expense/revenue recognition with respect to the accounts affected by the transaction (e.g. purchase of supplies) and subsequent activities (e.g. use of supplies).

## KEY TERMS

accrual
accrued
adjustment
horizontal model
on account
transaction analysis methodology
transactions

Online LearningCentre **Students can visit this comprehensive site for resources directly related to the text.**

# SELF-STUDY MATERIAL

## Matching

Following are a number of the key terms and concepts introduced in the chapter, along with a list of corresponding definitions. Match the appropriate letter for the key term or concept to each definition provided. Note that not all key terms and concepts will be used. Solutions are provided in Appendix 3.

**a** balance sheet equation
**b** transactions
**c** on account
**d** accrued (or accrual)
**e** adjustments
**f** account
**g** entry
**h** balance
**i** charge
**j** journal entry
**k** source document
**l** transaction analysis methodology

__ **1.** The process of answering five questions to ensure that a transaction is understood. The questions are:

What's going on?
Which accounts are affected?
How are they affected?
Does the balance sheet balance?
Does my analysis make sense?

__ **2.** Economic interchanges between entities that are accounted for and reflected in financial statements.

__ **3.** An entry usually made to ensure more accurate financial statements.

__ **4.** Assets = Liabilities + Owners' equity (A = L + OE) expresses the fundamental structure of the balance sheet and is the basis of bookkeeping procedures.

__ **5.** Used to describe a purchase or sale for which cash will be paid or received at a later date. A 'credit' transaction.

__ **6.** The arithmetic sum of the additions and subtractions to an account through to a given date.

__ **7.** Recognition that an amount is owed but has not been paid or received.

# MULTIPLE-CHOICE

For each of the following questions, circle the best response. Solutions are provided in Appendix 3.

**1.** The amount of retained earnings is *not*:

- **a** increased by net income
- **b** decreased by expenses
- **c** increased by revenue
- **d** decreased by dividends declared
- **e** decreased by gains and losses

**2.** Which of the following transactions resulted in a \$35 000 increase in assets and a \$35 000 increase in liabilities?

- **a** Collected accounts receivable of \$35 000.
- **b** Paid accounts payable of \$35 000.
- **c** Purchased land for \$50 000, paying \$15 000 in cash as a down payment and signing an account payable for the balance.
- **d** Purchased on account and used \$35 000 worth of office supplies during the period.
- **e** Reclassified an account receivable as an account payable when the customer failed to pay on time.

**3.** Which of the following is *not* a correct expression of the accounting equation?

- **a** Assets = Liabilities + Owners' equity
- **b** Assets = Liabilities – Owners' equity
- **c** Assets = Liabilities + Share capital + Retained earnings
- **d** Assets = Liabilities + Share capital + Income – Expenses
- **e** Assets – Liabilities = Owners' equity

**4.** Comparison of the balance sheet of Kohl Company at the end of 2008 with its balance sheet at the end of 2006 showed that total assets had decreased by \$34 000 and owners' equity had increased by \$7500. The change in liabilities during the year was:

- **a** a decrease of \$42 000
- **b** an increase of \$27 000
- **c** a decrease of \$27 000
- **d** an increase of \$42 000
- **e** none of the above

**5.** Total assets remain the same when:

- **a** depreciation expense is recorded
- **b** ordinary shares are issued for cash
- **c** an account payable is paid to a creditor
- **d** an account receivable is reclassified as receivable
- **e** dividends are paid to ordinary shareholders

**6.** If equipment is acquired by paying \$12 000 in cash and issuing a \$7000 loan:

- **a** total assets are decreased by \$12 000
- **b** total assets are increased by \$19 000
- **c** total assets are increased by \$7000
- **d** total owners' equity is decreased by \$12 000
- **e** total owners' equity is decreased by \$7000

