Financial Management for AGRIBUSINESS

WESLEY J OBST, ROB GRAHAM AND GRAHAM CHRISTIE

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Foreword

Owning a farm in Australia remains the goal for many who don't currently have a farm, and the all-consuming passion for those who do have farms and who want to keep them even in uncertain and challenging times.

It is an overused cliché that farming is now a business rather than a lifestyle; but clearly many farmers continue farming for reasons other than the accumulation of wealth. What has become clear is that if farmers want to enjoy the lifestyle, they have to become much more business oriented.

This book covers, in considerable detail, all the elements needed to develop a plan for your existing farm, for your next farm acquisition or for your agribusiness investment.

It provides the grounds on which sound decisions can be made.

If you work methodically through to the end, you will find that it is an excellent reference book that can assist you with your rural business challenges.

For students of agribusiness, this book will become an essential text. It is very readable but also contains sufficient detail to satisfy the needs of a serious agribusiness scholar.

As traditional farming and its associated industries struggle under the pressures of a strengthening Australian dollar, liberalisation of international markets, the challenges of corporate farming and a problematic climate, the need to understand the business of farming has become at least as important as being able to do the 'sweat on the brow' part.

There is no doubt that successful farmers of the future will have both the business and the practical skills.

This text is a major aid to the achievement of this essential business acumen.

I congratulate its authors for their foresight and tenacity and I commend this book to all success-oriented people of the land.

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1

Agribusiness management: an overview

Agribusiness has long been recognised as an important component of the Australian economy, especially for the sector's contribution to export earnings. As with other business sectors, agribusiness fights to overcome the impact of declining terms of trade where rising costs are not matched with rising prices. Although the agribusiness sector has many practical and technical differences from other business sectors, there is little to be gained by treating it differently. In fact, there are considerable advantages in recognising the similarities of agribusiness and the business world at large. Acknowledging these similarities will reduce the myths proffered about agribusiness in the past, and will assist management in viewing their role as efficient and effective managers of valuable and limited resources.

The agribusiness sector

Agribusiness is the sector involved in the production, processing and distribution of agricultural goods and services, and it includes all related activities. Defining agribusiness more narrowly ignores the industry sector that has responded to market forces and has moved away from traditional primary production into manufacturing and distribution activities. For example, the broiler chicken industry has responded to consumer demands by providing lean, tender, disease-free and chemical-free chicken pieces. This industry has moved positively towards meeting consumer demands by controlling the production and manufacturing processes. Producers have little or no direct involvement with the final consumer; however, each producer is focused on the physical and financial demands placed on each subset within their industry. Some operators, for example, the day-old chick producers, would only deal with growers and are therefore only involved in business-to-business transactions. All operators have to

produce a quality product at a competitive cost, which means they must take a business approach to management in order to be profitable and remain in business.

This book provides the business management tools needed to improve the financial management of all types and sizes of agribusiness, including large outback properties, traditional farming activities, small hobby farms, on-farm factories, vineyards, horticultural enterprises and any other business involving agricultural production. The common factor in all cases is that agribusiness managers are involved in a business activity and, therefore, should apply sound business management principles in order to achieve their objectives in a constantly changing business environment.

Changes impacting on agribusiness

In addition to general economic factors that impact on all businesses, agribusiness managers have the added burden of uncertain weather conditions and fluctuating international and domestic market prices. Management practices also have to take account of social and economic changes in Australia and internationally. For example, some people are concerned about the impact of agricultural activity due to land-clearing and its effects on greenhouse gas levels, rising salinity in the river-systems and continued land degradation. Consumers may be concerned about methods of production, and issues such as animal welfare, chemical residues, biodiversity, genetic engineering and food quality. Changes in the nature of work and the family are changing dietary requirements and eating habits. This is illustrated by the increase in prepared meals and the increase in the number of meals eaten away from the family home. Consequently, changing societal attitudes and values impact directly upon agribusiness production processes and decision making.

Agribusiness is also experiencing a reduction in available resources due to urbanisation of food production areas. This means that as the world's population increases, greater pressure is placed on the food production sector to increase output within social constraints and with diminishing resources. Added problems arise because the relative contribution of primary production to the economy is declining, which in turn has eroded the political influence of the sector. The globalisation of the Australian economy and the liberalisation of international trade have increased the transparency and volatility in export markets. Further to these changes, the rapid development in computer technology and communication systems has increased the amount of information and the rate at which it is processed. All of these changes impact to some degree on agribusiness management.

How do these factors impact on management?

Rapid social and economic changes make it necessary for managers to understand their economic environment and the implications of local and international decisions on their business. In order to adapt to these changes, managers must constantly gather, assimilate and process information that is relevant, accurate and timely to their industry. They need to focus on customer demands and quality assurance. This requires a shift in thinking from a production driven focus to a customer and marketing one. Managers

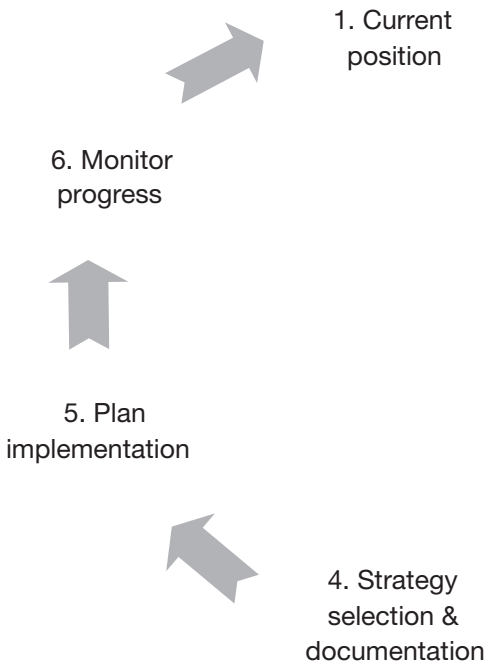


Figure 1.1 Management decision-making cycle

must also assess their own level of risk and develop appropriate risk management strategies, while at the same time be flexible and opportunistic in an ever-changing business environment. They need to be prepared to negotiate on business matters in an increasingly deregulated business environment. These changes demonstrate the demanding role of the agribusiness manager.

In response to these changes managers must bring together detailed financial and physical records that are relevant to the management decision-making process. The information produced from these records is used as the basis for future decision making. This cycle of reviewing past performances to plan for the future is a valuable learning process that means management can improve managerial skills and adapt quickly to changing business and economic circumstances.

Managing an agribusiness

Managing an agribusiness, as with any business, involves the allocation of limited resources to achieve certain objectives. Management is a vital input to the business and is responsible for the processes of planning, decision making and allocating resources for the sustainable production of goods and services. Figure 1.1 depicts the management cycle and illustrates its cyclical nature.

Business planning

Business planning means managers must identify goals and plan how they can be achieved. Goal setting is a vital activity as it establishes clear directions for the business

and gives a reason for being in business. Planning also provides a unifying framework so that all parts of the business are working together. However, planning by itself doesn't guarantee success, but it does better prepare the business by identifying threats and opportunities both within the industry and in the wider business environment. Planning also gives control as actual business outcomes can be compared with the goals generated in the planning process. Plans should not be rigid because it is important to retain some flexibility to respond to changes in the economy, legislation, competitors' actions and market opportunities.

Plan of this book

The chapter structure of this book follows the steps leading towards the completed business plan. However, it must be emphasised that this planning is cyclical and the reader may be required to return to earlier techniques as new information necessitates changes in the plan. This process is introduced at this early stage to provide a broad understanding of the overall planning and decision-making process.

Step 1 Data collection and recording

Accurate and timely business records are a vital component of business planning because the current financial position of the business can only be determined with access to detailed physical and financial information. Keeping efficient records is important as it means the operator can understand fully the physical and financial characteristics of the business. This step lays the foundations for planning by answering the question, *how is the business performing*? While most managers realise the importance of records, finding the time to keep them up to date is often difficult. For this reason, the system outlined in Chapters 2 and 3 has been kept as simple as possible, while still providing the information required for making well-reasoned business decisions.

Step 2 Profitability and equity

Business planning has the potential to increase profitability, promote success and propel the business towards its goals, but it does not happen by chance. To achieve this, the physical and financial records are summarised so there is continuous monitoring of business earnings, expenditure and production.

When preparing business plans it is important that the business has the financial, physical and human resources needed to implement the plan. For example, a plan that does not return sufficient cash flow to meet expected cash payments is almost certainly at risk of failure. Consequently, cash flow analysis is a vital part of the evaluation of any new business strategy, and is an important part of monitoring financial performance during the year. Chapter 4 presents a process for the preparation of a cash flow statement and a cash flow budget, and explains how they integrate with the normal record keeping and cash flow review processes.

Assessment of the current financial position is an essential step in the planning process. For example, business assets and liabilities must be identified prior to setting goals and strategies. The level of the owners' investment, or equity, in the business is also determined as this is an important performance indicator used across all industries. Regular monitoring of the return to equity also enables business performance to be

compared to alternative investment opportunities. Chapter 5 discusses the method of compiling and valuing business assets and liabilities, and determining business equity. This information is presented as a statement of assets and liabilities, which is one of the basic tools used in the decision-making process.

To measure how effectively business resources are being utilised it is necessary to measure the returns (profit) earned against the capital investment (equity). Profit, shown as a percentage return to equity, provides a measure of how well business funds are being used, and it can be the basis for setting goals in the planning process. In Chapter 6, the distinction between cash flow and profit is clarified, and detailed discussion is provided on the process that enables raw data from both the physical and financial recording system to be transformed into a statement of income and expenditure.

Step 3 Tax and estate planning

Income tax is one of the many expenses of a business and, like all other expenses, it should be managed with the goal of maximising profitability. Chapter 7 emphasises the importance of maximising profit after tax, so that the tax expenses associated with all decisions are not overlooked. This approach is used in Chapter 9 where income tax costs are included in the evaluation of alternative enterprises and development decisions. Chapter 7 provides the necessary understanding of how income tax is determined so that the effect of taxation on business decisions can be included in all financial decisions.

Consideration of long-term planning and the passing on of the business to the next generation (succession planning) necessitates an understanding of how different business structures are taxed. Chapter 8 outlines the four main business structures that may be used to operate a business, and discusses their effect on income tax, management control, administrative costs, control of assets and other aspects relevant to long-term planning. Chapters 7 and 8 provide important tools for the evaluation of business decisions to be used to meet long-term objectives and succession plans.

Step 4 Financial analysis

An important function of the agribusiness manager is to constantly monitor business performance so that actual performance is in line with the owners' goals. Chapter 9 describes techniques that can be used to monitor business performance and identify strengths and weaknesses, which will aid management in planning future strategies.

Chapter 9 uses two levels of analysis. First, there is a broad analysis of the use of business resources, including profit performance and the structure of business capital and debt. Second, a more specific analysis of the performance of each enterprise is used to give more detailed information for decision making on each business activity. Each enterprise is evaluated against other enterprises, both within and outside the business. This analysis can help evaluate the strengths and weaknesses of the enterprises and the business, so the managers can focus on the areas of greatest need to improve performance and productivity. Detailed financial analysis also provides a sound base from which to evaluate alternative price risk management strategies such as futures and forward contracts.

Step 5 Enterprise development and evaluation
The business planning process may require the assessment of new enterprises or changing an existing one. This process requires management to evaluate the market prospects and the factors influencing the enterprise in both the short and long term. New enterprises that require additional capital and delayed receipts must be carefully evaluated so that adequate rewards are being received over the life of the enterprise.

Using the techniques outlined in Chapter 11, management will be able to compare the viability of alternative enterprises and production systems for the business. It is important to keep in mind the long-term nature of some agribusiness enterprise developments, as decisions made in one economic and political environment will not necessarily remain constant. The long-term nature of development plans necessitates constant monitoring to keep pace with changing market and economic conditions.

Three important skills are required to analyse change:

- an understanding of changing market requirements and the opportunities created
- the ability to translate these opportunities into technically sound production plans
- the ability to develop suitable budgets so the best decision can be made.

Step 6 Finance management
Analyses of alternative business plans are not complete until their impact on the business finances has been considered. Chapter 12 provides an understanding of the types of finance available and describes the tools necessary to compare these alternatives. Although a project may appear profitable, it will only be feasible if it is possible to arrange and service any debt required to fund the project. This final step is important in the decision-making process as it completes the process of making profitable and viable business decisions.

Step 7 Business plans
The development of a business plan is an essential tool for business managers. It requires the owners to step back from the business, examine past performance, review the current business environment and reassess personal goals. This process provides an opportunity to challenge the current direction of the business, evaluate future ideas and document future strategies. A business plan is an essential part of any application for finance.

Chapter 13 is the capstone chapter as it describes the process of preparing a business plan that sets out the business mission statement, goals and objectives, past business performance, current resources available, and shows an evaluation of future business opportunities.

2

Data collection and recording

The nature of business has changed dramatically over the last two decades, and the success of the rural sector is now very much dependent on exporting commodities and services to international markets. To succeed in this environment businesses need to be flexible and innovative so they can adapt to change, and compete in the international marketplace. An important component of management in this setting is the continual monitoring of business earnings, expenditure and production techniques, all with a view to making well-informed management decisions. It is essential to maintain an accurate, efficient, timely and suitably designed business information system. The first critical step in developing a suitable information system is the collection and recording of relevant and accurate data.

Legal requirements of governments and international markets also place demands on rural sector businesses to provide detailed financial and physical information. For example, obligations under taxation legislation require financial records to be kept. There is also a trend in international markets to require more detailed physical histories of agricultural commodities.

The design, maintenance and use of an efficient business record system is often a neglected area of management. While most managers realise the importance of records, they have difficulty in finding the necessary time for 'book work'. The demanding physical and mental effort involved in running a business often makes it difficult to find the time and energy required. For this reason the system outlined has been kept as simple as possible, while it still provides the information required to make well-reasoned physical and financial decisions. It must also be realised that if a useful set of records is to be maintained, a continuous effort will be required. Incorrect or incomplete records are worse than no records at all, as they can be misleading and may result in flawed management decisions.

The most important reason for keeping efficient records is so the operator understands the physical and financial characteristics of the business. It is interesting to note that although records can be a little tiresome to keep in the early stages, once the system is working well, most managers express great interest in the results that are shown and appreciate the assistance the records provide in the decision-making process. The computer-based recording systems available offer some advantages as they can reduce the time required to record and analyse data.

Throughout this chapter business records have been divided into physical and financial records. This classification is for the sake of convenience only as the two areas are interdependent. This chapter deals with the collection of physical and financial data, which is then used as the basis of the financial recording system that is discussed in Chapter 3. It also introduces some information support systems that can be employed to assist this process.

Physical records

The principal aim of a physical record system is to keep a record of useful data only, and to do so with minimum effort. This data is then organised into a paddock record and a livestock record, which form the permanent record. Charts, card systems and a property map can also be used, but are not essential. Computer software packages provide a more effective mechanism for recording, collating and reporting data; however, it is important to understand what information needs to be collected and why, prior to setting up an electronic system.

Individual circumstances will influence the type and form of physical records kept. For this reason, the following discussion has been divided into two areas: general physical records applicable to most properties, and specialised records that may be kept if considered useful.

General physical records

Collecting data

Basic data is collected with the use of a diary which may either be carried at all times or updated at the end of each day or week. A minimum of weekly entry is recommended to avoid the loss of important information. More frequent and detailed diary entries may be required in some enterprises such as stud breading activities.

Detailed data relating to day-to-day operations are often unnecessary. It is often sufficient to record principal activities that are carried out, the different approaches that are adopted, and if it is relevant, the general seasonal conditions. For example, a typical diary entry might be, ‘cut and raked hill paddock, 57 hectares ryegrass just past the point of flowering’. There is generally no need to record the amount of fuel used or the tractor hours worked as an experienced operator can usually assess this fairly accurately. However, if there is some doubt, a test could be carried out on the tractor to determine its running costs. In the case of relatively new machinery the running costs under various conditions may be given in the owner’s manual.

The following list is not exhaustive but it provides an indication of the type of detail required:

- hay yield per paddock
- crop yield per paddock
- fertiliser and spray applied to paddocks
- stock movements – time and number grazing paddocks
- livestock numbers, purchases and births
- stallion and mare service records
- pasture renovation
- pasture and crop pests, diseases noticed and the circumstances
- weed control
- fodder and/or concentrates fed to stock
- stock sales – noting condition and price (this will appear in the financial records but not in detail)
- general stock activities such as drenching, mating, weaning, weighing and marking
- stock deaths and suspected reason if vet not called
- vet visits and action taken
- chemical purchases and stocks held
- stock (including withholding periods), pasture and crop chemical treatments
- general activities, for example, fencing.

A property map can also be used in conjunction with the diary. A map showing the main features such as paddocks, dams, yards, buildings and roads can be drawn up and framed under glass or attached to a pin board. Alternatively an aerial or satellite image of the property (available from Google Earth) can be used for the same purpose. Stock movements can then be recorded with a felt-tipped pen on the glass, with coloured pins on the pin board or with the use of property planning software. A property map is also useful for directing new or temporary employees to a particular area of the business, for planning improvements and property layout, and for developing health and safety procedures.

Summarising physical data

Summaries of the diary entries are transferred to permanent records that take the form of a paddock record and a livestock record. A loose-leaf folder or an exercise book can be used for these permanent records, but a loose-leaf folder is recommended because pages can be removed or inserted as required. The paddock record and the livestock record are permanent records in which a monthly summary of the activities noted in the diary is recorded. The livestock and paddock records are not generally taken from the office.

Paddock management and livestock management software packages offer numerous advantages over manual systems. For example, even modestly priced paddock management software provides facilities to record and report on all paddock operations. In some cases external data from herd tests, wool tests and soil analysis can be incorporated into the system so a more thorough productivity and profitability analysis can be carried out. Manually this process can take hours whereas a computer can do the processing in a fraction of the time.

Livestock record

In the livestock record a separate section is used for each enterprise such as *prime lambs, vealers* and *stud stock*, and each section is marked with a tab for quick reference. The left-hand page of the stock record (see Table 2.1) is used to record sales, purchases, deaths, natural increase and animals killed for private use (sometimes referred to as rations). The right-hand blank page is used to record any other details relevant to the stock record.

Procedures involved in setting up a livestock record may be described under the following steps and are illustrated in Table 2.1.

Step 1

The left-hand columns of the livestock record are used to record the numbers in each class of livestock carried in that particular enterprise. Only broad livestock classifications are used, although it is sometimes an advantage to classify stock according to age so that the age distribution of breeding stock may be shown (see Table 2.2).

Step 2

Total numbers of livestock and the number in each class are recorded as at the beginning of the period. (First entry Table 2.1)

Step 3

Livestock data contained in the diary is transferred at the end of each month or more frequently if desired. Each entry is recorded on both sides of the stock record so that information about changes of numbers in each class is maintained.

As negative figures can easily be overlooked, reduction in stock numbers due to deaths, sales and private use are shown in brackets. For example, during September there were 900 lambs born – 450 male and 450 female. There were also ten (10) deaths due to cold weather, four (4) male lambs and six (6) female lambs.

Step 4

The right-hand set of columns are used to summarise the changes in livestock numbers such as natural increase, sales, deaths, purchases and private use, thereby avoiding the need for separate records of these events. A further advantage of this system is that at any time during the year the livestock record can quickly provide a summary of livestock numbers on hand. This is shown after the five (5) deaths recorded from unknown causes in Table 2.1.

Step 5

From time to time one class of stock must be transferred to a new group. For example, as they age the female lambs (204) must be transferred to the weaner flock, male lambs to the wether flock and the weaners to the ewe flock. For the female lambs this is done by transferring 204 from the female lamb column to the weaner column. The same procedure is used for the wethers and weaners. The number in each flock is then recalculated and the total number on hand is then recorded in the total column.

Step 6

The comments section of the livestock record shown in Table 2.1 can be incorporated as a separate lined page to the right of the schedule so that details of the activities may be

Table 2.1 Stock record

Class of stock							Activities					
Lambs M	**Lambs F**	**Weaners**	**Ewes**	**Wethers**	**Rams**	**Total**	**Natural increase**	**Purchases**	**Sales**	**Deaths**	**Private use**	**Comments**
		200	1,000	200	30	1,430						Stock July 1
450	450						900					90% lambing, excellent condition (Sept)
(4)	(6)									(10)		Loss due to cold snap (Sept)
			(1)							(1)		Pulpy kidney (Oct)
			(150)						(150)			Cull ewes sold for $30 – fair condition (Nov)
				(1)	2			2			(1)	Wether killed, 2 rams purchased
(400)	(240)								(640)			Lambs in good condition, average $84
			(5)							(5)		
46	**204**	**200**	**844**	**199**	**32**	**1,430**	**900**	**2**	**(790)**	**(16)**	**(1)**	**TOTAL**
(46)	(204)	204		46								(Transfers)
		(200)	200									
0	**0**	**204**	**1,044**	**245**	**32**	**1,430**	**900**	**2**	**(790)**	**(16)**	**(1)**	**TOTAL AFTER TRANSFERS**

Table 2.2 Vealer enterprise stock record

Class of stock									Activities					
Calves M	Calves F	Weaners	Cows – 2	Cows – 3	Cows – 4	Cows – 5	Bulls	TOTAL	Natural Increase	Purchases	Sales	Deaths	Private use	Comment on activities

recorded along with the appropriate dates. Any activity, such as shearing or drenching, which does not influence the number of stock, is recorded on the right-hand page but no entry is made in the stock record.