7. In the seller's records, the sale of merchandise on account would:
   - **a** increase assets and increase expenses
   - **b** increase assets and decrease liabilities
   - **c** increase assets and increase paid-in capital
   - **d** increase assets and decrease revenues
   - **e** increase assets and increase liabilities
8. In the buyer's records, the purchase of merchandise on account would:
   - **a** increase assets and increase expenses
   - **b** increase assets and decrease liabilities
   - **c** increase assets and increase paid-in capital
   - **d** increase assets and decrease revenues
   - **e** increase assets and increase liabilities
9. Which of the following is *not* one of the five questions of transaction analysis?
   - **a** What's going on?
   - **b** Which accounts are affected?
   - **c** Is this an accrual?
   - **d** Does the balance sheet balance?
   - **e** Does my analysis make sense?
10. The effect of an adjustment is:
    - **a** to correct an entry that was not in balance
    - **b** to increase the accuracy of the financial statements
    - **c** to record transactions not previously recorded
    - **d** to close the books
    - **e** none of the above

## EXERCISES

learning objectives 2 4 5
●○○ EASY
Analytical skills of: identifying, finding, evaluating, organising, managing information and evidence

**E3.1 Record transactions and calculate financial statement amounts.**

The transactions relating to the formation of Blue Stores Ltd and its first month of operations are shown below. Prepare an answer sheet with the columns shown. Record each transaction in the appropriate columns of your answer sheet. Show the amounts involved and indicate how each account is affected (+ or –). After all transactions have been recorded, calculate the total assets, liabilities and owners' equity at the end of the month, and calculate the amount of net profit for the month.

**(a)** The firm was organised and the owners invested cash of $10 000.

**(b)** The firm borrowed $6000 from the bank.

**(c)** Display cases and other store equipment costing $1750 were purchased for cash. The original list price of the equipment was $1900; a discount was received because the vendor was having a sale.

**(d)** A retail store was rented and $1500 was paid for the first month's rent.

**(e)** Inventory of $15 000 was purchased; $8000 cash was paid to the suppliers and the balance will be paid within 30 days.

**(f)** During the first week of operations, merchandise that had cost $4000 was sold for $6500 cash.

**(g)** A newspaper advertisement costing $100 was arranged, and it ran during the second week of the store's operations. The advertisement will be paid for in the next month.

**(h)** Additional inventory costing $4200 was purchased, cash of $1200 was paid and the balance is due in 30 days.

**(i)** In the last three weeks of the first month, sales totalled $13 500, of which $9600 was sold on account. The cost of the goods sold totalled $9000.

**(j)** Employee wages for the month totalled $1850; these will be paid during the first week of the next month.

**(k)** A total of $3160 was collected from the sales on account recorded in transaction (i).

**(l)** A total of $5720 of the amount owed to suppliers from transaction (e) was paid.

### Optional continuation of E3.1

**Prepare an income statement and balance sheet**. After you have completed (a) to (l) above, prepare an income statement for Blue Stores for the month presented and a balance sheet at the end of the month.

learning objectives
2 4 5
●○○ EASY
Analytical skills of:
identifying
finding
evaluating
organising
managing
information
and evidence

### E3.2 Record transactions and calculate financial statement amounts.

The following are the transactions relating to the formation of Cardinal Mowing Services Ltd and its first month of operations. Prepare an answer sheet with the required columns shown. Record each transaction in the appropriate columns of your answer sheet. Show the amounts involved and indicate how each account is affected (+ or –). After all transactions have been recorded, calculate the total assets, liabilities and owners' equity at the end of the month, and calculate the amount of net profit for the month.

**(a)** The firm was organised and the owners invested cash of $700.

**(b)** The company borrowed $1000 from a relative of the owners.

**(c)** Two lawn mowers costing $480 each and a trimmer costing $130 were purchased for cash. The original list price of each mower was $610; a discount was received because the retailer was having a sale.

**(d)** Petrol, oil and several packages of garbage bags were purchased for cash of $90.

**(e)** Advertising flyers announcing the formation of the business and a newspaper advertisement were purchased. The cost of these items, $170, will be paid in 30 days.

**(f)** During the first two weeks of operations, 48 lawns were mowed. The total revenue for this work was $705; $465 was collected in cash and the balance will be received within 30 days.

**(g)** Employees were paid $410 for their work during the first two weeks.

**(h)** Additional petrol, oil and garbage bags costing $120 were purchased for cash.

**(i)** In the last two weeks of the first month, revenues totalled $920, of which $375 was collected.

**(j)** Employee wages for the last two weeks totalled $510; these will be paid during the first week of the next month.

(k) It was determined that at the end of the month the cost of the petrol, oil and garbage bags still on hand was $30.

(l) Customers paid a total of $150 due from mowing services provided during the first two weeks. The revenue for these services was recognised in transaction (f).

### Optional continuation of E3.2

**Prepare an income statement and balance sheet.** After you have completed (a) to (l) above, prepare an income statement for Cardinal Mowing Services for the month presented, and a balance sheet as at the end of the month.

learning objectives 2 4 5
●●○ MEDIUM
Analytical skills of: identifying, finding, evaluating, organising, managing information and evidence

### E3.3 Record transactions and adjustments.

Prepare an answer sheet with the appropriate column headings. Record the effect, if any, of the transaction on the appropriate balance sheet category or on the income statement by entering the account name and amount and indicating whether it is an addition (1) or a subtraction (2). Column headings should reflect the expanded balance sheet equation; items that affect net profit should not be shown initially as affecting owners' equity.

**(a)** During the month, supplies were purchased for $1800. The cost of supplies actually used during the month was $1400.

**(b)** Paid an insurance premium of $480 for the coming year.

**(c)** Paid $3200 of wages for the current month.

**(d)** Received $250 of interest income for the current month.

**(e)** Accrued $700 of commissions payable to sales staff for the current month.

**(f)** Accrued $130 of interest expense at the end of the month.

**(g)** Received $2100 on accounts receivable accrued at the end of the prior month.

**(h)** Purchased $600 of inventory from a supplier on account.

**(i)** Paid $160 of interest expense for the month.

**(j)** Accrued $800 of wages at the end of the current month.

**(k)** Paid $500 of accounts payable.

learning objectives 2 4 5
●●○ MEDIUM
Analytical skills of: identifying, finding, evaluating, organising, managing information and evidence

### E3.4 Record transactions and adjustments.

Prepare an answer sheet with the appropriate column headings. Record the effect, if any, of the transaction entry or adjusting entry on the appropriate balance sheet category or on the income statement by entering the account name and amount and indicating whether it is an addition (+) or a subtraction (–). Column headings should reflect the expanded balance sheet equation; items that affect net profit should not be shown initially as affecting owners' equity.

**(a)** During the month, $2600 of supplies was purchased. The cost of supplies actually used during the month was $1400.

**(b)** During the month, the board of directors declared a cash dividend of $4800, payable next month.

**(c)** Employees were paid $3500 in wages for their work during the first three weeks of the month.

**(d)** Employee wages of $1200 for the last week of the month have not been recorded.

(e) Revenues from services performed during the month totalled $7400. Of this amount, $3100 was received in cash and the balance is expected to be paid within 30 days.

(f) A contract was signed with a newspaper for a $400 advertisement; the advertisement ran during this month but will not be paid for until next month.

(g) Merchandise that cost $1550 was sold for $2900. Of this amount, $1100 was received in cash and the balance is expected to be paid within 30 days.

(h) Additional supplies were purchased at a cost of $410 and added to the supplies (asset) account. Supplies totalling $310 were used during the month.

(i) Interest of $180 has been earned on a loan receivable but has not yet been received.