Step 7
At the end of each year it is useful for tax and management purposes to make a summary of the livestock record for each enterprise, an example of which is shown in Table 2.3. This can then be used to observe trends that may occur from year to year. The yearly summary also enables stock records to be checked for accuracy. The procedure used for this check is shown below and is based on Table 2.3. Provided total outputs are equal to total inputs, the calculations in the record are correct.

Livestock reconciliation

Inputs

	Opening stocks	1430
Plus	Natural increase	900
Plus	Purchases	2
TOTAL		**2332**

Outputs

	Sales	790
Plus	Deaths	16
Plus	Private use	1
Plus	Closing stocks	1525
TOTAL		**2332**

Step 8
Finally, the front page of the livestock record is set aside to summarise the annual production from each livestock enterprise. The summary is limited to items such as:

- wool cut per head
- conception rates (if pregnancy tested)
- lambing and calving percentages
- stocking rate
- any exceptional occurrences such as unusual numbers of deaths.

Paddock record

A paddock record should allow at least two or three pages per year for each paddock. A loose-leaf folder is recommended so that additional pages can be inserted as required. Tabs can be used for easy reference. It is not necessary to begin a new record for each year; in fact, paddock records for only one year are of little value as the main purpose of these records is to observe long-term trends, such as the effect of pasture improvements, rotation strategies and other management actions.

Table 2.3 Yearly summary – sheep enterprise (summarised from Table 2.1)

Class	No.	Cost per hd	Value	Purch. no.	Purch. cost	Purch.	Births	Sales no.	Sales price	Sales	Deaths & rations	Trans. in	Trans. out	Closing no.	Cost hd	Value
Wethers	200	$50	$10,000								(1)	46		245	$50	$12,250
Ewes	1,000	$70	$70,000					(150)	$65	$9,750	(6)	200		1,044	$70	$73,080
Weaners	200	$70	$14,000									204	(200)	204	$70	$14,280
Lambs – male							450	(400)	$75	$30,000	(4)		(46)			
Lambs – female							450	(240)	$80	$19,200	(6)		(204)			
Rams	30	$400	$12,000	2	$400	$800								32	$400	$12,800
Total	**1,430**		**$106,000**	**2**		**$800**	**900**	**(790)**		**$58,950**	**(17)**	**450**	**(450)**	**1,525**		**$112,410**

The activities noted in the diary are summarised each month and are transferred to the relevant pages of the paddock record. This is not a time-consuming procedure as only items of some importance, such as paddock treatments (fertiliser, chemicals, cultivation), crop and hay yields, and stocking rates are recorded. This information is then condensed to a whole farm summary.

Developments in computer software may simplify this recording process. Commercial software can reduce the need for entering information twice, perform all calculations and allow for the recording of the following: paddock details, sowing, cultivation, spraying, fertiliser, paddock composition, rainfall and weather conditions, hay making, rotation of stock, irrigation and soil and plant analysis. In place of annual paddock summaries computer-based systems can produce a variety of predefined reports or user-generated reports covering paddock and soil information, fertiliser and chemical history, paddock profitability or productivity, paddock budgets and predicted yields, as well as comparative reports using data from previous years.

Annual paddock summary

To gain the most use of paddock records each paddock is summarised to show treatments and production, as illustrated in Table 2.4. This annual summary will assist in identifying productivity trends, but more detailed records suited to meet quality assurance guidelines may be required (see later in this chapter).

Careful consideration should be given to the selection of headings for the summary charts, as the same format must be used for each paddock summary as well as for the whole farm summary. The headings need only be sufficient to provide a broad outline of the paddock's history, for if any productivity trend warrants further investigation, then the individual paddock record will need to be consulted.

Annual farm summary

The annual farm summary is located at the front of the paddock record and is set out as shown in Table 2.5.

If both sheep and cattle are carried on the same property, a separate column should be set aside for each, as it is difficult to make accurate comparisons even with the use of 'dry sheep equivalents' (a standard used to compare the feed requirements of different classes of livestock based on the standard feed requirements of one dry sheep). In addition, allowances should be made for the different feed requirements of each class of stock within an enterprise. This allowance should be based on the varying nutritional requirements of different types and classes of stock. For example, a fat lamb mother in the last quarter of gestation may require about 1.6 times the feed of a dry ewe.

Specialised physical records

The system outlined above may be expanded or contracted as required. If the general system of physical records does not contain sufficient detail, as may be the case with certain stud breeding enterprises, then some of the following systems may be helpful. Whether using a manual or computer-based system, the following options can be used or ignored depending on the needs of management.

Table 2.4 Annual paddock summary (Paddock 10)

Year	Fertiliser (kg/ha)		Days grazing sheep*	Insect spray	Weed spray	Cultiva-tions	Crop seed (kg/ha)		Crop Yield (kg/ha)		Comments
	Super.	Potash					Wheat	Barley	Wheat	Barley	
1	–	–	18,000	–	1	3	–	–	–		To be sown
2	90	–	3,000	1	1	2	67	–	2,421		(variety)

* The total number of grazing days can be calculated by multiplying the number of livestock by their dry sheep equivalent (DSE), by the grazing period. For example, 100 sheep (each with a DSE of 1.5) grazed a paddock for 20 days. The total number of sheep grazing days would be 100 × 1.5 × 20 = 3,000 grazing days.

Table 2.5 Annual farm summary (Year 2)

Paddock number	Fertiliser (kg/ha)		Days grazing sheep	Insect spray	Weed spray	Cultiva-tions	Crop seed (kg/ha)		Crop yield (kg/ha)		Comments
	Super.	Potash					Wheat	Barley	Wheat	Barley	
9											
10	90	–	3,000	1	1	2	67	–	2,421	–	(Variety)
11											

Individual livestock records

Relevant information such as time of calving, weight and heat period are recorded in a hand-held computer, notebook or on a wall chart at the yards. This basic information is then organised into a more permanent and useful format so that it can be referred to quickly and easily when required. Some or all of the following systems may be used to collect and analyse individual livestock records.

Card systems

Separate cards are prepared for each breeding animal to record information relating to disease, fertility, progeny, sire, dam, growth rate and lactation. A number of different card systems have been designed for dairy, beef and sheep performance recording and are available from artificial breeding services and herd improvement societies. Stud operations, in particular the equine industry, require detailed records to be kept on individual stallions and mares for both performance analysis and to satisfy industry registration requirements.

Computer services

Many organisations associated with agribusiness now offer performance recording services that provide either hard copy reports or electronic files that can be imported into various business software packages. For example, herd-testing results in the dairy industry are commonly available in this form.

Wall charts, computer software and other aids

The following are examples of other aids that may be used to collect relevant data to assist management in the decision-making process.

- Heat detection and artificial breeding charts are available through artificial breeding services.
- Weighing sheets are available from most computer livestock recording services.
- Electronic scales that provide direct input to computer systems are particularly useful where weighing is a frequent event such as with feedlots and sales yards.

Electronic feed rationing and productivity monitoring that transmits data directly to livestock recording software is also a useful addition for those involved in intensive animal production.

Calving notebook

A double page of a small notebook can be used to record calving or lambing details (see Table 2.6).

To simplify entries a coding system is often used, for example:

Dam fate	Assistance	Calf fate
○ Empty	* None	• Aborted
□ Foster mother	** Slight	† Still born
† Died calving	*** Considerable	◆ Died within 48 hours
		F Fostered

Table 2.6 Layout of a calving notebook

Dam					Calf						
							Birth				
Year	Id. no.	Breed	Fate	Assistance	No.	Sex	Day	Month	Weight	Fate	Comment
	279	Friesian		*		M	24	3	75		To go next week

Mare service record card
Table 2.7 provides a sample layout that can be used in an equine stud operation. Together with a diary and a feed and treatment card system, this will enable all service and other charges to be tracked.

Mare breeding cards
Mare breeding cards provide a comprehensive record of the breeding history of each mare and are generally filed in alphabetical order by mare name. This form contains information regarding the mare's breeding, performance, past breeding history and identifying marks and brands. On acceptance for service a Stud Contract must be signed informing the mare owner of his/her rights and obligations. On arrival at the stud a thoroughbred mare's Document of Description must also be presented and should be filed accompanying the breeding card and application form.

These records provide an accurate breeding history of the mare and are particularly useful in future years if she returns to the stud. Informative mare breeding cards are indicative of a well-managed and efficient stud as they assist the manager to supply accurate information about the welfare of a horse to its owner. These individual cards can be summarised into a yearly mare service record similar to the yearly paddock record discussed previously.

Card systems like that shown in Table 2.7 may be adapted for other service businesses such as cropping, hay or harvesting contractors.

Machinery

Individual records of major machinery items such as tractors, trucks, utilities and other self-powered items are important for machinery repair and replacement decisions. These records can be kept using a card system similar to that shown in Table 2.8, a workshop chart or an electronic record system. Various software packages enable electronic machinery records to be maintained or database software can be used to create a customised electronic machinery record. Database software provides an electronic filing system that stores relevant data that can be retrieved quickly on screen or in hard copy.

Machinery cards should be summarised at the end of the year to produce a machinery (depreciation) schedule that can be used for taxation purposes and the preparation of yearly financial reports (see Table 2.9).

Employee records

Employee records are essential to meet taxation, workers compensation and superannuation obligations and will vary greatly depending on the size of the business. Employee and labour records could include:

- a calendar of activities
- a whiteboard showing deadlines to be met
- a graph showing month-by-month labour requirements, particularly peaks and troughs
- safety and accident records required to meet health and safety regulations

Table 2.7 Individual mare service card

Stallion booked _____

Mare's no. _____ Mare's name _____ Year born _____ Hoof number _____

Assessment no. _____ Sire _____ Dam _____ Sire of dam _____

Mare description _____

Owner's name _____ Phone _____ Fax _____

Address _____

Arrival date _____ Status of mare _____ DLS _____

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30 31
August																														
September																														
October																														
November																														
December																														
January																														

Index for table:

T = date due on heat X = on heat O = off heat S = served F = foaled P = pregnant A = aborted

Equipment left with mare _____

Amount paid on arrival _____ Receipt no. _____ Mare insured Y/N

Shareholder _____ Trophy _____ Free return _____

Breeding/race history _____

Examination type	Remarks	Signed

Foaling date _____ _____

Departure date _____ Foal description _____

Table 2.8 Example of a machinery card system

Item _____		**Model** _____	
Purchase price _____		**Date acquired** _____	
Identification number _____		**Capacity** _____	
Dealer _____		**Contact** _____	
Average fuel _____			
Date	**Cash costs from cashbook**	**Comments**	

- an employee file including long-service, superannuation and recreation leave. (Other relevant details on items such as sick leave credits will be covered in detail in Chapter 3.)

Market and quality assurance programs

Quality assurance and government legislation require that records be kept to both protect consumers of agricultural produce and to maintain the credibility and integrity of the industry. The significance of market assurance programs will be discussed in detail in Chapter 10. However, like financial management the success of such programs begins with an effective record keeping system.

The record format needed for quality assurance programs is largely dependent on the market and produce type. Businesses preparing produce for the export market need to conform to international standards as most industries prescribe a set of criteria for world class quality. Producers that wish to obtain organic certification will also need to maintain accurate quality assurance records. Verification of this quality is maintained by testing of produce and auditing of producer records. For instance, chemical contamination and disease are major issues in the export beef market. It could be caused through animal husbandry treatments or perhaps ingestion of contaminated water or fodder. As a result of these dangers, withholding periods and animal history identifiers are required to help counter the problem. The concept of withholding periods requires that records of stock treatments be maintained. These records should include details of the problem, date treated, drug or treatment used, and dosage. In addition, similar records need to be kept for each paddock and should include a record of the date when it is safe to graze livestock.

It is recommended that the relevant association or marketing organisation be contacted for specific record keeping and product identification requirements in this area.

Table 2.9 Example of a machinery depreciation schedule

Depreciation schedule									
Date	**Description**	**Purch. date acquired**	**Market value**	**Purchases**	**Sales**	**Opening WDV***	**Rate reducing balance**	**Dep. expense**	**Closing WDV**
30/06/06	Tractor	01	20,000			$16,000	10.0%	$1,600	$14,400
30/06/06	Utility	01	7,500			$7,500	10.0%	$750	$6,750
30/06/06	Motorbike	05	6,000			$6,000	33.0%	$1,980	$4,020
30/06/06	Loader	01	20,000			$15,000	10.0%	$1,500	$13,500
30/06/06	Truck	00	6,500			$2,500	10.0%	$250	$2,250
30/06/06	Mower	01	2,500			$900	10.0%	$90	$810
30/06/06	Slasher	00	1,000			$600	10.0%	$60	$540
30/06/06	Discs	00	2,500			$700	10.0%	$70	$630
30/06/06	Boom spray	01	1,500			$1,500	18.0%	$270	$1,230
30/06/06	Plough	05	4,500			$4,500	10.0%	$450	$4,050
30/06/06	Rake	00	1,200			Nil	10.0%		
			73,200			**$55,200**		**$7,020**	**$48,180**

* WDV – Written Down Value

Office and financial data collection systems

The main purpose of a financial recording system is to produce an end-of-year cash flow statement, a statement of assets and liabilities, and a statement of income and expenditure. These three statements form the basis for a full financial and cash flow analysis system, giving management information for effective financial control and planning.

This section describes a financial and office information system that will provide the necessary data for the preparation of the three financial statements. To reduce the amount of time required to collect this data the office system has been designed to be simple, effective and efficient. Combined with a small amount of regular effort this system will produce a well-organised set of records that can provide valuable financial information for improving management decisions and control. To achieve this objective the system described is based on:

- a bank account with cheque, fund transfer and credit facilities
- a multi-column cashbook or computer-based financial software
- a simple filing system.

Incoming mail represents a major part of the paperwork confronting a business and may include any of the following: invoices, statements, product information, letters, technical information, accounts payable, cheques, magazines, emails and other documents. The processing system must be able to deal with this mail quickly and efficiently.

If an efficient system already exists it should not be altered unless some of the following ideas can be utilised to improve efficiency. The aim must always be to keep the effort to a minimum so that office work does not become tiresome.

The office and the office system

The 'office' is merely the place where everything relating to the business is available and easy to locate. A lockable desk in the lounge room can be adequate if it is used exclusively as the 'office' and is secure. Some office equipment will be required and the following is recommended:

- computer and printer with email and Internet access
- fax machine (or computer-based fax capabilities)
- phone with an answering machine option
- diary – large A4 type
- wall diary to use for quick reference
- two mail trays – not spikes as they are difficult to sort through
- a small filing cabinet, desk drawer file or expanding file
- lever arch folders
- cashbook – 24 column is the most versatile (if a computer system is not used)
- rubber stamps for date and 'not negotiable'
- business cards and A4 paper with a business letterhead (or template in word processor for letters)
- stapler – not paper clips as they are not permanent and often catch onto other documents

- staple remover
- hole punch
- calculator
- waste bin.

The office system

As mail arrives it is opened and placed in the 'In' tray; anything that is urgent is dealt with immediately. All other mail remains in the tray until time is available to handle it. This procedure can be duplicated on any of the various email software systems.

The mail is sorted and filed into the filing system to allow immediate reference and retrieval. This system should cater for various forms of material such as: paper, cards, microfilm, microfiche, CDs, DVDs, computer disks, photographs, maps, plans, sound recordings, video tape, 35 mm slide film or magnetic tape. Electronic filing of data enables a number of search facilities to be used to locate details, but with these systems it is vital to have reliable backup procedures and appropriate file naming systems.

Filing systems

Individual files can be stored in a system based on a range of index formats and if necessary cross referencing should be possible, for example: alphabetic by subject, alphabetic by name, numeric by code, numeric by date. File security also needs to be considered and this should take into account:

- access: who has or needs access to all files?
- file movement register – a record of who accesses the files
- file disposal – procedures used to determine which files to destroy
- file storage environment and backup facilities.

Rubbish

This is an important category as far too many offices are crowded with material that is of no value – throw it away. Information from suppliers and other service providers need not be kept as most have up-to-date Internet sites that can be quickly accessed.

Financial file

Financial mail remains in the 'In' tray until the middle of the month. This is the most suitable time to deal with these items as it allows sufficient time for cheques to be presented before the bank statement is drawn up at the end of the month.

Once the financial transactions have been dealt with (as described in the next chapter) important documents should be filed in the financial document file. This file is usually kept in a filing cabinet or expanding file separate from the technical file. Financial documents are filed monthly, and at the end of the financial year (July to June) they are closed-off and a new year commenced. Financial documents must normally be kept for a minimum of five years to meet legal requirements for taxation purposes.

Examples of file titles that may be used in the financial documents file are given below. This list may be expanded by adding new files or subdividing files into more categories:

- Banking and bank correspondence
- Tax returns and correspondence
- Insurance policies
- Budgets
- Company, partnership or trust documents
- Registration papers
- Rates and other property transactions
- Investments
- Loans
- Wills and other personal documents.

Files for creditors and debtors are also required and these may be kept in the financial documents file or in a separate section depending on preference.

Technical file
This file is used to store useful technical information received through the mail, Internet or cut from magazines and journals, but there is no need to keep a hard copy record where Internet access is adequate. The file is usually kept in the filing cabinet or in an expanding file. Headings should be fairly general so that wasted space is avoided. For example, the following headings may be appropriate for a dairy farm's technical file:

- Shed and milking machinery
- Machinery and fodder conservation
- Other farm improvements (e.g. fencing)
- Animal husbandry and feeding
- Animal breeding and identification
- Animal production
- Pastures, cropping and fertiliser
- Business information (tax and insurance – this is not the document file)
- Other specialist areas (e.g. irrigation).

Technical information may also be readily accessible via online computer services, which are discussed later in this chapter.

Letter file
A copy should be kept of all outward correspondence. If a written reply is received, it is stapled to the copy of the original letter; otherwise the outcome of the letter is noted on the copy. Letters and documents generated on a computer-based system need not be kept in a physical file provided the electronic files are secure (backed up) and a logical file naming system is used to identify files. The following points on keeping electronic files will assist with security and file recovery.

- Create a folder for each new year, for example, Letters06. The name should be one that suits the business.
- Create sub-directories or folders for each category of correspondence the business is likely to reply to or send. For instance, creditors, debtors, finance, promotion, etc.
- File names should relate to the content or date of the file.

- The footer at the bottom of correspondence or document should refer to the name and location of the file. For instance, Letters06/debtors/dgreen.doc.
- Depending on the level of use, folders should be backed up regularly (e.g. weekly) to disk. At the end of the year the backup should be stored securely, and if desired, the directory may be deleted from the computer system.

Personal file
Personal financial affairs such as living expenses, private loans and insurance can be processed by this office system but must be kept separate from the farm business affairs.

Dealing with financial transactions

Towards the end of each month, the chequebook, credit card statements, EFTPOS (Electronic Fund Transfer Point of Sale system) receipts, cashbook, bank statements for the previous month, and the 'In' tray containing the accounts are assembled. The following procedure is then followed.

Step 1 Record cheque, credit card and EFTPOS transactions
Cheque butts filled out in the previous month are examined to ensure that all payments have been recorded in the cash record (manual or computer-based system). Some cheques, credit card and EFTPOS transactions will have been carried out away from the office so a record may not appear in the cash record. These must now be entered into the record system to ensure a complete record is retained (see Chapter 3).

Step 2 Adjust for direct transfer transactions
The bank and credit card statements for the previous month are examined. Any receipts that have been paid directly into the cheque account and any payments (fund transfers, bank charges, etc.) that have been made from these accounts are recorded.

Step 3 Total and check the cash record
The cash record is totalled to the end of the previous month and checked as described in Chapter 3. This process is automatic on computer-based software. The bank statement, credit card statement and the business EFTPOS slips are then filed.

Step 4 Payment of accounts
All accounts due should be paid by cheque, business credit card or electronic banking so that the financial records can be verified through the bank or card statements. The cheque account and card statement are then used as the record of all expenses. Invoice or receipt must be stamped 'paid' and then filed for taxation purposes as original documents must be kept for commercial (e.g. refunds and warranties) and tax purposes.

Where cheques are used the full cost of a cheque, postage and handling, may seem excessive for small accounts. However, this cost can be justified on the ground that it is a small price to pay for accurate records that will assist in the management of the business and provide valuable information for decision making and income tax returns. Transaction costs can be reduced by:

- delivering cheques personally
- running accounts with all businesses dealt with regularly

- making more use of fund transfers as a means of payment
- electronic banking
- using a 'petty cash account' for small expenses (see Chapter 3).