(j) Issued 400 ordinary shares for $8800 in cash.

learning objectives 2 4 5
●●○ MEDIUM
Analytical skills of: identifying, finding, evaluating, organising, managing information and evidence

**E3.5 Record transactions and adjustments.**

Enter the appropriate column headings across the top of a sheet of paper. Enter the transaction number in the first column and show the effect, if any, of the transaction entry or adjusting entry on the appropriate balance sheet category or on the income statement by entering the amount and indicating whether it is an addition (+) or a subtraction (–). Column headings should reflect the expanded balance sheet equation; items that affect net profit should not be shown initially as affecting owners' equity. In some cases, only one column may be affected because all of the specific accounts affected by the transaction are included in that category.

(a) Provided services to a client on account; revenues totalled $550.

(b) Paid an insurance premium of $360 for the coming year. An asset, 'prepaid insurance', was increased.

(c) Recognised insurance expense for one month from the insurance premium via a reclassification adjusting entry (refer to (b) above).

(d) Paid $900 of wages accrued at the end of the prior month.

(e) Paid $2500 of wages for the current month.

(f) Accrued $600 of wages at the end of the current month.

(g) Received cash of $1500 on accounts receivable accrued at the end of the prior month.

learning objectives 2 4 5
●●○ MEDIUM
Analytical skills of: identifying, finding, evaluating, organising, managing information and evidence

**E3.6 Record transactions and adjustments.**

Enter the appropriate column headings across the top of a sheet of paper. Enter the transaction number in the first column and show the effect, if any, of the transaction entry or adjustment on the appropriate balance sheet category or on the income statement by entering the amount and indicating whether it is an addition (+) or a subtraction (–). Column headings should reflect the expanded balance sheet equation; items that affect net profit should not be shown initially as affecting owners' equity. In some cases, only one column may be affected because all of the specific accounts affected by the transaction are included in that category.

(a) During the month, the 'supplies' account was increased by $2600 for supplies purchased. The cost of supplies actually used during the month was $1900.

(b) Received $1700 cash from clients for services provided during the current month.

(c) Paid $950 of accounts payable.

(d) Received $750 cash from clients for revenues accrued at the end of the prior month.

**(e)** Received $400 interest income accrued at the end of the prior month.

**(f)** Received $825 interest income for the current month.

**(g)** Accrued $370 interest income earned in the current month.

**(h)** Paid $2100 interest expense for the current month.

**(i)** Accrued $740 interest expense at the end of the current month.

**(j)** Accrued $1600 of commissions payable to sales staff for the current month.

learning objective 3
●○○ EASY
Analytical skills of:
identifying
analysing
reasoning logically
conceptualising issues

### E3.7 Calculate retained earnings.

On 1 February, the balance of the retained earnings account of Blue Power Corporation was $630 000. Revenues for February totalled $123 000, of which $115 000 was collected in cash. Expenses for February totalled $131 000, of which $108 000 was paid in cash. Dividends declared and paid during February were $12 000.

Required

Calculate the retained earnings balance at 28 February.

learning objectives 4 5
●○○ EASY
Analytical skills of:
analysing
reasoning logically
conceptualising issues

### E3.8 Cash receipts versus revenues.

During the month of April, Macon Ltd had cash receipts from customers of $85 000. Expenses totalled $78 000, and the net profit was $21 000. There were no other gains or losses during the month.

Required

**(a)** Calculate the revenues for Macon Ltd for April.

**(b)** Explain why the cash receipts from customers are different from revenues.

learning objectives 4 5
●●○ MEDIUM
Analytical skills of:
analysing
finding
evaluating
organising
managing information and evidence

### E3.9 Loan receivable—interest accrual.

On 1 April 2008, Tabor Co. received a 12-month $6000 loan from a bank to eliminate the current overdraft. The loan carried interest at the rate of 15 per cent per annum, and the loan plus interest was payable on 31 March 2009.