Once the cheque is written it is folded in half and the date the account was issued and the invoice numbers are noted on the back. This means that neither the invoice nor the statement need be returned with the account but can be kept on file for later reference. There is no need to request a receipt as all payments by cheque can be verified through the bank, the invoices and other original documentation you have filed.

Where payments are made using EFTPOS, credit card or direct fund transfer, details of the date, receipt number where given, brief description of items purchased and method used to pay the account must be written on the invoice. When making payments via electronic fund transfer it is important to follow the security precautions suggested by the financial institute offering the service. Passwords and user names must not be saved on the computer or left where others may have access to them. It is recommended that appropriate firewall, virus and spyware programs are installed to stop unauthorised access to your computer from external parties.

The chequebook

The following precautions should always be taken to ensure that a safe cheque is drawn.

1 The cheque should always be crossed and the words 'not negotiable' written between the lines. A crossed cheque (with two parallel lines) means that the cheque cannot be cashed over the bank counter but must be paid into a bank account. The words 'not negotiable' mean that the cheque should not be passed on but should be cashed at a bank by the payee. That is, if a non-negotiable cheque comes into the possession of anyone other than the payee, the drawer is protected and does not have to honour that cheque.
2 The risk of forgery can be reduced if the cheque is written out clearly using all the space provided. Banks normally have the business or personal name printed on the cheque.
3 The cheque should be a 'bearer' cheque. If 'or bearer' is crossed out it becomes an 'order' cheque and must be endorsed (signed) by the payee before payment will be made. This serves no purpose as the bank only carries the signature of the drawer and not that of the payee.
4 The cheque butt must be carefully completed at the time of writing, showing the following information: date, payee, amount, transaction type and physical quantity where relevant.

EFTPOS and credit card purchases

Bank and credit card statements do not provide sufficient information for management and taxation purposes as they do not contain details of the payee or the reason for the transaction. The following points provide guidance on how to handle these types of transactions.

- EFTPOS and credit card purchases should be documented on the transaction slip. In most cases these slips are itemised, if not the details should be handwritten on the slip at the time of the transaction.

- These slips must be kept and later used to update financial records as described previously.
- These slips must be filed with the rest of the financial documentation each month.
- Fund transfers also require details to be noted in the fields supplied by the bank. If completed carefully the payment or receipt information will appear on the bank statement.

Accounts not to be paid or paid in part
If there is a query concerning a particular account, it should be set aside until the query has been satisfied. If an account is not paid, then it is filed in the creditors file. If an account is paid in part, the actual payment is recorded in the cashbook and on the account itself, which is then filed in the creditors file. The creditors file should also contain a full record of outstanding loans and the balance still owing (see Chapter 3).

The creditors file should be checked each month so that the payment of partly paid or unpaid accounts can be reconsidered. When the creditor is paid in full the account is filed in the accounts file as previously explained.

Step 5 Enter up financial records
Payments are immediately entered into the financial records (see Chapter 3). This avoids the need to record transactions from cheque butts and other slips that may lack detail.

Step 6 Original documents are filed
The invoice and statement of the account are stapled together and marked with the date and reference to how they were paid (for example, cheque number or bank reference number). Where the payments are made using electronic banking the transaction should be recorded in the financial records immediately and the date and type of payment noted on the invoice. Some financial software can be linked to the business bank account allowing payments to be automatically made from the account, and account transactions to be uploaded directly into the financial record system of the business.

Original documents are then filed in the accounts file and the cheque is placed in the 'Out' tray to be posted or delivered personally (see Figure 2.1).

Accounts file
Legal requirements of the *Income Tax Assessment Act* dictate that original documents must be kept for at least five years (see Chapter 7). Consequently, it is necessary to develop a system that makes it easy to maintain a permanent file of all original documents.

A lever-arch folder is an ideal accounts file because a separate folder can be used for each year with plastic pockets or tabs to separate each month. In addition, the folders can be easily stored without the need for sorting and binding.

The accounts are filed in the order in which they are paid, or in the case of receipts, the order in which they are received. This is quite adequate as the date in the financial records, cheque butt or deposit slip will be sufficient to locate any account. However, it must be understood that the accounts file is not intended to be used for constant reference; it should only be consulted if there is a question about a particular account or if the accountant wishes to check some of the transactions. The financial records

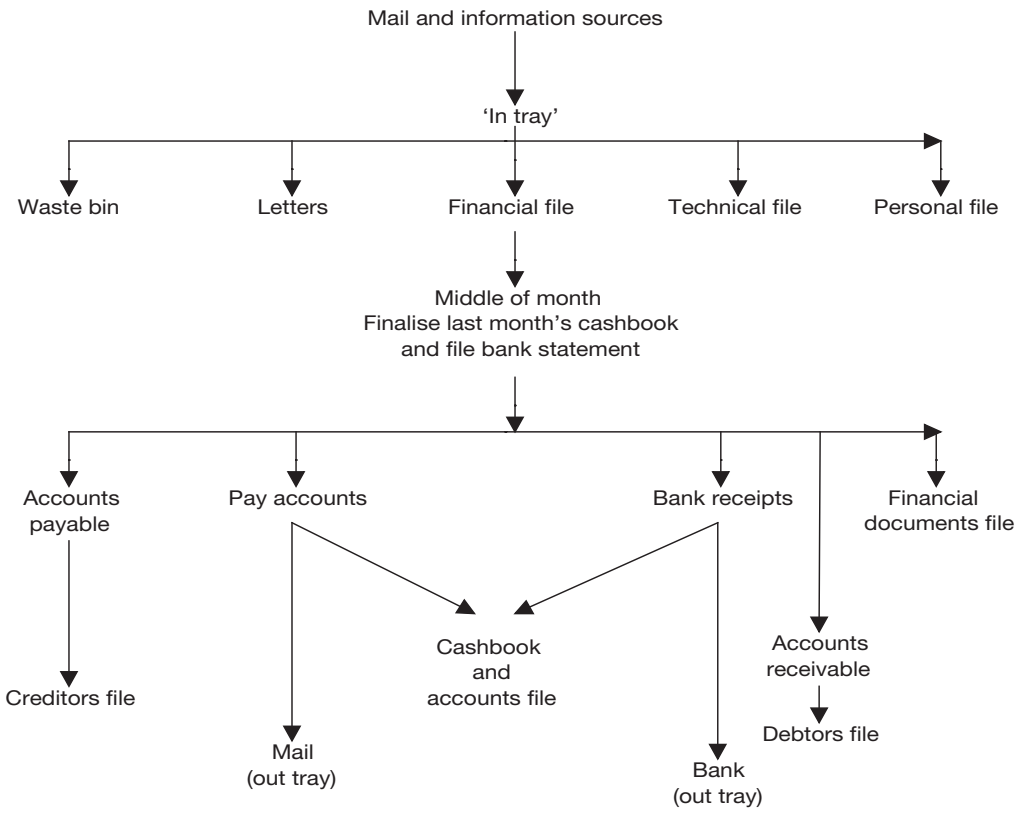


Figure 2.1 Chart of the office system

(manual or computer-based) will always be the simplest and quickest place to find information concerning receipts or payments.

Step 7 Handling receipts
Each receipt is checked and entered in the financial records. The appropriate deposit slips are then prepared and the cheques stapled to them, ready for presentation to the bank. The statements that accompanied the cheques are then dated and filed in the accounts file. Where there is a large business turnover, a separate accounts file for receipts may be necessary, but generally the one file will suffice.

The step-by-step process used in the office system is summarised in Figure 2.1.

Information and decision support systems

The information processing system described in this chapter provides management with the basis for a manual system for collecting and recording relevant physical and financial data. This data is required for analysis, decision making, planning and statutory requirements such as income tax business activity statements. The manual systems

employed have traditionally satisfied both the statutory and managerial requirements, but the nature of manual handling necessitates the commitment of time and patience to keep these records both timely and accurate. The introduction of the goods and services tax (GST) saw a rapid uptake of financial recording software due to the additional time needed to meet recording requirements.

Development of computer-based technologies and recording systems over the last few decades has provided an opportunity to greatly improve the quality and efficiency of business recording systems. In addition, the rapid expansion of the Internet has meant that business managers have a vast amount of information at their disposal, which can be utilised to improve business decisions and save time.

Electronic livestock and paddock management systems

The advantages of electronic livestock and paddock management systems were discussed earlier in this chapter. They are available in three main areas: recording and reporting systems, control and data collection systems, and information and marketing services.

Recording and reporting systems

Specially designed livestock software packages are readily available for a variety of enterprises. These packages typically provide for the recording of genetic information, hereditary information and performance and production details. For those involved in cropping or horticulture, software is available for recording all inputs, monitoring crops, monitoring nutrients, irrigation, soils and climate. Most of the crop or horticulture packages incorporate maps that further aid the monitoring and planning process.

Control and data collection systems

Electronic monitoring and data collection systems are available for most agricultural production processes. For example, in the dairy industry electronic systems are available for monitoring the milk production of individual animals enabling performance and feed requirements to be reported and managed automatically. This type of system can be further automated by the addition of a dedicated microprocessor controlled feeding system that regulates feeding according to the cow performance analysis. Similar electronic control and monitoring systems are available for most intensive animal production and horticultural enterprises. There are also electronic systems available that measure climatic and soil conditions, monitor irrigation and fertiliser applications, provide quality sensors and yield sensors, and guidance systems using satellite communications, to name a few.

Many of the recording and reporting software packages have the facility to accept data directly from these monitoring and control systems. This provides an alternative to keying in data and can further improve the efficiency of the system.

Information and marketing services

Information services providing herd testing, wool testing, soil testing and other quality testing are available in electronic format for uploading into business software. In

addition, software is available that can analyse test data to predict production yields and suggest strategies to assist management in the decision-making process.

Producer groups and government departments also offer Internet sites that provide access to a vast selection of information. These services provide access to the latest information and reduce the need to maintain cumbersome home libraries (see Appendix 1 at the end of this chapter for a sample of relevant Internet sites). Farmer discussion groups also provide an opportunity to network, discuss issues of common interest and even compare production techniques.

Online markets for stock and produce can be used to save both time and reduce costs. Similar online services are available for acquiring genetic and plant material for breeding and cultivation.

Other computer applications

Word-processing software

Few organisations still produce handwritten documentation as word processing software enables business documents to be prepared, edited and stored very efficiently. Material for publication or for use in promotion can also be produced using the word processor. Where more complex publishing is required, desktop publishing packages are available.

Database software

Database software is an electronic filing system that enables large quantities of data to be stored and accessed electronically. Locating, analysing and reporting on data is achieved by sorting and querying the database. Database software is therefore ideal for developing custom designed record systems that meet the specific needs of the business. For example, a database designed to manage debtors can be used to maintain a record of monies owed to the business, report on outstanding debt, produce statements for mailing and produce reports for the preparation of financial statements. A database can also be used to provide names and addresses of customers which can be used in conjunction with word processing software to produce personalised letters and address labels.

Spreadsheet software

Spreadsheet software is invaluable for developing budgets or for costing new business ventures. Well-designed spreadsheets make it possible to do *what if* scenarios to explore the effect of changing key criteria such as produce price, without the need to manually recalculate the budget. Accountants, financial consultants and lenders also find spreadsheets useful to prepare financial statements and assist in the business decision-making process.

See Appendix 1 (General agricultural information) for Internet software search sites.

Appendix 1 Internet resources

Agricultural representative groups and associations

http://money.netscape.cnn.com – Money and business
http://moneymanager.smh.com.au – Money manager
http://vichorse.potts.net.au – Horse directory
http://www.allianz.com.au – Insurance
http://www.bankers.asn.au – Australian Bankers Association
http://www.cannex.com.au – Finance providers group
http://www.dairypage.com.au – Queensland Dairyfarmers' Organisation
http://www.farmassist.com – FarmAssist
http://www.farmcentre.com – Canadian Farm Business Management Council
http://www.farmhub.com.au – Farm machinery finder
http://www.infochoice.com.au – Info Choice
http://www.mla.com.au – Meat and Livestock Australia, good information about the industry including benchmark data and a benchmark search function
http://www.mycreditfile.com.au – Baycorp credit assessment
http://www.nff.org.au – National Farmers' Federation
http://www.nre.vic.gov.au – Search for Target 10 toolshed
http://www.racingvictoria.net.au – Racing Victoria
http://www.realestate.com.au – Real estate directory
http://www.rurallaw.org.au – Rural legal services
http://www.sydneymarkets.com.au – Sydney fresh food market
http://www.vff.org.au – Victorian Farmers' Federation
http://www.wisbis.qut.edu.au – Target10 consultancy assistance
http://www.worldlyinvestor.com – Investments worldwide

News groups and journals

http://abc.net.au/landline – Landline news and coverage
http://abc.net.au/rural – ABC rural new briefs
http://www.museum.vic.gov.au – Includes case study farms

Government

http://budget.farmonline.com.au – Farm budget guide
http://online.justice.vic.gov.au – Department of Justice
http://www.abareconomics.com – ABARE
http://www.affa.gov.au – Department of Agriculture, Fisheries and Forestry
http://www.agric.nsw.gov.au – NSW Agriculture
http://www.ato.gov.au – Australian Taxation Office
http://www.business.channel.vic.gov.au – Business Channel
http://www.business.gov.au – Business Entry Point
http://www.businessaccess.vic.gov.au – Business Access
http://www.dewr.gov.au – Department of Employment and Workplace Relations
http://www.dpi.vic.gov.au – Department of Primary Industries, Victoria

http://www.environment.vic.gov.au – Environment and natural resources and links to other very useful sites
http://www.geoinvestor.com – Globalshare Australian Economy
http://www.land.vic.gov.au – Government land site
http://www.nla.gov.au – National Library of Australia stats
http://www.nre.vic.gov.au – Search for Monitor Farm Project
http://www.nt.gov.au – Northern Territory Government
http://www.oesr.qld.gov.au – QLD Government stats site
http://www.oultwood.com – Local government website index
http://www.rirdc.gov.au – Rural Industries Research and Development Corporation
http://www.vic.gov.au – Victoria Online
http://www.wagenet.gov.au – Wagenet

General agricultural information

http://winetitles.com – Australian Wine Online
http://www.afbmnetwork.orange.usyd.edu.au – Rural discussion and papers from the University of Sydney
http://www.aglinks.com.au – Aglinks for Viticulture
http://www.awbc.com.au/ – Australian Wine & Brandy Corporation
http://www.cranston.com.au – Cranston Australia useful links
http://www.crcv.com.au – Corporate Research Centre for Viticulture
http://www.farmhub.com.au – Farm equipment and machinery
http://www.geoinvestor.com– Search for economic data
http://www.gwrdc.com.au/ – Grape and Wine Research Development Corporation
http://www.medbioworld.com – Good links to agricultural sites worldwide
http://www.nswwine.org.au/winelinks.htm – Wine Industry Association NSW
http://www.realestate.com.au – Rural property details
http://www.sbdc.com.au – Small Business Development Corporation
http://www.sro.vic.gov.au – State Revenue Office Victoria
http://www.wagenet.gov.au – Search for Pastoral Workers Award
http://www.wfa.org.au – Winemakers' Federation of Australia
http://www.winediva.com.au/orgs/orgsAZ.asp – Wine industry organisations in Australia
http://www.winewa.asn.au/10562.htm – Wine Industry Association WA
http://www.workcover.vic.gov.au/dir090/vwa/home.nsf – Victorian Workcover Authority
http://www1.agric.gov.ab.ca – search for software
http://www2.visitvictoria.com – Food and Wine Victoria

3

Financial record keeping

The basic concept of keeping sound physical and financial records was discussed in Chapter 2. This chapter provides an illustration of the design and operation of cash receipts and payments records including payroll records. It also covers the development of a system for end-of-year financial summaries. These summaries are then used for the preparation of taxation returns and to develop the three main management reports: the cash flow statement, the statement of income and expenditure, and the statement of assets and liabilities.

Financial recording system

A financial recording system permits the recording and tracking of the financial position of a business. Most people are familiar with this concept from their everyday experience with personal finances. For example, a business has possessions (assets), it also has financial obligations to others (liabilities), it has income (sales, interests, fees) from which it pays out expenses (rent, electricity, wages).

Assets, liabilities and owner's equity

Both assets and liabilities can be measured in dollar terms and, as such, need to be included in the financial recording system. The statement of assets and liabilities (Table 3.1) enables assets and liabilities to be listed in a standard format recognised across all businesses, and provides a financial picture of the business at a point in time.

The difference between what the business owns and what it owes represents the net owner's investment in the business, or in accounting terms *equity*. Knowing the business's equity position is very useful to management for the following reasons.

Table 3.1 Statement of assets and liabilities

Statement of assets and liabilities			
June 30		**Year 2**	**Year 1**
ASSETS	**Current assets**		
	Cash	32,229	1,500
	Hay and silage	–	–
		32,229	1,500
	Working assets		
	Stock – livestock	531,650	510,950
	Machinery and equipment	48,180	55,200
		579,830	566,150
	Fixed assets		
	Land and improvements	1,236,000	1,236,000
	Total assets	**$1,848,059**	**$1,803,650**
LIABILITIES AND EQUITY	**Current liabilities**		
	Loans	17,901	16,500
	Overdraft		
	Non-current liabilities		
	Long-term debt	213,099	231,000
	Total liabilities	**231,000**	**247,500**
	Owner's equity		
	Equity at start	1,556,150	1,482,003
	Plus profit	106,453	99,102
	Less drawings	45,544	24,955
	Equity at end of year	1,617,059	1,556,150
	Total liabilities and equity	**$1,848,059**	**$1,803,650**

- It depicts the business's worth.
- Banks use equity as a means of assessing a business's ability to raise finance.
- Profit shown as a percentage of equity can be used to assess the business's performance in comparison with bank interest rates and other business investments.
- Knowing the value of your equity provides some confidence when deciding on a price if the business were to be sold.

Income and expenditure

Besides assets and liabilities, other major financial transactions are *income* and *expenses*. The most dynamic part of the financial recording system involves keeping track of these transactions that are summarised in the statement of income and expenditure.

Table 3.2 Statement of income and expenditure

Statement of income and expenditure		
	Year 2	**Year 1**
Income		
Sheep gross margin	3,143	10,345
Cattle gross margin	156,786	139,540
Other	0	0
Total income	159,929	149,885
Less overhead costs		
Work clothes	350	380
Pest control	100	100
Electricity	600	560
Repairs	11,850	9,945
Rates	1,450	1,375
Shelter belts	900	0
Sundries	2,250	2,650
Administration costs	7,920	6,598
Depreciation	7,020	7,525
Total overhead costs	32,440	29,133
Net income before interest and tax	127,489	120,752
Less: interest and lease costs	21,036	21,650
Net profit before tax	**$106,453**	**$99,102**

Income may be grouped into separate categories, for example, steer sales; cow sales; ewe sales; oat sales; grape or fruit sales; asset sales; interest. The financial recording system must be capable of both recording all business costs and in turn grouping these into like categories, for example, bull purchases; animal health costs; machinery repairs; electricity; rates. Table 3.2 shows the end result of categorising income and expenses in the form of a statement of income and expenditure.

At this point only business items have been mentioned, but private and non-business expenses such as drawings, house electricity and phone, school fees and food, must also be recorded, although they are kept separate from business transactions. The goods and services tax system (GST) requires most businesses to collect GST on behalf of the Australian Taxation Office (ATO). Effectively the GST collected by the business belongs to the ATO, hence the financial recording system must be capable of separating the GST component from business receipts and payments. The statements presented in Tables 3.1–3.3 do not include GST, as the GST was separated when the cash receipts and payments were entered into the financial records.

Table 3.3 Sample gross margin for sheep

Gross margin – sheep		
	Actual	**Per DSE**
Income		
Trading income	218,502	38.43
Other		
Total income	218,502	38.43
Enterprise expenses		
Stock identification	250	0.04
Spray	750	0.13
Drench	2,000	0.35
Other	450	0.08
Vet	1,400	0.25
Selling costs	12,938	2.28
Cartage	3,444	0.61
Pasture and fodder	40,484	7.12
Total expenses	61,716	10.85
Enterprise gross margin	**$156,786**	**27.57**

For convenience and ease of analysis, business expenditure is often separated into sub-categories (enterprises). Many businesses are in fact a number of smaller businesses running under one name. Take for example a farm that runs both sheep and cattle; the production techniques used differ, the end product is different, even the markets in which they operate are quite different. To make maximum profit the manager in this case must be confident that both enterprises (sheep and cattle) are profitable. Table 3.3 shows gross margin analysis which is a common example of a report format used for this purpose. The right-hand column breaks down total income and expenditure into Dry Sheep Equivalent (DSE) so the performance of different types of livestock can be compared (discussed in more detail in Chapter 9). This information can only be obtained if the financial recording system employed can separate the income and expenses from each of these enterprises.

Meeting tax obligations

The financial recording system must meet the responsibilities placed on the owner by the taxation system (see Chapter 7). Records needed for this purpose include:

- assets owned by the business, recorded at cost price (exclusive of GST)
- assets purchased and sold during the financial year
- goods and services tax (GST) collected and paid by the business

- Pay-As-You-Go (PAYG) tax payments made by the business
- produce sales made, including price and date, and reference to documentation (receipts, etc.)
- business costs, again including reference to price, date and documents
- stock values, supported by physical records (numbers).