Required

Use the horizontal model to show the effects of each of these transactions and adjustments:

**(a)** Receipt of the loan on 1 April 2008.

**(b)** The accrual of interest at 31 December 2008.

**(c)** The payment of the loan and interest on 31 March 2009.

learning objectives
4 5
●●○ MEDIUM
Analytical skills of:
analysing
finding
evaluating
organising
managing
information
and evidence

**E3.10** **Loan payable—interest accrual and payment.**

Proco had an account payable of $8400 due to Shirmoo Ltd, one of its suppliers. The amount was due to be paid on 31 January. Proco did not have enough cash on hand then to pay the amount due, so the accountant called Shirmoo's accountant and agreed to sign a loan payable for the amount due. The loan was dated 1 February, had an interest rate of 9 per cent per annum, and was payable with interest on 31 May.

Required

Use the horizontal model to show the effects of each of these transactions and adjustments for Proco on:

**(a)** 1 February, to show that the account payable had been changed to a loan payable.

**(b)** 31 March, to accrue interest expense for February and March.

**(c)** 31 May, to record payment of the loan and all of the interest due to Shirmoo.

learning objectives
4 5
●○○ EASY
Analytical skills of:
analysing
reasoning logically
conceptualising
issues

**E3.11** **Effect of adjustments on net profit.**

Assume that Cater Co.'s accountant neglected to record the payroll expense accrual adjustment at the end of October.

Required

**(a)** Explain the effect of this omission on net profit reported for October.

**(b)** Explain the effect of this omission on net profit reported for November.

**(c)** Explain the effect of this omission on total net profit for the two months of October and November taken together.

**(d)** Explain why the accrual adjustment should have been recorded as of 31 October.

learning objectives
4 5
●○○ EASY
Analytical skills of:
analysing
reasoning logically
conceptualising
issues

**E3.12** **Effects of adjustments.**

A bookkeeper prepared the year-end financial statements of Giftwrap Ltd. The income statement showed net profit of $23 700, and the balance sheet showed ending retained earnings of $91 000. The firm's accountant reviewed the bookkeeper's work and determined that adjustments should be made that would increase income by $5000 and increase expenses by $8400.

Required

Calculate the amounts of net profit and retained earnings after the above adjustments are recorded.

# PROBLEMS

learning objectives 2 4 5
●●○ MEDIUM
Analytical skills of: identifying, finding, evaluating, organising, managing information and evidence

**P3.13** **Record transactions.**
Use the horizontal model for each of the following transactions that occurred during the first year of operations at Kissick Ltd.

**(a)** Issued 200 000 shares of ordinary shares for $1 million in cash.

**(b)** Borrowed $500 000 from the Oglesby National Bank and signed a 12 per cent loan due in two years.

**(c)** Incurred and paid $380 000 in salaries for the year.

**(d)** Purchased $640 000 of inventory on account during the year.

**(e)** Sold inventory costing $580 000 for a total of $910 000, all on credit.

**(f)** Paid rent of $110 000 on the sales facilities during the first 11 months of the year.

**(g)** Purchased $150 000 of store equipment, paying $50 000 in cash and agreeing to pay the difference within 90 days.

**(h)** Paid the entire $100 000 owed for store equipment and $620 000 of the amount due to suppliers for credit purchases previously recorded.

**(i)** Incurred and paid electricity expense of $36 000 during the year.

**(j)** Collected $825 000 in cash from customers during the year for credit sales previously recorded.

**(k)** At year-end, accrued $60 000 of interest on the loan due to Oglesby National Bank.

**(l)** At year-end, accrued $10 000 of past-due December rent on the sales facilities.

learning objective 1
●●○ MEDIUM
Analytical skills of: identifying, finding, evaluating, organising, managing information and evidence

**P3.14** **Prepare an income statement and balance sheet from transaction data.**

**(a)** Based on your answers to **P3.13**, prepare an income statement for Kissick Ltd's first year of operations and a balance sheet as of the end of the year.