Management control and analysis

A well-designed financial recording system offers management the tools for improving financial control. For example, having sufficient money available to meet current obligations is a vital requirement for the survival of all businesses; a good financial recording system will enable the manager to assess the current financial position, and the availability of cash. It is important to be aware that the bank statement isn't a reliable indicator of cash flow, as recent cheques issued may not have been cashed, and the bank only records what is received or paid, not those obligations that are still outstanding! Additionally the bank only records the movement of cash, it does not show for what purpose the cash was used. For instance, a cheque paid to Rural Supplies Store Ltd for 20 bales of hay costing $1,200 would be recorded on the business's bank statement as an expense of $1,200 on the day the cheque was cashed, no mention of hay or numbers or GST would be shown.

A good financial recording system will also assist with the monitoring of ongoing profitability by providing information on business performance so that poorly performing enterprises or departments can be detected and appropriate action taken. The central component of the financial record system is a record of cash transactions using a manual book or computer-based accounting software.

Setting up a cash record

A multi-column cash record book or computer-based accounting software is used to make a detailed record of all cash transactions, and will become the major source of financial information. This record of financial transactions will be used to prepare the three major financial statements at the end of the financial year (in Australia this is usually June 30): the cash flow statement, the statement of assets and liabilities, and the statement of income and expenditure.

There are a number of suitable manual cash record books on the market that can be purchased at a relatively low cost. Most are broken into two sections, receipts and payments, and have provision for 20 to 35 columns across the page and enough pages to record the financial transactions of the business for the complete financial year.

A variety of computer software packages are also available and care should be exercised to ensure the most suitable package is acquired. There are a number of packages that have been designed specifically for agricultural and horticultural applications. Although the software packages on the market vary considerably in both price and technical sophistication, the accounting principles on which they are designed are very similar to the techniques used to design and record manual records.

Whether the system is computer based or manual, the selection of the category or column heading must be based on the information needs of management. The first step in selecting headings is to compile a list of information requirements. For example, where a total fertiliser cost is required the system must be capable of grouping these costs under a single heading. Alternatively, where the business operates more than one activity (enterprise), more specific grouping may be required, for example, so that fertiliser costs for both a wheat and barley crop can be separated. In this case the cash payment headings may be as shown in Table 3.4.

The categories used in Table 3.4 enable the cost of each crop to be identified. Similar groupings in the cash receipts section would enable profits (gross margins) generated by wheat to be compared with those of barley. The treatment of the GST should be noted as the design of the cashbook ensures that the business cost does not include GST.

Government departments and producer representative organisations release benchmark data to enable producers to compare their income and expenses with industry averages. If management wish to make comparisons with industry averages it will be necessary to select headings that match the published data (see Table 3.5). This approach should not be used if it does not meet more important management information needs.

Finally, the record system must be capable of separating out private transactions, tax payments, payment of debt and capital transactions.

The cash record format

The sample cash payments record format shown in Table 3.6 is similar in most commercial financial record books or software packages. Manual cash records are limited by the number of columns available but computer-based systems are not limited in this way. The accounts of a dairy farmer, Mr Harry Green, are used for illustrative purposes. Examples drawn from his cash record are referred to by column and row number. The columns in Table 3.6 are arranged in the following order:

Date
Refers to the actual date on which the payment was made or the deposit was banked.

Particulars
Provides a record of the person or firm the account was paid to or received from and any relevant information.

Reference or cheque number
Cheque numbers are recorded to allow cross referencing with the bank statement and accounts file. Only the last three numbers need be recorded. Where payments are made using EFTPOS or credit card no reference number will normally be available so all cross checking will be based on the date and the amount of the transaction.

Special columns
The first column is used to record the total payment including GST. The second column records the GST component of the payment and the third is the cost to the business less any GST associated with the transaction. The fourth column is used for verification

Table 3.4 Extract of cash payments record categories

Paid to:	Chq no.	Total $	GST	Cost (excluding GST)	Check	Physical details	Barley			Wheat		
Month: April							**Fert.**	**Fuel**	**Seed**	**Fert.**	**Fuel**	**Seed**
Rural stores	106	$264	$24	$240		1 tonne	120			120		

Table 3.5 Sample benchmark figures for pasture costs

Pasture costs per grazed hectare								
Farm no.	**Seed**	**Chemicals**	**Contract services**	**Fert.**	**Casual labour**	**Freight & cartage**	**Sundries**	**TOTAL**
4	$1.94	$0.83	$2.63	$17.22	$0.00	$0.72	$0.00	$23.34
19	$0.00	$0.00	$0.00	$9.55	$0.00	$1.46	$0.00	$11.01
28	$1.95	$0.56	$0.00	$13.13	$0.00	$0.00	$0.00	$15.64

during the bank reconciliation process, this is discussed later. The fifth column is for deductions from the payment that have been transferred from the receipts record. For example, where transport and commission is deducted from the receipt of livestock sales, this represents a payment and hence must be recorded as such; an example of this is given later in the chapter. The next column is used to provide physical details such as numbers of livestock, weight of grain or fertilisers, litres of milk etc. The remaining columns are used for separating the expenses according to the categories as required by the individual business.

Column headings

Careful choice of category headings is essential for the efficient operation of the cash record. For example, the payments in the sample cash record (Table 3.6) have been grouped into personal, general costs, herd costs, shed and milk costs, feed costs, finance costs and capital. The grouping of items in this manner allows a particular column to be found quickly when an expense or receipt is to be recorded.

The number of columns required will depend on the size of the farming operation and the extent to which individual costs are to be broken down. In Table 3.6 six major groupings have been identified with some of these groupings broken into further categories. This type of cost breakdown can be a valuable aid to business decision making as managers can identify areas where improvements may be made. The actual category headings used will depend largely on the type of farming operation. For more sample receipt and payment categories see the appendixes for this chapter.

Recording transactions

To start a new period the totals from the previous period (normally previous page in the cash record) are brought forward in both cash receipts and cash payments records. Most stationery on the market has provision for this. In the example, provision is given at the bottom of the page for recording this transfer (Table 3.6 'Totals previous page'). Bringing forward totals each month enables a yearly running balance to be kept but this is not necessary when using computer-based systems as they self total as each transaction is entered.

Entries for a particular month may be recorded over one or more pages of the cash record. Under these circumstances, progressive column totals for that month should be drawn up at the bottom of each page. These totals are then transferred to the new page thereby making the column total at the bottom of each page a progressive total.

In Mr Green's case a new page has been started for the month of April. Consequently, column totals have been brought forward from the previous month as demonstrated on row 23. The following examples illustrate how the cash record is kept.

Example 1 Cheque for one item – sample cashbook Table 3.6, line 1
On 6 April, Mr Green paid a cheque (number 367350) to R.F. & S.C. being $3,200 to repay part of his first mortgage loan. The cash record entry for this transaction is as follows:

Date: 6 April

Particulars: R.F. & S.C.

Cheque number: 350 – for convenience the last three figures only are recorded and generally this is the same with computer-based systems

Amount: $3,200 ($2,000 principal payment and $1,200 interest, note these transactions do not attract GST)

Details: monthly mortgage principal and interest payment

Category: $2,000 is recorded under principal category and $1,200 under loan interest.

Example 2 Cheque for more than one item
On 10 April, Mr Green paid (cheque number 367351) the total amount of $319 to Dowl & Son, for the following items:

Details	Cost	GST	Total
Battery for utility	$100	$10	$110
Cement and wire for fence repairs	$190	$19	$209
TOTAL	**$290**	**$29**	**$319**

This entry is recorded in the same way as the previous example except this transaction attracted GST and the GST component is separated from the business cost. In this case the total amount must also be split over two lines to show the different items purchased with the one cheque (rows 2 & 3, Table 3.6).

Example 3 Deduction from payment
On 15 April, Mr Green paid a deposit on a new utility valued at $27,500 including $2,500 GST. A record was made of the deposit paid and the trade-in received, and a record of the total cost of the new utility is created by recording the finance borrowed from John's Motors in the cash receipts book. The debt owing to John's Motors is also recorded on a creditor card (Table 3.7), which is filed in the creditors file. A similar procedure can be used for an item sold from the farm but not paid for in full. Computer-based systems offer an advantage in this case as a record of the debt can be kept without the need for a separate file.

The transactions recorded in the cash payments book show the actual cheque (cheque number 367352) of $12,500 paid to John's Motors. This transaction has three components. First, a payment of $12,500 (including $2,000 net GST, see Table 3.7) as the

Table 3.6 Cash payments book (Harry Green)

	Payments									1	2	3	4	5	6	7
	Paid to	Cheque account					Ded. from receipts	Physical details		Personal		General costs				
Date:	Month: April	Chq no.	TOTAL	GST	COST	CNP Check				BAS	Drawings	Fuel	Ph/ elec.	Admin.	Wages	Repairs
			$	$	$		$			$	$	$	$	$	$	$
6	R.F & S.C.	350	3,200		3,200	✓		Loan repayment	1							
10	Dowl & Son	351	319	29	290	✓		Battery – ute	2							100
								Materials – fence	3							190
15	John's Motors	352	12,500	2,000	20,000	✓	9,500	Utility purchase	4							
					5,000		5,000	Utility purchase	5							
16	Lakeside	Milk state		413	4,428	✓	4,841	Volume charge	6							
								Levies	7							
								Pickup	8							
17	Younger's LTD			10	100	✓	110	Cull sales – selling costs	9							
21	IGA	353	400		400	✓		Groceries	10		400					
24	Petty cash	354	88	8	80			Oil filter – tractor	11							30
								Fuel	12			40				
								Postage	13					10		
30	Rural Bank		29		29	✓		Account fee	14					29		
30	Fund transfer		350	32	318	✓		Orange Power – farm	15				318			
30	Fund transfer		791	31	760	✓		Private fuel	16		150					
								Materials – pump	17							200
								Pastures course	18					300		
								VET fee	19							
									20							
									21							
	Totals this month:		17,677	2,523	34,605		19,451		22		550	40	318	339		520
	Totals previous page:		312,720	22,120	290,600		68,500		23	2,350	32,000	4,500	2,560	1,700	9,500	6,540
	Totals to date:		330,397	24,643	325,205		87,951		24	2,350	32,550	4,540	2,878	2,039	9,500	7,060

End of month cashbook summary	
Opening Balance	9,194
Plus Receipts	37,153
Less Payments	17,677
Closing balance	28,670

8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
Herd costs				Shed & milk costs				Feed costs				Finance costs			Capital	
Purch.	Selling	AI	Health	Fac. costs	Deter-gents	Elec.	Mater-ials	Fert.	Fuel	Fod-der	Irri-gation	In-terest	Prin-cipal	In-vest.		
$	$	$	$	$	$	$	$	$	$	$	$	$	$		$	
												1,200	2,000			1
																2
																3
																4
															25,000	5
				3,308												6
				700												7
				420												8
	100															9
																10
																11
																12
																13
																14
																15
																16
																17
																18
			110													19
																20
																21
	100		110	4,428								1,200	2,000		25,000	22
5,900	1,850	6,450	2,500	68,000	1,600	3,600	4,500	18,000	1,500	59,550	2,000	4,000	20,000		32,000	23
5,900	1,950	6,450	2,610	72,428	1,600	3,600	4,500	18,000	1,500	59,550	2,000	5,200	22,000		57,000	24

Table 3.7 Layout of a card contained in the creditors file

Owed to John's Motors					
Date	**Details**	**Amount (excluding GST)**	**GST**	**Payments**	**Balance**
15 April	Utility 4 × 4				
	Bravo	25,000	2,500		$27,500
	Less trade-in	(5,000)	(500)		22,000
	Deposit		2,000	12,500	9,500
	Amount borrowed				9,500
	Interest charged	900			900
	TOTAL				**$10,400**
	Payment schedule:				
	June 15 – 2,600				
	Sept. 15 – 2,600				
	Dec. 15 – 2,600				
	March 15 – 2,600				

cash deposit on a new utility; second, the $9,500 borrowed for the purchase (Table 3.7); and finally, an allowance of $5,000 (excluding GST) for the trade-in received for the old utility, giving a total cost of the new utility of $25,000 which is recorded in the capital column (Table 3.6, rows 4 & 5).

	$	**GST**	**$**
Payment	12,500	(2,000)	10,500
Loan			9,500
Trade-in			5,000
TOTAL COST			**25,000**

In the cash receipts book both the receipt of the loan and the trade-in are entered as having no effect on the bank account as no actual money was received. The net $5,000 trade-in (excluding GST) is entered because the $500 GST is accounted for in the cash payments book by netting off the $2,500 GST credit from the purchase and the $500 GST liability from the trade-in. Both the loan and the trade-in are then transferred to the payments book via the *deductions from receipts* column as they are used to pay for the new vehicle (see Table 3.6 and Table 3.9, rows 1 & 2). It is important to do the transaction in this way as it enables the value of the trade-in and loan to be recorded, thereby showing where the funds for the purchase have come from.

Similar principles apply when using a computer-based system, which in most cases will require a *split* transaction. The entries will show the purchase price of $27,500 for the new utility, the trade-in of $5,500 being a sale of an asset, and the loan of $9,500

from John's Motors. When using a computer-based system it is usually not necessary to physically record the net GST of $2,000 as most systems will do this automatically, giving a net result of $12,500 being the payment to John's Motors.

	$	GST	$
New utility	27,500	2,500	25,000
Trade-in	5,500	(500)	5,000
			20,000
less loan			9,500
			10,500
plus GST		2,000	2,000
Net payment			12,500

Example 4 Milk sales

Table 3.8 Milk statement for Mr Green's farm (16 April)

Details: Lakeside Cooperative		
Receipts:	4,835 kg butter fat	12,777
	3,408 kg protein	21,266
GST		3,404
TOTAL		$37,447
Deductions:	Volume charge (118,160 litres)	(3,308)
	Levies*	(700)
	Pickup	(420)
GST		(413)
TOTAL		($4,841)
BANKED		**$32,606**

* The GST component of levies depends on the nature of the levy and may vary. The GST component should be taken from the statement.

To maintain a record of all the elements of this transaction it is necessary to record both the receipts and the associated payments. This type of mixed transaction is quite common, for example, in the wool industry deductions are often made from wool cheques before they are received. Row 3 of Table 3.9 demonstrates how this transaction is handled. In the receipts record the amount banked is entered less the GST collected on the milk sales. The factory charges are deducted (including the GST levied on those costs) and the separate receipts (excluding GST) are recorded under the relevant category to the right.

It is also necessary to itemise the deductions from receipts in the payments book as demonstrated on rows 6–8 of Table 3.6. The factory charges enter the payments record via the deductions from receipts column as shown on row 6, the payments excluding GST are then itemised in the columns to the right under the category heading *factory costs*.

Table 3.9 Cash receipts book (Harry Green)

	Receipts								
	Rec. from	**TOTAL (Including GST)**	**GST**	**Received (ex. GST)**		**Not banked**	**Deduction from receipts**	**Physical details**	
Date:	**Month: April**	**Received**			**Check**				
		$		**$**		**$**	**$**		
15	John's Motors						9,500	Loan	1
15	John's Motors						5,000	Ute trade-in	2
16	Lakeside	32,606	3,404	29,202	✓		4,841	Milk cheque	3
17	Younger's LTD	4,510	420	4,090	✓		110	Cow sales	4
30	Rural Bank	37		37	✓			Bank interest	5
									6
									7
									8
									9
									10
									11
									12
									13
									14
									15
									16
	Totals this month:	37,153	3,824	33,329			19,451		17
	Totals previous page:	329,385	29,944	299,441			68,500		18
	Totals to date:	366,538	33,768	332,770			87,951		19

Bank reconciliation for month: April

Bank statement balance at end of month		$28,758
Plus deposits not credited		Nil
Less unpresented cheques:		
Chq. no.	Amount	
354	88	
Total unpresented cheques		$88
Bank balance as per running balance in cashbook (Table 3.6)		$28,670

1	2	3	4	6	7	8	9	10	11	12	13	14	
Milk				Stock sales				Asset sales	Interest	Off-farm			
Butter fat		Protein			Culls		Calves			Invest.	BAS	Other	
Qty	$	Qty	$	Qty	$	Qty	$	$	$	$	$	$	
												9,500	1
								5,000					2
4,835	12,777	3,408	21,266										3
				6	4,200								4
									37				5
													6
													7
													8
													9
													10
													11
													12
													13
													14
													15
													16
4,835	12,777	3,408	21,266	6	4,200			5,000	37			9,500	17
40,077	104,202	30,230	188,640	9	6,200	150			249				18
44,912	116,979	33,638	209,906	17	10,400	150		5,000	286			9,500	19

Example 5 Receipts with selling costs deducted
On 17 April, a receipt of $4,510 from Younger's Ltd was banked, but before the cheque was issued selling costs were deducted.

	Value	GST	Total
6 cull cows	$4,200	$420	$4,620
Less selling costs	$100	$10	$110
Total	$4,100	$410	$4,510

To record this transaction the gross cash income of $4,510 is recorded in the receipt record in the *received* column, $420 is recorded as GST, and then the selling costs of $110 are recorded in the *deductions from receipts* column. The actual value of the sale ($4,200) is then recorded under the *cull cow sales* column (see row 4 of receipts record, Table 3.9). In the payments record (Table 3.6, row 9) an entry is made with no amount in the *total column for the cheque account*, $10 in the *GST* column and a *deduction from receipts* entry of $110. The actual cost of $100 is entered in the cost column and under the category *selling costs*.

Example 6 Private expenses, Table 3.6
On April 21, Harry issued cheque number 353 for $400 to pay his account at the local supermarket. This is a private expense and is entered under the category *drawings*. The GST paid on private expenses cannot be claimed back against the GST collected by the business hence the full amount is recorded as drawings.

Example 7 Petty cash
Petty cash is used for convenience and to avoid the need to write cheques for small amounts. However, if these cash payments are not recorded then information will be lost, which may mean that records are incomplete for management and taxation purposes.

When cash is needed for personal or business costs a cheque is written out to petty cash and cashed at the bank, or cash may be drawn from an EFTPOS transaction or a teller machine. As this cash is spent a record of the items purchased for the business is kept in a diary. Personal costs need only be recorded if they are of particular interest. Minor business costs for the month are then summarised in a petty cash account as shown in Table 3.10.

The withdrawal of cash is recorded in the cash payments book and then entered in the receipt side of the petty cash account. The details of how the $88 was spent are then recorded to the right. Records of the petty cash expenditure for the month are in turn entered into the cash payments book (ch. no. 354, shown in Table 3.6, rows 11–13).

Operation of a petty cash account can be time consuming and should be avoided if at all possible. This can usually be achieved by operating accounts with businesses that are frequently dealt with, and the use of a credit card for small business costs.

Bank transactions

Before the cash records are completed for each month, the bank and business credit card statements must be checked for transactions such as payments or receipts that have occurred without notice, electronic fund transfers (EFTs), direct credits from the bank

Table 3.10 Petty cash record for Harry Green

Petty cash record							
					Details		
Date	Details	Receipt	Payment	GST	Stationery	Fuel	Other
1-Apr	Balance c/f	100					
2-Apr	Tractor oil filter		33	3			30
10-Apr	Fuel at market		44	4		40	
15-Apr	Mail sent		11	1	10		
			$88	$8	$10	$40	$30
	Balance forward		12				
		$100	$100				
	Balance down	12					
24-Apr	Reimbursement	88					
	Ch. 354						

account and bank charges. These transactions must be recorded like other receipts and payments. Some computer-based systems have provision for transactions to be downloaded via an Internet link with the bank thereby saving data entry time.

At this stage EFTPOS or credit card transactions that haven't been entered may be detected and these must also be entered in the same manner as other items. Where a separate credit card facility is used to make business payments, the hard copy tax invoices should remain in the financial tray until the card debt is paid. This is necessary as the bank statement will only show the total amount paid off the card. Credit card payments need to be recorded and categorised in the cash record and it is recommended as sound credit management control that the credit card be cleared each month. The credit card invoices are used to allow the payments to be categorised.

Example 8 Paying business costs via credit card
On April 29, Harry cleared his AussieExpress credit card by transferring $791 to the account and he had also noted and kept credit card invoices and payment details. The expenditure included the following items:

Details	Net	GST	Total
Fuel for his private vehicle	150		150
Materials to repair a water pump	200	20	220
Fees to attend a pastures course	300		300
VET fee	110	11	121
Total	$760	$31	$791

The details of each transaction are entered as shown in Table 3.6, rows 16–19. Note that the course fees have been entered as an administrative cost as these are treated as a business cost.

Loan accounts

The most convenient way of keeping a record of loans is to arrange for all loans to be operated through the cheque account. This should enable all details to be recorded in the cash record automatically, usually in the form of direct credits. It will also be necessary to make a record of all loans in the creditors file as discussed previously in this chapter. Computer-based systems can provide a running balance on loan status at any time throughout the year.