**(b)** Provide a brief written evaluation of Kissick Ltd's results from operations for the year and its financial position at the end of the year. In your opinion, what are the likely explanations for the company's net loss?

learning objectives 4 5
●●○ MEDIUM
Analytical skills of: analysing, finding, evaluating, organising, managing information and evidence

**P3.15** **Calculate profit from operations and net profit.**
Selected information taken from the financial statements of Verbeke Co. for the year ended 31 December is presented below:

| | $ |
|---|---|
| Gross profit | 412 000 |
| General and administrative expenses | 93 000 |
| Net cash used by investing activities | 106 000 |
| Dividends paid | 51 000 |
| Accounting and audit fees | 41 000 |
| Net sales | 741 000 |
| Advertising expense | 86 000 |
| Accounts payable | 101 000 |
| Income tax expense | 83 000 |
| Other selling expenses | 42 000 |

(a) Calculate the profit from operations for the year ended 31 December. (Hint: You may wish to review Exhibit 3-2.)

(b) Calculate net profit for the year ended 31 December.

learning objectives 4 5
●●○ MEDIUM
Analytical skills of: analysing, analysing, reasoning logically, conceptualising issues

**P3.16 Calculate profit from operations and net profit.**

Selected information taken from the financial statements of Graff Ltd for the year ended 30 June is presented below:

| | $ |
|---|---|
| Net cash provided by operations | 49 000 |
| Cost of goods sold | 155 000 |
| Selling, general and administrative expenses | 62 000 |
| Accounts payable | 45 000 |
| Research and development expenses | 15 000 |
| Accounting and audit fees | 30 000 |
| Income tax expense | 39 000 |
| Net sales | 420 000 |
| Interest expense | 32 000 |
| Advertising expenses | 68 000 |

(a) Calculate the profit from operations for the year ended 30 June. (Hint: You may wish to review Exhibit 3-2.)

(b) Calculate net profit for the year ended 30 June.

learning objectives 4 5
●●○ MEDIUM
Analytical skills of: analysing, finding, evaluating, organising, managing information and evidence

**P3.17 Alternative adjustments—supplies.**

On 10 March, the first day of first semester, the cafeteria of the Defiance College purchased for cash enough paper serviettes to last the entire 15-week semester. The total cost was $4800.

Required

Use the horizontal model to show the effects of recording:

(a) The purchase of the paper serviettes, assuming that the purchase was initially recorded as an expense.

(b) At 31 March, it was estimated that the cost of the paper serviettes used during the first three weeks of the semester totalled $950. Use the horizontal model to show the effects that should occur as at 31 March, so that the appropriate amount of expense will be shown in the income statement for the month of March.

(c) Use the horizontal model to show the effects of the alternative way of recording the initial purchase of serviettes as an asset.

(d) Use the horizontal model to show the effects of the adjustment that should occur at 31 March if the initial purchase had been recorded as in (c). Are there any differences between these alternative treatments on (1) the income statement for the month of March, and (2) the balance sheet at 31 March?

learning objectives
4 5
●●○ MEDIUM
Analytical skills of:
analysing
finding
evaluating
organising
managing
information
and evidence

**P3.18** **Alternative adjustments—rent.**

Calco Ltd rents its retail outlet. Rent is $750 per month, payable quarterly, in advance. On 1 July, a cheque for $2250 was issued to the property owner for the July–September quarter.

**Required**

Use the horizontal model to show the effects on the financial statements of Calco Ltd:

**(a)** To record the payment, assuming that all $2250 is initially recorded as 'rent expense'.

**(b)** To record the adjustment that would be appropriate at 31 July if your entry in (i) had been made.

**(c)** To record the initial payment as 'prepaid rent'.

**(d)** To record the adjustment that would be appropriate at 31 July if your entry in (iii) had been made.

**(e)** To record the adjustment that would be appropriate at 31 August and 30 September, regardless of how the initial payment had been recorded.