Overdraft

Where an overdraft has been negotiated the bank allows the cheque account to be overdrawn to a certain limit and interest is charged to the account. All transactions are recorded in the bank statement so no additional records are needed.

Term loan

A term loan exists where a lump sum is borrowed from the bank or other lender for a fixed number of years. In some cases the lender may request proof that the job has been completed before making the payment with a bank cheque. The loan money received is known as the *principal* and the cost to the business for borrowing this money is the *interest* charged.

The simplest system for recording loans is to arrange for the lender to pay the loan money into the business cheque account. The receipt of the loan is then recorded as *loan received* in the cash receipt record and the disbursement of the funds will be made through the cheque account as required, and recorded in the cash payments record. If the lender wishes to pay the accounts directly and not to pay over the full sum, then it will be necessary to keep the details of all accounts forwarded for payment. This record should be kept in a separate book as they are not cash payments from the cheque account but they are still expenses of the business and are relevant to management and taxation decisions. As the level of the loan increases through the payment of accounts by the lending body, a progressive total should be recorded in the creditors file that has been developed for this loan. At the end of the year, or when the loan funds have been exhausted, the expenditure paid by the lender must be transferred to the cash record to the appropriate columns and the total amount will be recorded under *loan received*. Amounts may be transferred more often if desired.

If interest and principal repayments are deducted from the cheque account, a record will appear on the bank statement and must be recorded in the cash record and the creditors file when they occur. The cash record can provide for this by having separate columns for both interest and loan principal payments, as demonstrated in Table 3.6, columns 20 and 21.

Off-farm investments

Where money is to be invested off-farm, the payment, either cheque or direct fund transfer, must be able to be identified. To do this a card is drawn up for that investment showing maturity date, interest and any other relevant information and filed in the

debtors file. Computer-based systems usually offer investment tracking features that enable all financial details to be kept in one location, and usually provide the facilities to generate performance reports for each investment type.

Income received should be paid into the cheque account. The receipt should be recorded in the cash receipts record and entered under investment income, as shown in Table 3.9, column 12. Where the investment income is reinvested, the statements are filed and the invested sum recorded as a receipt and then as a payment in the payments record when transferred to the new investment fund. This is necessary as it is still a receipt and must be recorded as such.

Debtors accounts

Towards the end of each accounting period it is necessary to review the debtor situation from the previous period and investigate any outstanding accounts.

Given the importance of cash flow, it is advisable to minimise accounts that are outstanding for longer than 30 days as these customers are depriving the business of much needed cash resources. Sometimes this requires a discreet reminder phone call or the customer may need to be issued with an account statement as a reminder.

To facilitate this, a simple debtors record needs to be kept, each debtor being allocated a couple of pages. A notebook with five columns may be used to record debtors for small businesses; however, spreadsheet or database programs can be adapted to keep these records electronically. The information in this file should include:

- the date the amount was first owed
- the goods or services provided by the business
- the value of the goods or services
- payments received
- the total amount owing (running balance).

At the end of the financial year the amount owed is recorded in the statement of assets and liabilities as a current asset.

Creditors accounts

Businesses that have a number of creditors should keep a separate record of monies owed. Records of this nature enable creditor invoices and statements to be checked for accuracy and provide a more complete assessment of the financial position of the business. A notebook system similar to that outlined for tracking debtor accounts is suggested.

The total obligation to creditors is recorded in the statement of assets and liabilities as a current liability at the end of the financial year.

Totalling and checking the cash records

The main purpose of cash records is to construct a monthly cash flow statement. To facilitate this the cash records are ruled off and totalled at the end of each month. These totals are then transferred directly to the cash flow statement. Preparation and interpretation of this statement will be discussed in the following chapter. Tables 3.6 and

3.9 illustrate a technique for checking the addition in the sample cash payments record for the month of April (see the 'end of month cashbook summary', at the bottom of Table 3.6).

Accuracy of the cash records can be verified by carrying out a bank reconciliation using the following process.

Bank reconciliation = opening balance + receipts – payments

Bank reconciliation

For a record system to be useful for management, taxation purposes and loan applications it must be possible to prove that the accounts are correct. This is done by checking the cash records against the bank statement through a procedure termed *bank reconciliation* or *balancing*. This checking procedure must be carried out monthly to identify any change or error and to enable an accurate examination of the business's monthly cash performance.

The bank reconciliation process compares the business records (cash records) with those of the bank (bank statement) to ensure they are the same. Discrepancies can usually be explained as deposits made that have not yet been recorded or processed by the bank, cheques written that have not yet been presented, bank charges, fees or direct fund transfers that have not been recorded. The necessity to carry out a regular bank reconciliation applies equally to both manual and computer-based systems, in fact, under either system the process itself involves the same steps as discussed below.

For easy reference, the bank reconciliation for manual systems is usually entered in the cash records (see Table 3.9).

Step 1 Cheques not presented (C.N.P.)

First, the C.N.P. from the previous month are transferred to the bank reconciliation. In this case there was only one C.N.P. (No. 347 for $30) and as demonstrated in Table 3.11 this cheque was presented this month.

Second, working down the debit column of the bank statement all cash record entries that correspond with the bank statement are checked and ticked on both the bank statement and in the cash records. If there is a disagreement between a cash records figure and the bank statement, it is most likely that an error was made when recording transactions in the cash records (a mistake made by the business rather than the bank). However, original documents should be checked and if there is still a discrepancy the matter should be referred to the bank as bank errors do occur from time to time.

Payments found in the bank statement that have not been recorded in the cash records should be entered at this stage and ticked. The bank account fee of $29 is entered into the cash payments record, the funds transfer of $350 to Orange Power and AussieExpress for $791 are also entered at this stage (see example 8). The bank has credited the account with interest of $37, which is a receipt and should be entered in the cash receipts record (Table 3.9, row 5). All items on the bank statement should now be ticked.

It is possible that some cheques drawn on the business account will not have been presented to the bank by the payee. These cheques will not appear on the bank statement and are therefore marked in the cashbook as C.N.P. In the example, cheque 354 for $88

Table 3.11 Bank statement for Harry Green

RURAL BANK OF AUSTRALIA LTD				
Whites Lane **NOORAT VIC 6645** **BANK STATEMENT FOR THE MONTH OF APRIL**				
	ACCOUNT NUMBER:		**129-7869-90000**	
	CUSTOMER:		**Harry Green**	
DATE	**DETAILS**	**DEBIT**	**CREDIT**	**BALANCE**
7-Apr	**Balance c/f**			**$9,224**
17-Apr	Chq 350	3,200		6,024
19-Apr	Chq 351	319		5,705
21-Apr	Lakeside Coop.		32,606	38,311
23-Apr	Chq 352	12,500		25,811
25-Apr	Younger's Ltd		4,510	30,321
28-Apr	Chq 353	400		29,921
28-Apr	Chq 347 (C.N.P from previous period)	30		29,891
29-Apr	Account fees	29		29,862
	Credit interest		37	29,899
29-Apr	Orange Power			29,899
	a/c 81605201125	350		29,549
30-Apr	AussieExpress	791		28,758
	Closing balance			**$28,758**

hasn't been presented. The cheque is entered in the bank reconciliation under cheques not presented (see Table 3.6, row 11 and the bank reconciliation shown in Table 3.12).

Step 2 Receipts not presented (R.N.P.)
All cash receipts should be banked before the bank reconciliation is drawn up, and therefore all cash receipts recorded in the cash records should appear in the bank statement. If cash receipts have been recorded but not banked then the same procedure as for C.N.P. will be followed.

Step 3 Balance
When all cash transactions are operated through the one bank account and entered in the cash records, the final balance of the cash records and the bank statement should only differ by the amount of those cheques or receipts that have not been presented.

The final balance shown in Table 3.12 should now match the running balance calculated at the bottom of the cash payments record in Table 3.6. If a correct balance is not obtained then the cash records must be checked for errors.

Step 4 Checking procedure
In case of an error, check the arithmetic in the bank reconciliation. If the error is not located, recheck the bank statement, C.N.P. and R.N.P. for errors.

Table 3.12 Bank reconciliation for Harry Green

Bank reconciliation for month April		
Bank statement balance at end of month		$28,758
Plus deposits not credited		Nil
		$28,758
Less unpresented cheques:		
Chq. No. 354	$88	
Total unpresented cheques		$88
Bank balance as per running balance in cashbook		**$28,670**

If the error is still not located, recheck cash record calculations as described earlier. Once the bank reconciliation balances with the bank statement, the cash records are affirmed as correct for that period and can be used confidently for cash control purposes.

Payroll records

Personnel records

Effective control over the business's payroll function can lead to more efficient cash control together with the added confidence that the legal requirements of the business have been effectively addressed. All too often business failures occur that may have been avoided simply by installing effective control systems. A logical, but simple-to-use wages system may help eliminate many of the financial and legal pitfalls encountered by employers in the small business sector.

Where wages constitute a significant expense an efficient and effective record system will help to reduce errors. In addition, an efficient record system will improve cash flow control so that holiday pay, superannuation premiums, PAYG payments and possibly payroll tax liabilities are planned for before they fall due.

In recent years there has been considerable increase in the regulations governing employment and workplace safety. Failure to fulfil these obligations carries heavy penalties and it is important to remember that ignorance of the law is not a valid defence.

To meet legal and managerial requirements a confidential file should be maintained for each employee. The information in this file should include:

- name, address and phone
- age
- tax file number
- emergency contact details
- statement of health

- superannuation fund details
- copy of employment contract
- deduction authorisation
- performance appraisals
- bank account details.

A drawer of a filing cabinet and a suspension file for each employee should be adequate for most small businesses. Alternatively, manual or electronic employment record systems that are designed to meet both management and statutory requirements may be purchased, or may be included in accounting software.

Deducting tax

It is the employer's responsibility to deduct tax from an employee's wage before payment of the wage; the tax collected must then be forwarded to the tax office. This is known as the Pay-As-You-Go (PAYG) tax system.

Where contractors are used, tax may still have to be collected through a system of withholding tax. Information on both PAYG and withholding tax requirements can be obtained from the Australian Tax Office, and it is important to be aware of rate changes and the currency of tax schedules being used.

Record keeping system

Information concerning tax rates, other deductions, award or contract rate and hours/days/weeks worked are essential components required to calculate an individual's pay. Pre-formatted time cards can be used to collect this data and these can be purchased from most stationery suppliers, or a format similar to Table 3.13 can be drawn up. The time card shown in Table 3.13 will record most of the details necessary for the preparation of each employee's pay packet. In larger organisations an administrative officer or supervisor should oversee this task, signing records daily for verification purposes.

Pay sheets

The task of calculating pay is made easy when a well-designed time sheet system has been put into place. The details taken from the time sheets can be entered directly onto the payroll summary sheet. Table 3.14 demonstrates the transfer of details from the time sheet to enable the calculation of gross pay, tax payable and net pay.

Employee remuneration record

In addition to the records needed to record and pay wages, it is also necessary to maintain a progressive summary of wages and other entitlements. This summary is prepared from pay sheets and time cards and may be organised as shown in Table 3.15.

Superannuation

Under the *Superannuation Guarantee Act* employers are required by law to provide a minimum level of superannuation for their employees. The payroll system therefore

Table 3.13 Sample time card

Employee: Peter JONES **Employee No.:** _102___

Hours: 80 hrs fortnight **Superannuation:** 2%

Pay rate: $16.35 per hr **Overtime rate:** 1.5 1st 2 hrs, excess double

Rebates: General exempt. **Deductions:** Health ins. $13.50 pw., Rent $90 p.w.

Days worked	Normal units worked	Time and a half	Double time	Total paid hours
Mon	8			8
Tues	8	1		9.5
Wed	8	2	2	15
Thurs	8			8
Fri	8			8
Mon	8			8
Tues	8			8
Wed	8			8
Thurs	8			8
Fri	8			8
Sick days taken				
TOTALS	**80**	**4.5**	**4**	**88.5**

Signed: H Green Date: 14/6_____

needs to provide for the recording of superannuation liabilities and their payment. A simple record book or spreadsheet recording employer liability and monies forwarded to the Australian Taxation Office (ATO) is all that is required. Unpaid liabilities at the end of the accounting period will be transferred to the statement of assets and liabilities.

Where an employee elects to make additional superannuation contributions it is treated as a deduction from their wage and is recorded in the employee pay records as demonstrated in Tables 3.14 and 3.15.

End-of-year summaries

At the end of year (calendar, financial or production year, whichever is the most convenient) a number of summaries are drawn up. These summaries will later be used to prepare the statement of assets and liabilities and will include summaries of:

- debtors
- creditors
- payroll
- livestock
- plant and machinery

Table 3.14 Sample pay sheet

Date:

NAME	ORD. HRS	O/T t1.5	t2	Rate $	Total $	Allowances Cloth.	Meal	Gross pay	Tax $	Less rebate	Deductions: Medi.	Rent	Super 2%	Net Pay
JONES Peter	80	4	2	16.35	1,471.50	12		1,483.50	194.70		27.00	180.00	29.16	$1,052.64
TOTAL	**80**	**4**	**2**		**1,471.50**	**12**	**0**	**1,483.50**	**194.70***	**0**	**27.00**	**180.00**	**29.16**	$1,052.64

* Note the tax rates vary from time to time so it is necessary to ensure the latest taxation schedules from the tax office are being used. The same also applies to Medicare premiums and employee authorised superannuation premiums.

Table 3.15 Sample individual earnings record

INDIVIDUAL earnings record									
Name:	**JONES Peter**			**EMPLOYEE NO.**	**102**				
Address:		**1 Harts Road**	**Kerang**	**PAYROLL NO:**	**102**				
Tfn:	**34562112597**			**DEPENDANTS:**	**NIL**				
Ph:	**04167 998233**								
Birth:	**4-July**			**POSITION:**	**Supervisor**				
Status:	**Single**			**AWARD:**	**Clerical**				
Emergency:		**Sarah - 0145689 2345**		**RATE:**	**$16.35**				
Allowances:		**$12 clothing**		**DEDUCTIONS:**	**Rent, Medicare, Super**				
Rebates:		**Nil**		**START DATE:**	**17-Aug**				
		Allowances:				**Deductions**			
Date	**Total pay**	**Meal**	**Cloth.**	**Gross**	**Group tax**	**Medi.**	**Rent**	**Super 2%**	**Net pay**
C/f	31,490.60	125	210	31,825.60	4,950.00	434	2,625	636.50	23,180.10
16-May	1,000.00	14	12	1,026.00	165.40	27	180	20.52	633.08
1-Jun	1471.50		12	1,483.50	194.70	27	180	29.16	1,052.64
Totals:	**$33,962.10**	**$139.00**	**$234.00**	**$34,335.10**	**$5,310.10**	**$488.00**	**$2,985.00**	**$686.18**	**$24,865.82**

Table 3.15 – continued (the reverse side)

Holiday, sick days, and other allowances record								
NAME:		**JONES Peter**			**EMPLOYEE NO.**			**102**
Sick days:		**10 days**			**Long service leave:**			**15 years**
Annual leave:		**4 weeks**			**Leave loading:**			**17.50%**
		Days absent				**Long service**		
DATE	**Sick days accrued**	**Cert.**	**No cert.**	**Leave accrued**	**Leave taken**	**Service**	**LSL acc.**	**Loading accrued**
1 July	17	2		1.1	3	15	13	$105.70
	25	**0**	**0**	**1**	**0**	**15**	**13**	**$105.70**

Table 3.16 Debtors list

Debtors name	Details	Amount owing
Lakeside Coop.	Back payments	$2,800
Younger's	Sale of 10 culls	$3,200
Total debtors		**$6,000**

- produce
- feed
- supplies on hand.

Account summaries are usually kept in a loose-leaf folder. Alternatively, if a loose-leaf cash record is used, they can be drawn up and filed at the end of the cash accounts for the corresponding period. Computer-based systems usually have the capacity to print the summaries and therefore reduce the time required in preparing accounts.

Debtors (amounts owed to the business)

A debtors file is set up to collect this information. As each new account is opened, details are entered on a card and placed in this file; alternatively, a simple spreadsheet or commercial software package can be used.

At the end of each accounting period, the debtors file is checked and any overdue accounts are investigated. Once the checking procedure has been completed, a summary is drawn up as shown in Table 3.16.

This information is then transferred to the statement of assets and liabilities as an asset titled *debtors*.

Creditors (amounts owed by the business)

The information contained in the creditors file is first adjusted for any repayments that have been made; this information can be taken directly from the relevant cash record column total. The creditors file is checked, and then summarised in the summary book as shown in Table 3.17.

This summary would include loans, accounts outstanding to agents or suppliers, and all other business creditors. Balances from this summary can in turn be used to check statements issued by creditors for accuracy. This is then transferred to the statement of assets and liabilities titled *creditors* as a current liability.

Table 3.17 Sample creditors summary

Creditors name	Details	Amount owing
Agent Ltd	1,000 hay bales	$2,000
Loan – RFC	Vehicle loan	$3,500
Total creditors		**$5,500**

Produce, supplies and feed inventories

Only items of reasonable value are included in the inventory, such as, feed on hand, fertiliser, seed and produce on hand. Where other significant stocks are held these too must be valued and may include fuel, fencing materials, building materials, sprays and vet supplies.

Farm produce can be valued according to its cost of replacement, cost of production or market value. The market value method is generally used because most other assets are valued in this way. However, difficulties do arise when valuing produce such as silage, as it may have no market potential and therefore no market value. Such assets are best valued at the cost of production. Table 3.18 illustrates how a fodder inventory can be drawn up for the Harry Green case study.

Livestock inventories

From the physical records, the stock in each enterprise are grouped into classes as shown in Table 3.18. It is usual to value all breeding stock at the same price except for those animals that have been mated for the first time or are to be culled. Stud animals are normally valued separately. All livestock should be valued at realistic market values bearing in mind the following points.

- Day-to-day market fluctuations should not influence the average value chosen except where that class of stock are soon to be sold.
- Breeding stock that are not to be sold should be valued according to long-term market trends (when such trends are discernible).
- The values selected are for management purposes and are not the values used for income tax purposes (see Chapter 7).

Improvements

For management valuation purposes it is not normally necessary to draw up a schedule of improvements such as irrigation, fencing, buildings and stock water reticulation, as it is usual to calculate one value for both the land and its improvements. However, it is necessary to keep detailed records for capital gains tax purposes, and in some enterprises capital allocations may be an important consideration. Improvements should be documented in a similar manner to plant and machinery as discussed below. Improvements subject to depreciation should be listed in the same schedule as plant and machinery as shown in Table 3.20.

Plant and machinery

A register of all plant, machinery and capital is required for management and taxation purposes. A textbook or folder with a page set aside for each item and a simple index, or a card system, may be used. Database software or asset register software is the preferred option as the need for extra paperwork is removed and information can be retrieved, edited and presented in report format with ease.

When this inventory is first constructed, a list of all plant and machinery is made, and both the written down value (WDV) and the value of each item is included under

Table 3.18 Fodder inventory

Crop type	Qty grown	Ha used	Yield/ ha	Open stock	Price of stock	Opening value	Purch. qty	Price per tonne	Purch. value	Used	Cost	End stock	Price/ tonne	End value
Hay	400	150	2.66	200	$39.99	$7,999	125	$61.02	$7,628	525	$28,827	200	$54.91	$10,982
Silage	400	160	2.5	150	$40.00	$6,000		$0.00	$0	400	$24,472	150	$54.88	$8,232
	800	310	5.16	350		$13,999	125		$7,628	925	$53,299	350		$19,214

Table 3.19 Livestock on hand (30 June)

Type	No.	Cost $/hd	Value start	Purch. no.	Purch. cost	Purch.	Birth	Sale no.	Sale price	Sales	Death 3.99%	Tran IN	Tran OUT	Closing no.	Cost	End value
Cows	250	500	$125,000	20	$800	$16,000		(50)	$550	$27,500	(6)	75		289	$500	$144,500
Heifers	80	300	$24,000					(1)	$550	$550	(4)	75	(75)	75	$300	$22,500
H/Calves	75	200	$15,000				100	(18)	$65	$1,170	(7)		(75)	75	$200	$15,000
B/Calves			$0				90	(90)	$68	$6,120						$0
Bulls	4	1,520	$6,080											4	$1,520	$6,080
Total	**409**		**$170,080**	**20**		**$16,000**	**190**	**(159)**		**$35,340**	**(17)**	**150**	**(150)**	**443**		**$188,080**

the appropriate heading (see Table 3.20). A column to show the estimated market value of the machinery is recommended as this enables a more realistic record of the value of machinery to be kept. All items valued below $1,000 are generally grouped together under the heading of *others* for tax purposes. At the end of each accounting period, each item is re-valued according to its approximate market value and the total value is recorded in the statement of assets and liabilities.

A sample inventory record of plant and machinery is set out in Table 3.20. Some commercial record systems include a machinery schedule and the tax office can provide a sample format used for taxation purposes.

Statement of assets and liabilities

The information in the cash record is summarised in a monthly cash flow statement (as described in Chapter 4), and the inventory accounts are summarised in the statement of assets and liabilities (discussed in Chapter 5). For example, the statement of assets and liabilities for the Harry Green case study is shown in Table 3.21.

Information decision and support systems

Payroll

Payroll records can be maintained more effectively using computer-based systems and there are a number of payroll software packages on the market to suit a range of organisations. These packages produce all necessary documentation and comply with the statutory requirements imposed by government. Most financial software packages also have provision for an add-on payroll option which integrates with the financial management system. Combined with a provision for fund transfers, electronic payroll systems enable pay, superannuation, tax and other deductions to be paid without the need to handle cash or even write a cheque.

Database software

For some tasks database software enables the user to design a specific application where a commercial software package does not exist or does not suit the individual needs of management. For instance, a new human resource management policy may require the results of an audit of employee skills, training, experience and education to be documented in a format that can be easily updated and referenced. A database application would be an ideal application.

Spreadsheet software

All the tables used in this text have been prepared using spreadsheet software so that complex calculations can be carried out accurately. Once again this software is useful where an existing commercial software package is not available or where it suits the requirements of management. Spreadsheet software is also very useful for the preparation of tables and graphics which can then easily be copied into a report prepared in a word processing package.

Table 3.20 Plant and machinery inventory (30 June)

Date	Description	Purchase date	Market value	Purchases	Sales	Opening WDV	Rate reducing balance	Depreciation expense	Closing WDV
30.6.x1	Ford tractor		$7,000			$2,750	15%	$412.50	$2,338
30.6.x1	International		$32,500			$26,500	23%	$6,095.00	$20,405
30.6.x1	Rotary hoe		$2,000			Nil	10%		
30.6.x1	Rake		$1,200			$500	15%	$75.00	$425
30.6.x1	Mower		$2,200			$1,250	23%	$287.50	$963
30.6.x1	Spray unit		$2,500			$650	33%	$214.50	$436
30.6.x1	Irrigation pump		$4,100			$4,100	23%	$943.00	$3,157
30.6.x1	Super spreader		$1,800			Nil	10%		
30,6,x1	Silo		$4,500			$2,150	23%	$494.50	$1,656
30.6.x1	4 × 4 tray		$6,100			$4,156	33%	$1,371.48	$2,785
30.6.x1	4-wheel bike		$2,000			Nil	33%		
30.6.x1	Tools, etc.		$3,000			$2,500	33%	$825.00	$1,675
30.6.x1	Dairy plant		$14,000			$9,750	23%	$2,242.50	$7,508
30.6.x1	Bore/pump		$12,000			$4,150	15%	$622.50	$3,528
30.6.x1	Vat & equipment	31/12			$6,000	Nil	10%		
30.6.x1	Vat & plant	31/12	$13,530	$13,530			23%	$1,555.95*	$11,974
30.6.x1	4 × 4 utility	1/09	$25,000	$25,000			33%	$6,875.00*	$18,125
			$133,430	**$38,530**	**$6,000**	**$58,456**		**$22,014.43**	$74,971.57

* Depreciation for the portion of the year owned.

Table 3.21 Statement of assets and liabilities

Statement of assets and liabilities			
June 30			
ASSETS	**Current assets**		
	Bank*	32,550	
	Debtors	6,000	
			38,550
	Working assets		
	Fodder	19,214	
	Stock – livestock	188,080	
	Machinery and equipment#	133,430	
			340,724
	Fixed assets		
	Land and improvements		950,000
	Total assets		**$1,329,274**
LIABILITIES AND EQUITY	**Current liabilities**		
	Creditors	5,500	
	John's Motors	10,400	
			15,900
	Non-current liabilities		
	Mortgage		100,000
	Total liabilities		115,900
	Owner's equity		1,213,374
	Total liabilities and equity		**$1,329,274**

* Bank balance as at June 30 not previously shown
# See market value column in the machinery schedule

Summary

An efficient and effective record system must form the basis of all management systems. This chapter has described a recording system that will enable all relevant data to be recorded and processed into a form where it can be used to aid management decisions.

Financial records are based around the business bank account and organised into the cash record and a series of files containing non-cash transactions. At the end of each recording period summaries are prepared of the debtors file, creditors file, inventories on hand, livestock, plant and improvements. These summaries are used to prepare a statement of assets and liabilities as described later in the text. The cash flow record is used to prepare a cash flow budget and operate a system of cash flow control as outlined in the following chapter.

If a computer-based system is used the same system of data collection is required, and this data is entered into the software package. However, the main advantage of a computer-based system is that the manual tasks of addition, checking and summarising are avoided as they are performed by the software.

Appendix 1 Dairying cashbook categories

Cash expense

Personal
(Drawings) – One or more columns may be allocated if more than one account is used.

General costs
Administration (all those costs involved in administering the farm business) and may include:

- proportion of phone bill
- rates and taxes
- stationery and postage
- bank charges
- registrations
- accountant and consultants
- newspapers and journals

Wages (including workers' compensation and income tax instalments)
Fuel and oil (fuel used for pastures may be treated as a feed cost)
Repairs and maintenance
BAS payments
PAYG payments

Finance
Repayment of loans (principal payments)
Interest
Charges (costs associated with setting up and administering loans)
Investments (money invested outside the farm business)

Capital purchases
Improvements, e.g. sheds, fencing, roads and dams
Plant and machinery

Dairy expenses
Herd costs may be further broken down into:

Calf and heifer rearing
Selling costs
AI and herd test
Husbandry
Shed costs
Factory
Repairs (minor, such as rubber wear replacements)
Cleaning
Electricity
Feed costs

Fertiliser
Weed and pest
Fodder conserved and purchased
Agistment
Concentrates (pellets, grains, etc)
Irrigation
Repairs

Miscellaneous
(Sundries) – There should be little need for this column except for small infrequent costs. Where the number of entries in this column is large, consideration should be given to expanding the number of columns in the cashbook.

Cash receipts

Milk produce
Butterfat
Protein – See the break up on the milk statement; computers offer an advantage here as a standard entry can be made up and used each month.

Stock sales
Culls
Calves
Heifers
Bulls
Others – such as beef cattle or lambs

Others
Equipment sales
Hay or fodder sales
Other asset sales, including land
Off-farm income, e.g. contracting with farm equipment
Insurance recoveries
Loans received (the full amount of any loan received)
Non-farm income, e.g. personal interest and dividends
BAS refund

Appendix 2 Grazing/cropping cashbook categories

Cash expenses

Personal
(Drawings) – One or more columns may be allocated if more than one account is used.

General costs
Administration (all those costs involved in administering the farm business) and may include:

- proportion of phone bill
- rates and taxes
- stationery and postage
- bank charges
- registrations
- accountant and consultants
- newspapers and journals

Wages (including workers' compensation and income tax instalments)
Fuel and oil (fuel used for pastures may be treated as a feed cost)
Repairs and maintenance
BAS payments
PAYG payments

Finance
Repayment of loans (principal payments)
Interest
Charges (costs associated with setting up and administering loans)
Investments (money invested outside the farm business)

Capital purchases
Improvements, e.g. sheds, fencing, roads and dams
Plant and machinery

Cropping costs
(Where there is more than one type of crop these costs may need to be broken up for each crop; again, very difficult when using a manual system.)
Seed
Fertiliser
Selling costs
Contractors
Spray
Fuel

Stock enterprises
Hay costs
Other feeds
Husbandry
Selling costs
Cartage
Shearing and other contractor costs
Livestock purchases
Pasture costs

Cash receipts

Crop
Income from barley, wheat, canola, etc.

Stock sales
Similar to previous example

Others
Similar to previous example

Appendix 3 Horticulture cashbook categories

Receipts

Wine sales
Wholesaler New South Wales
Airlines
Export – UK
Samples
Cellar door

Fruit sales
Avocados
Limes
Olives
Table grapes

Other income
Function income
Fruit storage
Contract packing for other growers

Expenses

Wine marketing
Agent fees
Papers
Other media
Export

Cellar door
Electricity
Wages
Insurance

Vineyards
Preparation of cuttings and grafts

Maintenance
Wages
Fuel

Wine production
Packaging materials
Maintenance
Wages

Fruit production (for each line grown)
Wages
Materials
Fuel
Selling costs

Repairs and maintenance
Vehicle repairs
Building repairs
Fencing

General operating
Administration
Rates and taxes
Telephone
Licences
Interest

Appendix 4 Categories from a horse stud

Cash expenses

Personal
(Drawings) – One or more columns may be allocated if more than one account is used.

General costs
Administration (all those costs involved in administering the farm business) and may include:

- proportion of phone bill
- rates and taxes
- stationery and postage
- bank charges
- registrations
- accountant and consultants
- newspapers and journals

Wages (including workers' compensation and income tax instalments)
Fuel and oil (fuel used for pastures may be treated as a feed cost)

Repairs and maintenance
BAS payments
PAYG payments

Finance
Repayment of loans (principal payments)
Interest
Charges (costs associated with setting up and administering loans)
Investments (money invested outside the farm business)

Capital purchases
Improvements, e.g. sheds, fencing, roads and dams
Plant and machinery

Horse stud costs
(Where there is more than one stallion these may need to be allocated between them.)
Feed
Health and husbandry
Insurance
Registration

Horse breeding costs
Feed
Health and husbandry
Breaking and training
Cartage

Cash receipts

Stallion fees
Where there is more than one stallion these may need to be recorded as:
Stallion A fees
Stallion B fees

Other sales
Mare sales
Stallion sales
Yearling sales
Etc.

Other income

Appendix 5 Categories for computer software packages

MILK SALES
Back pay
Bonus
Butterfat
Levies
Manufact. milk
Market milk
Off season
Pickup charge pool
Payment
Protein

STOCK TRADING
Purchase – Bulls
Purchase – Heifer
Sales – Bulls
Sales – Calves
Sales – Cull
Sales – Heifers
Stock change

INTEREST INCOME
Bank interest
Investment interest
Shares

REBATES
Fertiliser
Fuel
Pivot

RENTAL INCOME

HERD COSTS
Breeding
AI costs
Syncro
Husbandry
Drenches
Freeze branding
Herd testing
Supplies
Veterinary
Shed costs
Detergents
Electricity
Protect clothing
Repairs & maintenance

FODDER
Blocks
Calf
Consultancy
Crop seed
Grain
Hay costs
Lease
Minerals
Pasture costs
Silage costs
Weed killer

ADMINISTRATION
Accounting
Bank fees
Computer costs
Dog
Donations
Electricity
Insurance
Farm
Tractor
Ute
Interest costs
Overdraft
RF loan
Tractor loan
Licences
Office repairs
Office supplies
Rates
Registrations
Tractor
Ute
Self education
Subscriptions
Superannuation
Telephone

DRAWINGS
Bankcard
Clothing
Education
Electricity
Food
Health
Holidays

MAINTENANCE
Buildings
Farm trees
Fencing
Tracks
Yard

REPAIRS
Hay equipment
Motorbike
Mower
Rake
Super spreader
Tractor
Ute

FERTILISERS
Cartage
Lime
Spreading
Super potash
Urea

FUEL
Distillate
Oil
Unleaded

WATER COSTS
Dam repairs
Mill costs
Pipe repairs
Pump repairs
Tank repairs
Trenches
Trough repairs

WORKSHOP
Hardware
Small tools

4

Cash flow management

Cash control is an important aspect of business management. Even though the business may be a highly profitable operation, it may still be forced into liquidation by a relatively short-term cash deficit.

Control over the cash resources can be maintained with the help of a cash flow budget and a process of regular review, which will enable actual cash flows from the cash flow statement to be compared to the budget. During the year any significant divergence from the budget can be detected and appropriate action taken to avoid a cash shortage.

An appropriate financial record keeping system (see Chapters 2 and 3) must be in place for effective cash flow management to take place. This system provides the raw data used to both construct the cash flow statement and enable cash flow performance to be monitored throughout the year. This chapter presents a process for the preparation of the cash flow statement and the cash flow budget. These two statements form the basis of a procedure for cash flow management.

Cash flow is the lifeblood of any business and as such requires regular monitoring. This chapter presents a simple, yet effective, model of monitoring cash flow that follows on from the cash records developed in Chapter 3. Cash records provide the data that becomes the basis of the cash flow management model. The cash flow management model is made up of four stages as shown in Figure 4.1. It shows a continuous process of budgeting, reporting and analysis.

Cash flow statement

Over the full year a pattern of cash flow will develop as shown in the monthly cash flow summary. For example, Table 4.1 represents the cash receipts and payments of Mr Harry Green's dairy farm as recorded in the cash records in the previous chapter. A monthly

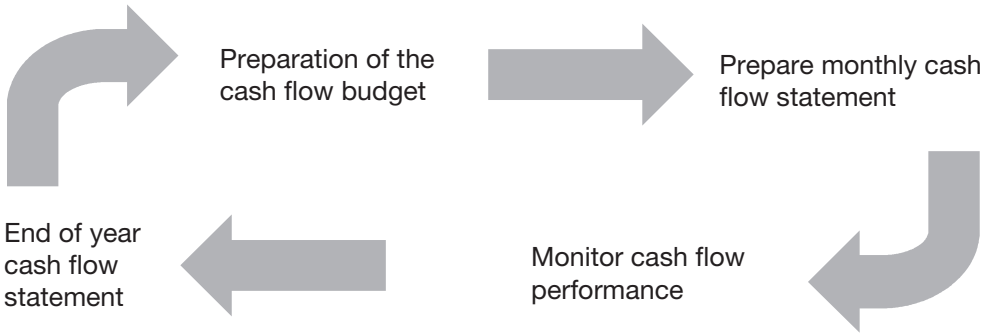


Figure 4.1 Cash flow management model

cash flow pattern has important implications both for management planning (timing of sales, acquisition of assets, payment of accounts) and for the manager's relationship with the bank.

The major purpose of the cash flow statement is to give a clear picture of the availability of cash throughout the year. A graphical representation of monthly cash flow as offered by most computer-based financial management software packages may also assist to provide a better appreciation of the movement in cash flows and aid planning to avoid cash shortages.

The cash flow statement also plays an important role in the preparation of the cash flow budget, as it will provide information on the receipts and payments from the previous year. A demonstration of the interrelationship between the four stages of managing cash flows is given in Figure 4.1. The end-of-year cash flow statement becomes the basis of the cash flow budget, which is used as both a planning tool and as the benchmark for monitoring monthly cash flow performance in the coming year.

The monthly summary shown in Table 4.1 is an extract up to the end of April; note that the actual running balance should correspond with the same figure as calculated in the cash records. Table 4.1 shows a small discrepancy between the budgeted and the actual cash balance but in this case it is too small to spend time to investigate. There are a number of factors that may cause a variance such as: unexpected poor seasonal conditions, weaker than expected milk prices, the price of inputs may have risen (for example, fuel, interest rate, feed price, wages), pests or disease, operator health or management error, poorly researched budget preparation or unexpected plant breakdown.

Monitoring cash flow performance

The cash payments and receipts recorded in the cash records are summarised in a cash flow summary at the end of each month (see Table 4.1). Drawing up a cash flow summary is a straightforward mechanical procedure. Monthly totals for each item of expenditure and receipt are transferred from the cash records as shown in Table 4.1. This process is simplified if the headings in the cash flow statement are the same as those used in the cash records, further highlighting the importance of a well-designed financial

recording system. Once all payments and receipts have been transferred to the cash flow summary, the actual cash balance at the end of each month can be calculated. The total receipts and total payments are calculated and a monthly surplus or deficit is then arrived at and the running balance is calculated.
The actual surplus/deficit in Table 4.1 was calculated as:

	total April cash receipts	$47,604
less	total April cash payments	$28,137
equals	surplus	$19,467

The running balance shown in Table 4.1 was calculated as:

March cash balance (not shown)		**$9,194**
plus/minus	surplus/deficit	$19,467
equals	April running balance	$28,661*

* This figure should equate with the closing balance in the bank reconciliation for that month.

Budget analysis

The monthly summary given in Table 4.1 means a comparison of actual cash performance with budgeted or expected performance can be made. This is important as budgets are of little use unless monitored regularly by the manager checking actual progress against budgeted. Where a significant discrepancy is detected the manager can develop a strategy to address the problem before it deteriorates further. Part of this process would involve making adjustments to the budget for the remainder of the year as it must be remembered that a good budget should be dynamic and not seen as inflexible. The preparation of the cash flow budget is discussed later in this chapter.

A cash deficit can cause difficulties ranging from the minor inconvenience of having to go to the bank manager for additional overdraft accommodation at short notice, to a major catastrophe such as being forced into bankruptcy. For an agricultural business, the most likely result of a cash shortage is that it will force management decisions to be taken that may not be in the long-term interest of the business, and this could reduce future profits. Some of the obvious courses of action available to the manager where a budget discrepancy has been identified include:

- arranging short-term finances to meet an expected cash flow deficit
- forgoing capital expenditure
- contacting creditors to arrange more suitable terms of trade
- changing the timing of sales
- altering the timing of physical operations
- reducing costs
- organising asset sales
- renegotiating long-term finances.

Table 4.1 Monthly cash flow summary

	April		May		June		Total Year		Difference
Category	**Budget**	**Actual**	**Budget**	**Actual**	**Budget**	**Actual**	**Budget**	**Actual**	**%**
Cash receipts									
Butter fat	12,350	**12,777**	12,650		13,250		141,979		
Protein	20,925	**21,266**	21,500		22,000		249,906		
Cull sales	3,800	**4,200**	1,500		1,500		16,450		
Calve sales					1,200		1,800		
Asset sales	4,000	**5,000**					8,000		
Rebates			800				3,270		
Interest received	30	**37**	30		30		420		
GST collected	4,111	**4,324**	30		30		42,141		
TOTAL	**45,216**	**47,604**	**36,510**		**38,010**		**463,966**		
Cash payments									
Herd costs									
Purchases					2,000		7,500		
Selling costs	120	**100**					1,950		
AI					2,500		8,500		
Health		**117**			2,000		3,700		
Shed & milk costs									
Factory costs	3,800	**4,428**	3,400		3,500		83,290		
Detergents			500				2,200		
Electricity			1,050				5,200		
Materials			200		200		5,140		

Category	April		May		June		Total Year		Difference
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	%
Feed costs									
Fertiliser					4,000		34,000		
Fuel					800		2,540		
Fodder & grain			10,000		8,000		87,950		
Irrigation							2,850		
General costs									
Fuel	80	**40**	80		800		5,460		
Phone		**318**			450		3,150		
Administration		**339**	10		40		2,310		
Wages					800		13,850		
Repairs	100	**520**	650		500		12,500		
Finance costs									
Loan interest	1,200	**1,200**	1,200		1,200		6,290		
Capital costs									
Principal paid	2,000	**2,000**	2,000		2,000		34,400		
Plant purchases	15,000	**15,500**					29,500		
Private costs									
Drawings	700	**550**	800		900		35,000		
BAS paid							3,413		
GST paid	2,300	**3,025**	1,989		2,969		38,728		
Tax payable					3,500		24,500		
TOTAL	**25,300**	**28,137**	**21,879**		**36,159**		**453,921**		
Surplus/deficit	**19,916**	**19,467**	**14,631**		**1,851**		**10,045**		
Running balance	**$22,916**	**$28,661**	**$37,547**		**$39,398**		**$49,443**		

Where financial management computer software is used, cash flow performance reports can be generated at any time. Most systems offer the option of statement or graphic format with the facility to create specific itemised reports for any payment or receipt category.

End-of-year cash flow statement

The cash flow statement is generated monthly on completion of the monthly cash flow summary. At the end of the year a statement listing only the actual cash flow data is prepared to provide a picture of the business's cash flow performance as an end-of-year cash flow statement. Table 4.2 offers a sample cash flow statement for a sheep and cattle production business. Statements are generated automatically by financial management software and a graphic format option means problem areas can be identified at a glance.

Cash flow statements are useful as the basis for producing other business statements such as the profit and loss statement, gross margins, and to a lesser extent the balance sheet. The cash flow statement also becomes the basis of next year's budget through the process shown in Figure 4.1.

The business represented in Table 4.2 has obviously held back on major repairs and maintenance, and capital improvements until the February/March period where cash inflows peak. A business consultant can learn a great deal about the business merely by looking over the cash flow statement, and could recommend that surplus cash be invested over the short to medium term.

Cash flow budget

Budgeting is a process of making informed predictions for a future period, usually the coming financial year. Budgeting is therefore a major facet of the planning process and is particularly useful in the analysis of short-term objectives. For example, the cash flow budget is important for considering such decisions as, is it possible to acquire a new tractor next year, or will the expansion of the prime lamb enterprise improve the cash flow situation?

A budget is a financial document that portrays management plans or commitments for future activities. Although there are numerous budgets, the cash flow budget is the most important as it draws together all other budgets including sales budgets, budgeted gross margins, feed budgets and other individual expense budgets. The cash flow budget brings all these elements together and shows all monthly cash inflow and outflow for the coming year, the surplus or deficit for each month, and the running cash balance. The cash flow budget is used for:

- predicting the ability of the business to meet overdraft and loan repayment obligations
- determining the business's ability to finance capital improvements or additions
- identifying periods where a cash surplus may be invested in higher yielding investments
- identifying peak cash flow periods so that management practices or timing of events can be changed, for example, all insurance premiums falling due in a month where inflows are low.