**(f)** If you were supervising the bookkeeper, how would you suggest that the 1 July payment be recorded? Explain your answer.

learning objectives
4 5
●●● HARD
Analytical skills of:
analysing
analysing
reasoning logically
conceptualising
issues

**P3.19** **Make corrections and adjustments to income statement and balance sheet.**

Big Blue Rental Ltd provides rental agent services to apartment building owners. Big Blue Rental Ltd's preliminary income statement for August, and its 31 August preliminary balance sheet, did not reflect the following:

**(a)** Rental commissions of $500 had been earned in August but had not yet been received from or billed to building owners.

**(b)** When supplies are purchased, their cost is recorded as an asset. As supplies are used, a record of those used is kept. The record sheet shows that supplies totalling $360 were used in August.

**(c)** Interest on the loan payable is to be paid on 31 May and 30 November. Interest for August has not been accrued—that is, it has not yet been recorded. (The interest payable of $80 on the balance sheet is the amount of the accrued liability at 31 July.) The interest rate on this loan is 10 per cent.

**(d)** Wages of $260 for the last week of August have not been recorded.

**(e)** The rent expense of $1020 represents rent for August, September and October, which was paid early in August.

**(f)** Interest of $280 has been earned on loan receivable but has not yet been received.

**(g)** Late in August, the board of directors met and declared an interim cash dividend of $2800, payable on 10 September. Once declared, the dividend is a liability of the company until it is paid.

**BIG BLUE RENTAL LTD**
**Income Statement**
**for the month ended 31 August**

| | Preliminary | Final |
|---|---|---|
| | $ | $ |
| Commissions revenue | 9 000 | |
| Interest revenue | 1 700 | |
| Total revenue | 10 700 | |
| Rent expense | 1 020 | |
| Wages expense | 2 380 | |
| Supplies expense | — | |
| Interest expense | — | |
| Total expenses | 3 400 | |
| Net profit | 7 300 | |

**BIG BLUE RENTAL LTD**
**Income Statement**
**for the month ended 31 August**

| | Preliminary | Final |
|---|---|---|
| | $ | $ |
| **Assets** | | |
| Cash | 800 | |
| Loan receivable | 26 000 | |
| Commissions receivable | — | |
| Interest receivable | — | |
| Prepaid rent | — | |
| Supplies | 1 300 | |
| Total assets | 28 000 | |
| **Liabilities and Owners' Equity** | | |
| Accounts payable | 240 | |
| Loan payable | 4 800 | |
| Interest payable | 80 | |
| Wages payable | — | |
| Dividends payable | — | |
| Total liabilities | 5 120 | |
| Contributed capital | 4 800 | |
| Retained earnings: | | |
| Balance, 1 August | 10 880 | |
| Net profit | 7 300 | |
| Dividends | — | |
| Balance, 31 August | 9 0180 | |
| Total owners' equity | 22 980 | |
| Total liabilities and owners' equity | 28 100 | |

Required

**(a)** Use a spreadsheet (like that used in the horizontal method) to make the appropriate adjustments and corrections to the statements, and enter the correct amount in the 'Final' column. Key your adjustments and corrections into the spreadsheet with the letter of the item in the above list. Head up your columns with the same names as those on financial statements. (Hint: Use the five questions of transaction analysis (page 91). What is the relationship between net profit and the balance sheet?)

**(b)** Consider the entries that you have recorded in your answer to (a). Using these items as examples, explain why adjusting entries normally have an effect on both the balance sheet and the income statement.