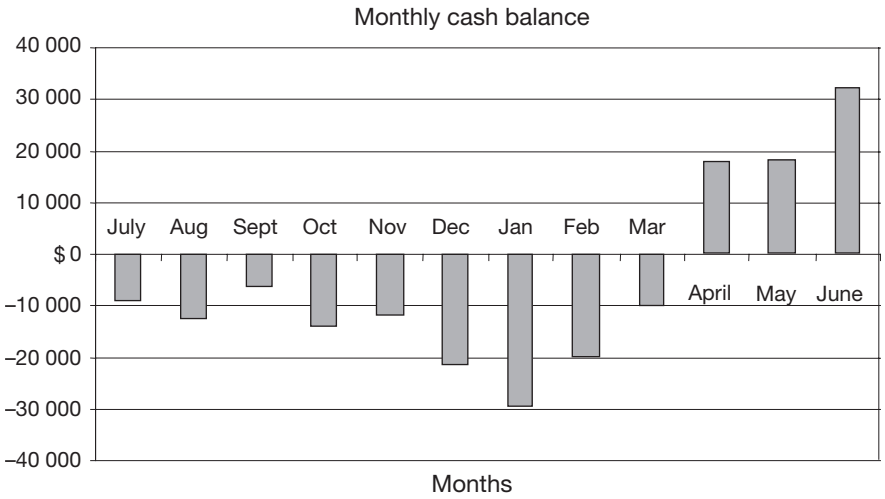


Figure 4.2 Budgeted cash flow graph depicting the cash flow situation from Table 4.2

Figure 4.2 shows that timing of finance repayments or capital acquisitions would almost certainly have to take place in the latter part of the year as the cash balance is significantly in the red until April.

As well as indicating the possibility of a cash shortage, the cash flow budget can assist with determining the amount and type of credit required, and the debt servicing capacity of the business. This type of information is extremely useful to both managers and lending institutions. For example, a proposal to undertake major pasture renovation and increase stocking rate may require a $100,000 loan. The build-up in stock numbers may be expected to take at least two years, and the cash budget may show that during this time the farm's capacity to meet debt servicing commitments will be limited. As a result of exploring the cash flow situation a two-year 'holiday' on principal repayments may be a preferred finance option to improve cash flow in the early years and stabilise the new enterprise.

This type of analysis will make it possible to see difficulties in meeting future cash commitments and will assist with planning the most suitable finance for the project. Without this assistance cash difficulties may not be foreseen and unsuitable finance may be negotiated. In addition, if this type of information is presented to the lender, it is more likely that the special cash needs of the business will be apparent and the loan tailored to meet these needs. Thus the cash budget is an integral part of the loan application process.

A further advantage of cash flow budgeting is that the cash flow effect of management decisions can be planned well in advance, thereby avoiding costly emergency action during a crisis period. The type of management strategies used in a cash crisis are listed below, but it must always be remembered that this type of action could cause the loss of future income and will never substitute for sound cash flow planning. Strategies include:

- bringing forward sales dates
- delaying purchases

Table 4.2 Cash flow statement for year 1

Opening balance	**1,500**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**April**	**May**	**June**
Cattle sales	**198,002**		12,405	19,950					25,800	31,694	36,285	35,934	35,934
Sheep sales	**11,880**					9,680			2,200				
Wool sales	**2,050**						2,050						
GST collected	**21,193**		1,241	1,995		968	205		2,800	3,169	3,629	3,593	3,593
BAS refund													
Total cash available	**233,125**		13,646	21,945		10,648	2,255		30,800	34,863	39,914	39,527	39,527
Sheep costs													
Dip	**400**					400							
Drench	**1,000**								1,000				
Shearing	**250**					250							
Shearing wages	**400**					400							
Selling costs	**615**					412				203			
Vaccine	**150**				150								
Other	**350**	200				150							
Cattle costs													
Stock ID	**250**										150	100	
Spray	**750**									750			
Drench	**2,000**			1,100	100				300	500			
Other	**450**							200		250			
Selling costs	**12,938**			1,250					800	1,290	2,975	3,145	3,478
Vet	**1,400**	250							500		250		400
General farm cost													
Cartage	**3,650**	1,500		450				500	500	250		250	200
Fertiliser	**32,000**		8,000									24,000	
Fodder	**3,700**		50		50				3,550			50	

Fuel & oil	**4,800**	400	400	400	400	400	400	400	400	400	400	400	400
Work clothes	**350**						150				100	100	
Pest control	**100**						50				50		
Electricity – farm	**600**			150			150				150		150
Repairs	**11,850**	1,750	1,950		850		400	700	1,200	3,200	200	1,100	500
Rates	**1,450**			300			300		300	250		300	
Seed	**2,400**						1,200				1,200		
Shelter trees	**900**			400								500	
Sundries	**2,250**	250	200		200	200	200	200	200	200	200	200	200
Administration costs													
Accounting	**2,000**									2,000			
Bank charges	**2,050**	50	50	50	50	50	50	50	50	50	50	50	1,500
Journals	**720**	60	60	60	60	60	60	60	60	60	60	60	60
Other	**750**	150	150			150			150			150	
Phone	**2,400**	200	200	200	200	200	200	200	200	200	200	200	200
Finance costs													
Interest on loan	**21,036**	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753
Principal	**16,500**	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375
Cattle purchases													
Sheep purchases	**5,200**								5,200				
Drawings	**26,865**	2,400	1,900	1,990	2,450	2,150	1,980	2,350	2,160	2,400	1,875	2,450	2,760
PAYG instalments	**18,679**			4,500			3,150			5,429			5,600
GST paid	**9,812**	481	1,106	436	206	267	316	231	1,441	960	599	3,061	709
BAS payment	**11,381**			1,213			384			3,337			6,448
Total cash required	**202,398**	10,819	17,194	15,627	7,844	8,217	12,118	8,019	21,139	24,857	11,587	39,244	25,733
Surplus/deficit	**30,727**	(10,819)	(3,548)	6,318	(7,844)	2,431	(9,863)	(8,019)	9,661	10,006	28,327	283	13,794
Running balance	**32,227**	(9,319)	(12,867)	(6,549)	(14,393)	(11,962)	(21,825)	(29,844)	(20,183)	(10,177)	18,150	18,433	32,227

- cutting spending
- disposing of capital assets provided that the sale will not reduce cash inflows, but this would only be considered as a last resort.

A cash flow budget can also be used to predict periods of cash surplus, which is much easier to handle than a deficit; but it is still important to plan for the most effective use of this cash. A cash surplus may allow for reinvestment and expansion of the farm or for the diversification into non-farm investments to reduce fluctuations in family income. Where the cash surplus is for one or two months only, the surplus funds should still be invested in short-term fixed deposits or other appropriate investments to ensure the best possible return for the period available. Too often, large temporary cash balances are left in cheque accounts that provide little or no return.

A cash flow budget will also help plan the most suitable time for drawing cash for large items of personal expenditure such as holidays or the purchase of a new family car. Drawings can be arranged at a time when they are least likely to cause cash flow problems for the business.

Lastly, the process of monitoring and analysing cash flow performance throughout the year enables management to identify potential income tax problems and seek advice on managing the expected tax liability.

Preparation of the cash flow budget

Once the cash flow statement has been prepared it can be used as a guide in building a cash flow budget for the next year. The cash flow budget can be prepared using a similar form as the cash flow statement, and should use the same basic categories of payments and receipts. In most cases the previous year's cash flow statement can be used as the basis for the budget as many items will be much the same (plus the expected effects of inflation). However, the budget also needs to account for any major change in the business operation or unusual economic factors. The following seven-step model is recommended for the preparation of the cash flow budget:

Step 1 Review last year's cash performance (cash flow statement).
Step 2 Decide on plans and activities for the coming year.
Step 3 Research expected market prices, returns and trends.
Step 4 Research economic indicators such as interest rates and inflation.
Step 5 Adjust each receipt and payment item in the cash flow statement. Ensure that last year's closing bank balance becomes this year's opening balance.
Step 6 Calculate the monthly surplus and deficits.
Step 7 Fine tune the budget to balance out any large surplus or deficit.

In preparing the budget shown in Table 4.3, payments for some items were increased to allow for rising prices, for example, fuel and oil, repairs and maintenance, tractor hire, rates, general costs and administration. Family living expenses are more difficult to predict because unforeseen costs can often occur, consequently an increase greater than inflation may be built in.

Payments for items such as stock feed, chemicals, fuel, fertiliser and electricity will also increase because of rising prices or market predictions. In addition, the cost of these items will be closely related to the number of livestock or area cropped. In Table 4.3 an appropriate proportional increase in these costs was added to account for a stocking rate increase of 10% and a price rise of approximately 2%. Also, additional livestock are planned to be purchased and excess funds have been invested off-farm.

Payments for items such as development, fertiliser, hay, plant and machinery purchases will depend on the management plans for the coming year. These items should be planned well ahead so that this cost is known when the cash budget is drawn up.

Debt-servicing costs are usually fairly easy to predict because they are specified as part of the loan agreement. However, if interest rates can be increased under the agreement, and this appears likely, then the increase in debt-servicing costs should be allowed for in the budget. In this example, annual debt-servicing costs increased by 2% due to an interest rate rise.

Much the same procedure is used for the prediction of cash receipts, although it is influenced by greater uncertainty. Most of the receipt items in the budget shown in Table 4.3 are related to the number of livestock carried on the property. Due to the increased stocking rate, a proportionate increase in beef production and stock sales was assumed (approximately 12% for stock increase plus inflation).

There may be difficulties involved in predicting price levels at the time when the budget is drawn up because of the uncertain future of commodity prices. It is therefore advisable to prepare the budget with fairly conservative estimates so that unnecessary risks are not taken. It may also be of value to prepare the budget using a range of prices to give an indication of the effect these will have on the cash flow. Computer-based spreadsheets are ideal for this form of analysis as a number of budgets can be prepared based on worst, best and average scenarios.

Once the predicted changes and management plans have been decided upon and entered into the cash flow budget, it is necessary to add the effect of the goods and services tax (GST). Taxation is discussed in detail in Chapter 7, however some mention of GST needs to be made at this stage. The GST legislation requires the business sector to collect GST on certain goods and services supplied to consumers. The GST collected is then off-set against any GST paid on business inputs. Each quarter eligible businesses submit a Business Activity Statement (BAS) to the tax office which will show if the business has a net positive or negative GST amount. A positive GST amount means that the business has collected more GST than it has paid on inputs, and this amount must be paid to the tax office. If the opposite is true the business will be entitled to a refund from the tax office.

In Table 4.3 the GST collected as a cash inflow is 10% of the total sales (excluding GST) for that month and the GST paid is 10% of the costs (excluding GST) incurred that month excluding: interest on loans, principal payments, drawings, off-farm investments and PAYG instalments which are not subject to GST. GST is included in the shearing contractor fee because contract fees are subject to GST whereas employees' wages are not. Each quarter an estimated BAS payment or refund can be determined by adding up the

Table 4.3 Monthly cash flow budget (Year 2)

Opening balance	**32,227**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**April**	**May**	**June**
Cattle sales	**221,762**		13,894	22,344					28,896	35,497	40,639	40,246	40,246
Sheep sales	**13,306**					10,842			2,464				
Wool sales	**2,296**						2,296						
GST collected	**23,737**		1,389	2,234		1,084	230		3,136	3,550	4,064	4,025	4,025
BAS refund													
Total cash available	**261,101**		15,283	24,578		11,926	2,526		34,496	39,047	44,703	44,271	44,271
Sheep costs													
Dip	**408**					408							
Drench	**1,020**								1,020				
Shearing	**255**					255							
Shearing wages	**408**					408							
Selling costs	**627**					420				207			
Vaccine	**153**				153								
Other	**357**	204				153							
Cattle costs													
Stock ID	**255**										153	102	
Spray	**765**									765			
Drench	**2,040**			1,122	102				306	510			
Other	**459**							204		255			
Selling costs	**13,198**			1,275					816	1,316	3,035	3,208	3,548
Vet	**1,428**	255							510		255		408
General farm cost													
Cartage	**3,723**	1,530		459				510	510	255		255	204
Fertiliser	**32,640**		8,160									24,480	
Fodder	**3,774**		51		51				3,621			51	

Fuel & oil	**4,896**	408	408	408	408	408	408	408	408	408	408	408	408
Work clothes	**357**						153				102	102	
Pest control	**102**						51				51		
Electricity – farm	**612**			153			153				153		153
Repairs	**11,850**	1,750	1,950		850		400	700	1,200	3,200	200	1,100	500
Rates	**1,450**			300			300		300	250		300	
Seed	**2,400**						1,200				1,200		
Shelter trees	**900**			400								500	
Sundries	**2,250**	250	200		200	200	200	200	200	200	200	200	200
Administration costs													
Accounting	**2,000**									2,000			
Bank charges	**600**	50	50	50	50	50	50	50	50	50	50	50	50
Journals	**720**	60	60	60	60	60	60	60	60	60	60	60	60
Other	**750**	150	150			150			150			150	
Phone	**2,400**	200	200	200	200	200	200	200	200	200	200	200	200
Finance costs													
Interest on loan	**21,456**	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788
Principal	**16,500**	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375
Cattle purchases	**20,000**									10,000	10,000		
Sheep purchases	**25,000**									25,000			
Drawings	**26,865**	2,400	1,900	1,990	2,450	2,150	1,980	2,350	2,160	2,400	1,875	2,450	2,760
Off-farm investment	**35,000**										15,000		20,000
PAYG instalments	**18,679**			4,500			3,150			5,429			5,600
GST paid	**13,781**	486	1,123	443	207	271	318	233	935	4,468	1,607	3,117	573
BAS payment	**9,957**			1,572			518			1,050			6,817
Total cash required	**280,035**	10,906	17,415	16,095	7,894	8,296	12,304	8,078	15,609	61,186	37,712	39,896	44,644
Surplus/deficit	**(18,934)**	(10,906)	(2,132)	8,483	(7,894)	3,630	(9,778)	(8,078)	18,887	(22,139)	6,991	4,375	(373)
Running balance	**13,296**	21,321	19,189	27,672	19,778	23,408	13,630	5,552	24,439	2,300	9,291	13,666	13,293

total GST collected for the previous three months and subtracting GST paid for the same period. Although GST does not influence any other business reports, it is important that the cash flow implications of GST are included in the budget.

The business's Pay-As-You-Go (PAYG) liability for the year must also be estimated as this too has an impact on the yearly cash flow. The PAYG system requires estimated business taxes to be paid to the tax office periodically (normally quarterly) during the current year. When preparing the cash flow budget it is usually acceptable to use last year's PAYG figures unless the business expects a significant variation to its operating profit. If this is the case it will be necessary to prepare a budgeted profit report so that a more accurate estimate of tax can be arrived at with assistance from an accountant.

The cash flow budget in Table 4.3 indicates that there is a good chance of carrying out the proposed management plans as the budget indicates that a cash surplus can be maintained. However, before such a prediction is made, it is very important to appreciate that a cash budget is not intended as a straightjacket but must be used to assist with the planning process, which will involve the continuous review and adjustment of the budget.

Price/cost level uncertainty

Before the budget is accepted the most important assumptions on which it is based should be reconsidered. For example:

- Are the assumed levels of production likely to be achieved? A budgeted livestock schedule or production budget would be required to determine if the increased production or stocking rate were physically possible.
- If fertiliser or some other input is a major component of total costs, has a realistic price been assumed? Where feed, seed, etc. are a significant factor a separate individual budget may be required to arrive at the predicted costs.
- Are the chosen product prices too optimistic?

For example, if the beef price deteriorates more than budgeted, it would be necessary to rework the budget as beef price is a key variable and could greatly influence the net cash flow. Assuming a price level of approximately 30% below last year, the revised cash flow would be as shown in Table 4.4. A price decrease such as this is not uncommon with agricultural commodities and as demonstrated can have a major impact on management plans. Under these circumstances, the business would find it more difficult to meet the commitment to buy the number of livestock planned, and it may be necessary to arrange additional overdraft accommodation in case any unexpected cash outflows occur. In this example, the cash flow budget has indicated that there should be a careful review of progress throughout the year, and evasive action taken at an early date, should prices decline further.

Gathering forecast data

Budget forecasts are of little value unless they are based on sound research and realistic data. Generally the more research put into the initial stages of budget preparation the more accurate the budget. Also, those businesses that regularly monitor and review the

budget throughout the year are able to maintain more accurate projections. A wide range of resources are available for obtaining up-to-date and relevant data for the preparation of budgets and some of these are mentioned below and also listed in Appendix 1.

Data regarding medium to long-term prices can be obtained from a number of sources such as futures trading reports, the Australia Bureau of Agricultural and Resource Economics (ABARE), producer representative groups and government agricultural departments. Information concerning weather and seasonal conditions is readily available from the Bureau of Meteorology, long-term weather forecasters, local weather stations and other farmers. Economic indicators are readily available from the government, banker associations and the Reserve Bank of Australia. Private forecasters such as individual banks, large accounting firms, business associations and the like often provide useful data. However, regardless of the source of information, it is important to ensure that it is current and that not too much emphasis is placed on data from one particular source as this can be less reliable.

Budget revision

The aim of a cash budget is to predict the level and timing of peak debt and cash surpluses so that plans can be made to avoid a cash crisis and make best use of surplus funds. As the year proceeds and more information comes to hand, budget predictions should be revised to reflect current trends in costs and prices. In most cases it is sufficient to review the cash budget every three months, but where liquidity is tight more frequent revision will be necessary. Revision can be timed to occur immediately after major operations such as lamb marking and crop harvest so that more reliable estimates can be made.

The simplest method of revising the cash budget is to work through the original estimates and change any item that has altered or is likely to. The running balance must then be recalculated to indicate the revised cash flow. Financial management software provides facilities to automatically create a budget based on the previous year's actual cash flows and most packages will also index the figures for inflation. However, the planning and fine tuning still needs to be carried out based on the principles as discussed above.

Electronic spreadsheet software is also very useful for preparing budgets as all the calculations can be automated. In addition to the convenience and accuracy spreadsheets offer, automatic calculation enables 'what-if' analysis to be easily performed. For instance, a correctly constructed spreadsheet will automatically recalculate all totals and running balances to answer 'what if feed costs were to increase by 40%, or as demonstrated in Table 4.4, beef prices were to reduce by 20%?' Spreadsheets are also useful for creating a budget for a new venture where existing or actual data is not available. The spreadsheet enables various combinations of assumptions on prices and costs to be tested so that the level of risk can be more easily assessed. It is recommended that at least three budgets be created based on the most optimistic, average and the worse-case scenarios, to help management to appreciate the level of risk involved and establish appropriate strategies should circumstances change.

Table 4.4 Cash flow budget assuming 20% lower beef prices

Opening balance	**32,227**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**April**	**May**	**June**
Cattle sales	**158,401**		9,924	15,960					20,640	25,355	29,028	28,747	28,747
Sheep sales	**13,306**					10,842			2,464				
Wool sales	**2,296**						2,296						
GST collected	**17,401**		992	1,596		1,084	230		2,310	2,536	2,903	2,875	2,875
BAS refund	**790**									790			
Total cash available	**192,194**		10,916	17,556		11,926	2,526		25,414	28,681	31,931	31,622	31,622
Sheep costs													
Dip	**408**					408							
Drench	**1,020**								1,020				
Shearing	**255**					255							
Shearing wages	**408**					408							
Selling costs	**627**					420				207			
Vaccine	**153**				153								
Other	**357**	204				153							
Cattle costs													
Stock ID	**255**										153	102	
Spray	**765**									765			
Drench	**2,040**			1,122	102				306	510			
Other	**459**							204		255			
Selling costs	**13,198**			1,275					816	1,316	3,035	3,208	3,548
Vet	**1,428**	255							510		255		408
General farm cost													
Cartage	**3,723**	1,530		459				510	510	255		255	204
Fertiliser	**32,640**		8,160									24,480	
Fodder	**3,774**		51		51				3,621			51	
Fuel & oil	**4,896**	408	408	408	408	408	408	408	408	408	408	408	408

Work clothes	**357**						153				102	102	
Pest control	**102**						51				51		
Electricity – farm	**612**			153			153				153		153
Repairs	**11,850**	1,750	1,950		850		400	700	1,200	3,200	200	1,100	500
Rates	**1,450**			300			300		300	250		300	
Seed	**2,400**						1,200				1,200		
Shelter trees	**900**			400								500	
Sundries	**2,250**	250	200		200	200	200	200	200	200	200	200	200
Administration costs													
Accounting	**2,000**									2,000			
Bank charges	**600**	50	50	50	50	50	50	50	50	50	50	50	50
Journals	**720**	60	60	60	60	60	60	60	60	60	60	60	60
Other	**750**	150	150			150			150			150	
Phone	**2,400**	200	200	200	200	200	200	200	200	200	200	200	200
Finance costs													
Interest on loan	**21,456**	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788	1,788
Principal	**16,500**	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375
Cattle purchases	**20,000**									**10,000**	**10,000**		
Sheep purchases	**25,000**									**25,000**			
Drawings	**26,865**	2,400	1,900	1,990	2,450	2,150	1,980	2,350	2,160	2,400	1,875	2,450	2,760
Off-farm investment													**No longer possible**
PAYG instalments	**18,679**			4,500			3,150			5,429			5,600
GST paid	**13,781**	486	1,123	443	207	271	318	233	935	4,468	1,607	3,117	573
BAS payment	**4,411**			537			518						3,356
Total cash required	**239,489**	10,906	17,415	15,060	7,894	8,296	12,304	8,078	15,609	60,136	22,711	39,896	21,183
Surplus/deficit	**(47,295)**	(10,906)	(6,499)	2,496	(7,894)	3,630	(9,778)	(8,078)	9,805	(31,455)	9,219	(8,274)	10,439
Running balance	**(15,068)**	21,321	14,822	17,318	9,424	13,054	3,276	(4,802)	5,003	(26,452)	(17,233)	(25,507)	(15,068)

Overdraft facilities

Most short-term cash deficiencies will be financed through the use of overdraft or credit card facilities. These are generally the most convenient options as interest will only be charged on the actual level of funds used. It is therefore important to include the estimated cost of interest on the expected overdraft or credit card in the cash flow, as this gives a more complete picture of cash requirements. Interest is usually calculated on a daily basis and added to the account quarterly.