**(c)** Explain why the cash account on the balance sheet is not usually affected by adjustments. In your answer, identify the types of activities and/or events that normally cause the need for adjustments to be recorded. Give at least one example of an adjustment (other than those provided in the problem data).

learning objectives 4 5

●●● HARD

Analytical skills of: interpreting data and reports

**P3.20 Capstone analytical review of Chapters 2 and 3. Explain various financial statement relationships for a service business.**

DeBauge Real Estate Ltd is owned by Jeff and Kristi DeBauge. The DeBauge family owns 100 per cent of the company's shares. The following summarised data are taken from the 30 June 2009 financial statements:

| **For the year ended 30 June 2009:** | **$000** |
|---|---|
| Commissions revenue | 142 |
| Cost of services provided | 59 |
| Advertising expense | 28 |
| Profit from operations | 55 |
| Interest expense | 5 |
| Income tax expense | 16 |
| Net profit | 34 |

| **At 30 June 2009:** | |
|---|---|
| **Assets** | |
| Cash and short-term investments | 30 |
| Accounts receivable, net | 40 |
| Property, plant and equipment, net | 125 |
| Total assets | 195 |
| **Liabilities and Owners' Equity** | |
| Accounts payable | 90 |
| Income taxes payable | 5 |
| Loan payable (long-term) | 50 |
| Share capital | 20 |
| Retained earnings | 30 |
| Total liabilities and owners' equity | 195 |

At 30 June 2008, total assets were $205 000 and total owners' equity was $50 000. There were no changes in loan payable or share capital during 2009.

Required

**(a)** What particular expense do you suppose accounts for the largest portion of the $59 000 cost of services provided?

**(b)** The cost of services provided amount includes all operating expenses (i.e. selling, general and administrative expenses) except advertising expense. What do you suppose the primary reason was for DeBauge Real Estate Ltd to separate advertising from other operating expenses?

**(c)** Calculate the effective interest rate on the loan payable for DeBauge Real Estate Ltd.

**(d)** Calculate the amount of dividends declared and paid to Jeff and Kristi DeBauge during the year ended 30 June 2009. What is the company's dividend policy (i.e. what proportion of the company's earnings is distributed as dividends)?

**(e)** DeBauge Real Estate Ltd was organised and operates as a partnership rather than a company. What is the primary advantage of the corporate form of business to a real estate firm? What is the primary disadvantage of the corporate form?

learning objectives 4 5

●●● HARD

Analytical skills of: interpreting data and reports

**P3.21 Capstone analytical review of Chapters 2 and 3. Explain various financial statement relationships for a service business.**

Gerrard Construction Co. Ltd is an excavation contractor. The following summarised data are taken from the 30 June 2009 financial statements:

| **For the year ended 30 June 2009:** | **$000** |
|---|---|
| Net revenues | 16 100 |
| Cost of services provided | 5 700 |
| Depreciation expense | 3 250 |
| Profit from operations | 7 150 |
| Interest expense | 1 900 |
| Income tax expense | 1 600 |
| Net profit | 3 650 |

| **At 30 June 2009:** | |
|---|---|
| **Assets** | |
| Cash and short-term investments | 1 400 |
| Accounts receivable, net | 4 900 |
| Property, plant and equipment, net | 38 700 |
| Total assets | 45 000 |
| **Liabilities and Owners' Equity** | |
| Accounts payable | 750 |
| Income taxes payable | 800 |
| Loan payable (long-term) | 23 750 |
| Share capital | 5 000 |
| Retained earnings | 14 700 |
| Total liabilities and owners' equity | 45 000 |

At 30 June 2008, total assets were $41 000 000 and total owners' equity was $16 300 000. There were no changes in loan payable or share capital during 2009.

### Required

**(a)** The cost of services provided amount includes all operating expenses (i.e. selling, general and administrative expenses) except depreciation expense. What do you suppose the primary reason was for management separating depreciation from other operating expenses? From a conceptual point of view, should depreciation be considered a 'cost' of providing services?

**(b)** Why do you suppose the amounts of depreciation expense and interest expense are so high for Gerrard Construction Co. Ltd? To which specific balance sheet accounts should a financial analyst relate these expenses?

**(c)** Calculate the amount of total current assets. Why do you suppose this amount is so low, relative to total assets?

**(d)** Why does the company not have an inventory account?

**(e)** Calculate the amount of dividends declared and paid during the year ended 30 June 2009.