Summary

From the examples shown in this chapter, it can be seen how the cash budget is used as an important management control mechanism throughout the year. Planned business goals can commence for the year and carry on as planned for the first quarter at least, while monitoring closely production and price levels. If at the end of this period the cash flow statement indicates a significant deficiency towards achieving the projected cash target, then it may still be possible to take appropriate action to avoid a critical cash shortage.

Alternative courses of action should be investigated and prioritised according to their long-term effect on after-tax profit. Strategies such as extending overdraft facilities, restructuring financial arrangements (see Chapter 9), delaying development projects, postponing stock purchases, bringing stock sales forward, generally reducing expenditure and the disposal of nonessential capital assets may be considered.

The cash budget will provide an advance warning of the likely magnitude of any cash problems should commodity prices decline or costs increase. Being forewarned of these problems will give management the opportunity to plan, and reduce the cost and inconvenience of any cash shortage.

Appendix 1 Internet resources

Agricultural representative groups and associations

www.wisbis.qut.edu.au – Target10 consultancy assistance
www.farmcentre.com – Canadian Farm Business Management Council
www.nre.vic.gov.au/ – Search for Target 10 toolshed
www.vff.org.au – VFF
www.nff.org.au – NFF
www.wisbis.qut.edu.au – Women in small business site
www.sydneymarkets.com.au/index.html – Sydney fresh food market
www.farmassist.com – FarmAssist
www.mla.com.au/ – Meat and Livestock Australia
www.racingvictoria.net.au/ – Racing Victoria
www.dairypage.com.au – Queensland Dairyfarmers' Organisation
www.bankers.asn.au/ABA/Online/netscapedefault.asp – Australian Bankers Association
moneymanager.smh.com.au/tools/calculators/index.html – Money manager
www.cannex.com.au/ – Finance providers group
www.infochoice.com.au/default.asp – Info Choice
www.worldlyinvestor.com/ – Investments worldwide
www.allianz.com.au/ – Insurance
www.realestate.com.au – Real estate directory
www.farmhub.com.au/portal/alias__farmhubau/tabID__0/DesktopDefault.aspx – Farm machinery finder
vichorse.potts.net.au/ – Horse directory
money.netscape.cnn.com/default.jsp – Money and business

News groups and journals

abc.net.au/rural – ABC rural new briefs
www.museum.vic.gov.au/futureharvest/fffuture.html – Includes case study farms
abc.net.au/landline – Landline news and coverage

Government

www.environment.vic.gov.au – Environment and natural resources and links to other very useful sites
www.abareconomics.com/ – ABARE
www.rirdc.gov.au – Rural Industries Research and Development Corporation
www.agric.nsw.gov.au – NSW Agriculture
www.nla.gov.au/oz/stats.html – National Library of Australia stats
www.oesr.qld.gov.au/ – QLD Government stats site
www.dpi.vic.gov.au/dpi/index.htm – Department of Primary Industries, Victoria
www.affa.gov.au/index.cfm – Department of Agriculture, Fisheries and Forestry
www.lwa.gov.au – Land and Water Australia
www.vic.gov.au/index.jsp – Victoria Online

www.business.channel.vic.gov.au – Business Channel
www.business.gov.au/ – Business Entry Point
www.geoinvestor.com/statistics/australia/economicdata.htm – Globalshare Australian Economy
www.businessaccess.vic.gov.au/web/sbv/sbvsite.nsf/pages/sbvhome – Business Access
www.nre.vic.gov.au/ – Search for Monitor Farm Project
budget.farmonline.com.au/ – Farm budgets
www.oultwood.com/index.html – Local government website index
www.ato.gov.au/docs/INBTable3.xls – ATO industry benchmarks
www.land.vic.gov.au/land/lcnlc2.nsf/Home+Page/Land+Channel~Home+Page?open – Government land site
www.nt.gov.au/dbird/dib/business/documents/dir3/doc505103.html – Northern Territory Government

General agricultural information

www.sbdc.com.au/ – Small Business Development Corporation
www.sport.vic.gov.au/web9/srvsite.nsf/pages/srvhome – Racing and sport
www.farmhub.com.au/hm.asp – Farm equipment and machinery
www.realestate.com.au – Rural property details
www.geoinvestor.com/statistics/australia/economicdata.htm – Economic data
www.medbioworld.com/bio/journals/bio-journals.html – Good links to agricultural sites worldwide
www.afbmnetwork.orange.usyd.edu.au/papers/ – Rural discussion and papers from the University of Sydney
www.wisbis.qut.edu.au/ – Women in Small Business site
www.awbc.com.au/ – Australian Wine & Brandy Corporation
winetitles.com/awol/publications/ – Australian Wine Online
www.business.channel.vic.gov.au/ – See industry sector overviews
www.crcv.com.au/links/ – Corporate Research Centre for Viticulture
www2.visitvictoria.com/ – Tourism Victoria
www.gwrdc.com.au/ – Grape and Wine Research Development Corporation
www.cranston.com.au/links_viticulture.html – Cranston Australia useful links
www.aglinks.com.au/Viticulture/Associations/ – Aglinks for Viticulture
www.winewa.asn.au/10562.htm – Wine Industry Association WA
www.winediva.com.au/orgs/orgsAZ.asp – Wine industry organisations in Australia
www.nswwine.org.au/winelinks.htm – Wine Industry Association NSW
www.fosters.com.au/ – Wine Making
www.wfa.org.au/ – Wine Makers Federation of Australia

5

Assessment of business equity

The statement of assets and liabilities is prepared to determine the owner's equity to assist with meeting legal responsibilities, give a measure of profit and net worth, assist with planning for succession and as a vital part of all loan applications. This statement gives valuable information on the viability of the farming business and can be used to detect problems arising from poor debt structure and high levels of debt.

Equity represents all claims against the business assets, whereas the owner's equity is the owner's claims to the business assets after claims by external parties have been satisfied.

Owner's equity = business assets – business liabilities

Owner's equity therefore represents the owner's investment in the business and is a measure of the funds that would be returned to the owner if the business were to be liquidated and all creditors were paid. The level of profit earned using this equity is a major performance indicator which can be used to assess how well the business has been managed.

The finance sector also places considerable importance on the level of equity held when determining a business's borrowing capacity, because the level of equity is a good indicator of a business's viability. For instance, organisations with a high level of debt compared to their total assets will need to utilise their assets more efficiently than an organisation with a lower level of debt, as debt-servicing costs will form a greater portion of their expenditure. A business with high levels of equity is therefore considered by lenders as a better lending risk.

This chapter develops a system for the construction of a statement of assets and liabilities which is the primary statement used to value owner's equity. This statement is alternatively referred to as a balance sheet but for the purposes of this text the statement

Table 5.1 Statement of assets and liabilities as at June 30

Current assets	$	$	Current liabilities	$	$
Bank	24,210		Mortgage loan	15,144	
Stock of grain	5,000	29,210	Provision for tax	410	
			GST owing	nil	15,554
Working assets			**Non-current liabilities**		
Livestock	158,000		Mortgage loan		153,858
Plant and machinery	65,905	223,905			
			Owner's equity		
Non-current assets			Equity from last year	1,070,000	
Land and improvements		980,000	Plus profit after tax	29,703	
			Less drawings	(36,000)	1,063,703
		$1,233,115			**$1,233,115**

of assets and liabilities is preferred as it provides a better description of what information the statement contains.

Statement of assets and liabilities

The statement of assets and liabilities provides a summary at the end of each accounting year of the market value of the organisation's resources (assets) and the amounts owing to its creditors (liabilities). Owner's equity is then calculated by deducting the total liabilities from the total assets. A typical format for this statement is shown in Table 5.1.

The business represented by the statement of assets and liabilities in Table 5.1 has an owner's equity of $1,063,703. However, measuring equity in total dollar terms has limited meaning and it is more useful to report equity as a percentage of total assets. This measure is know as *percentage equity* and is calculated as follows:

Percentage equity = owner's equity *as a percentage of* total assets

From Table 5.1 the percentage equity is calculated as 86% (($1,063,703/1,233,115) × (100/1)), which means that of the total assets of the business 14% is required to repay debt and the remaining 86% (percentage equity) represents the owner's claim on the assets of the business. A business with 86% equity combined with good cash flow and a reasonably strong market would normally be considered as a secure enterprise.

In Chapter 2 a statement of assets and liabilities was prepared as part of the recording system outlined. This report is prepared from the end-of-year summaries and principally involves the valuation of all assets and liabilities. Detailed discussion was provided on the methods of arriving at these values except for the value of land and improvements which is dealt with in this chapter.

In Table 5.1 both assets and liabilities are classified into further sub groups; this grouping is carried out to permit further detailed analysis of the business. Chapter 9

provides discussion of the methods used to carry out such analysis. The headings used are as follows:

- **Current assets:** include cash and other assets that will be converted into cash or used by the business within one financial year.
- **Working assets:** those assets with an expected life of more than one year (excluding non-current assets below) used by the business to generate income during the financial year.
- **Non-current assets:** those assets that will not be converted into cash or used up by the business within the current financial year.
- **Current liabilities:** business obligations that will fall due during the current financial year.
- **Non-current liabilities:** business obligations that will fall due in a future financial period.
- **Owner's equity:** how equity has changed from the start to the end of the year. Business profits increase equity and drawings reduce equity. In Table 5.1 owner's equity has in fact reduced as drawings were larger than profit for the period.

The mortgage loan shown in Table 5.1 is split between current and non-current liabilities because part of this loan will be payable in the coming financial year. Two columns have been used in the statement so the sub totals of different classes of assets and liabilities can be shown. These sub totals will be used in further financial analysis of the statement.

Valuation of land and fixed improvements

As the value of land cannot easily be separated from the value of its fixed improvements, these assets are normally valued together. Earlier in the text it was stated that assets should be valued at their current market values. However, this can cause problems as far as land and improvements are concerned, because it may lead to artificial changes in the level of owner's equity. Even though it is important to reflect the effect of changing land prices in the calculation of equity, it is not reasonable to distort it with short-term fluctuations in land prices.

Land values (together with any improvements) tend to fluctuate but they generally follow a trend over a longer period. If the changing market value of land is not taken into account between the beginning and end of the accounting year, then the true change in equity for that year will not be shown. However, land can seldom be valued accurately at the end of each year because of fluctuating prices and insufficient sales of comparable businesses in the same district. Under these circumstances, an alternative approach would be to revise the value of land and improvements every three to five years, and average the change over that period. The average change in equity over a period of years would then become a more reliable measure of financial progress.

Valuations by a registered valuer, or those used by local council in assessing property rates and taxes, can be used as a guide to current value. Arriving at a reasonable valuation is important because it influences tools used to measure profitability such as percentage return to equity. Although business performance and analysis are covered in detail later in this text it is useful to demonstrate the concept at this stage. For example,

the business shown in Table 5.1 earns a profit of $36,574 ($29,703 after tax as shown in Table 5.1) giving a percentage return to equity as follows:

$$\text{Percentage return to equity} = \frac{\text{profit}}{\text{opening equity}} \times \frac{100}{1}$$

$$3.4\% = \frac{36,574}{1,070,000} \times \frac{100}{1}$$

This return to equity of 3.4% can then be compared to previous years' performances, the performance of others in the industry, long-term share market yields or market interest rates, etc., to obtain a measure of comparable profitability.

Revaluation of land and improvements by $200,000 would substantially reduce the percentage return to equity as shown below:

$$2.9\% = \frac{36,574}{1,270,000} \times \frac{100}{1}$$

This represents a substantial change to the perceived level of performance and clearly demonstrates the importance of the valuation methods employed. The calculations presented have been simplified for illustrative purposes only; more detailed analysis is covered later in the text.

Calculation of owner's equity

A simple method of calculating equity involves totalling the value of all business assets and subtracting from this the total of all liabilities. This method of calculating equity does not explain how the equity changes from one year to the next nor does it provide any measure to check the accuracy of the data presented in the statement. When preparing financial records, the statement of assets and liabilities represents an important checking mechanism because the owner's equity is calculated separately and then entered into the liabilities side of the statement of assets and liabilities to make total liabilities equal to total assets. The following calculation from Table 5.1 shows how the closing equity is calculated from the financial records.

Equity at start of the financial period	$1,070,000
Plus profit after tax for the period	$29,703
	$1,099,703
Less drawings (private costs)	$36,000
	$1,063,703
Plus or minus changes to the property value	nil
Equity at end of the financial period	**$1,063,703**

This method of determining equity highlights the importance of preparing a statement of income and expenditure prior to completing the statement of assets and liabilities. This is because the profit figure plays a significant role in explaining how equity has changed during the year. Once the equity at the end of the year has been calculated it forms the

balancing figure in the statement of assets and liabilities. If the statement is not in balance the error must be detected to confirm that the financial records are accurate. Common errors include simple mathematical mistakes, using an incorrect numeric figure, errors in the statement of income and expenditure or missing an item entirely.

Provision for taxation

Income tax liabilities arise as income is earned even though it may not be paid until some later date. It therefore follows that at any point in time a liability to tax will exist, and this liability must be shown in the statement of assets and liabilities to give a true indication of the business's worth. Assets acquired since September 1985 may also attract capital gains tax and if this is significant some estimate of this liability should be shown.

At the same time as drawing up the statement of assets and liabilities, it will be necessary to consider two aspects of tax liability. First, any tax assessment that has been received but not paid should be recorded as a known tax liability. Second, tax on income that has not yet been assessed should be estimated and recorded as a *provision for income tax* and listed as a liability against the farm's assets.

For example, where the farm's statement of assets and liabilities is prepared as at the 30 June, it is unlikely that any tax from the previous financial year will still be outstanding, so the provision for tax could be determined once the tax return has been prepared and the taxable income calculated. Assistance may be sought from the tax accountant to give an estimate of tax due. In Table 5.1 the business had paid Pay-As-You-Go (PAYG) instalments during the past year but by estimating the actual tax due on the business's end-of-year profit it was identified that an additional sum of $410 was owed to the tax office. Tax on the net profit of $36,574 was calculated as follows:

Tax on net profit*	6,322
Medicare @ 1.5% of net profit	549
Tax payable	$6,871
Less PAYG instalments	6,461
Refund/(Payment)	**($410)**

* Note, tax rates change from time to time, current rates can be accessed through the tax office.

Where the statement of assets and liabilities is prepared at some other date during the year it will be necessary to first record any liability that has been assessed but not paid, and second calculate the tax liability that may have arisen since the last tax assessment. Again, the taxation accountant may be able to assist, with the aid of the farm income statement, in estimating the tax liability that has arisen since the last assessment. Under normal circumstances the tax assessment from the previous financial year is a good basis for such an estimate.

A provision for Goods and Services Tax (GST) discrepancies must also be made as the end of the financial year for income tax purposes doesn't always neatly match that of the business activity reporting period. A simple method of estimating monies owed to, or by,

the tax office involves adding the GST collected and any business activity refunds shown in the cash flow statement, and subtracting GST paid plus any business activity payments. If the business has collected more than it has paid out, a current liability exists. The opposite is the case where the payments have exceeded those collected and this would represent a current asset due to the fact that a refund is expected in the near future.

In the example shown in Table 5.1 the calculation was as follows:

Cash inflows	
GST collected on business income	$16,153
Business activity refunds	nil
Total	**$16,153**
Cash outflows	
GST paid on inputs	$ 5,703
Business activity payments	$10,450
Total	**$16,153**

Net difference is nil and there is no effect on the statement of assets and liabilities.

Owner's equity and net worth

Once realistic market values have been attached to all business assets and liabilities, the statement of assets and liabilities can be completed by the calculation of owner's equity.

Equity = business assets – business liabilities

It should be noted that this calculation shows the equity in the business only. There may be other personal assets and liabilities but these are not to be included in the business statement, as these are not related to its operation. Personal assets and liabilities may be presented in a separate statement as outlined in Table 5.2. The personal statement of assets and liabilities provides an estimation of the net worth of each individual involved in the operation and can be calculated as follows:

Net worth = personal assets – personal liabilities

Personal assets are usually classified into two broad categories, non-productive and productive, whereas personal liabilities are generally left as a single class. Examples of this classification are given below and Table 5.2 presents the format for a statement of net worth.

Non-productive assets

- Life insurance
- Car
- House
- Personal bank accounts

Table 5.2 Personal net worth statement as at June 30

Productive assets	**$**	**$**	**Personal liabilities**	**$**	**$**
Equity in farm	1,063,703		Car finance	8,500	
Term deposits	10,000		XYZ Coop.	850	
Shares	8,000	1,081,703	Credit card	1,200	10,550
Non-productive assets					
Superannuation	8,500				
(Surrender value)					
Car	18,000				
Valuables	42,000	68,500	**Net worth**		1,139,653
TOTAL		**$1,150,203**	**TOTAL**		**$1,150,203**

Productive assets
- Owner's equity in farming business
- Owner's equity in other businesses
- Investments in interest earning deposits, shares, etc.

Personal liabilities (examples)
- Mortgage on house
- Hire purchase commitments on personal assets (in this case, a car)

Net worth will be of particular interest to creditors, especially if additional borrowing is being considered, or in the case of default on repayment of interest or principal. In some cases a lender's final course of action to recover debts owing will be the personal assets of the individuals involved in the business. In some cases creditors have rights to personal assets in the case of default on loans, the major exception being where the borrower is a company with limited liability provided no personal assets have been used to secure the loans.

The purpose of the statement of assets and liabilities

Legal requirements

Company regulations require the presentation of an annual report to the state corporate affairs office and as part of this report a statement of assets and liabilities is required. These legal requirements must be fulfilled and this will be made much easier if this statement is prepared as a regular part of the financial accounting process of the business.

A measure of profit

Change in equity provides a measure of profit, although a more sophisticated and useful measure will be considered in Chapter 6. Increases in equity indicate an increase in the owner's wealth and can be used as a general indicator of profit.

Table 5.3 Change in business equity

	Year 1	Year 2		Year 1	Year 2
Current assets	**$**	**$**	**Current liabilities**	**$**	**$**
Cash		**500**	Stock firm	12,500	**8,500**
Fodder on hand	4,000	**3,500**	XYZ Coop.	1,800	**1,250**
			Hire purchase	6,000	**6,000**
			Term loan	20,000	**20,000**
			Provision for tax	4,500	**5,400**
Working assets			Bank overdraft	18,200	**3,500**
Livestock	75,000	**78,000**			
Plant and machinery	180,000	**188,000**	**Non-current liabilities**		
			Hire purchase	12,500	**6,500**
Non-current assets			Term loan	100,000	**80,000**
Land and improvements	650,000	**650,000**			
			Equity	$733,500	**788,850**
	$909,000	**$920,000**		**$909,000**	**$920,000**

As assets and liabilities are valued at current market values, changes in equity demonstrate the change in value that would be received by the owners if the business were sold. Such a profit cannot be realised unless the business is sold and this may not be an option considered by the owners, but an increase in equity can be used to secure further borrowings that may be employed to expand operations.

In Table 5.3 the equity of the business has increased by approximately $55,380. More importantly the percentage equity has increased form 81% in Year 1 to 86% in Year 2 as a result. One possible explanation for this is that the owner has been pursuing a strategy of investing profits back into the business to reduce debt and replace assets.

The financial measure, change in net worth, indicates the financial progress that any individual is making after all expenses (business and personal) have been met. If the growth in net worth is not meeting expectations, then a full analysis may be necessary. Graphically the percentage net worth should show a gradual increase over time if the business is being managed successfully, and as a general aim the increase should be more than the inflation rate over the same period.

In Figure 5.1 the equity has clearly kept pace with inflation over the 10-year period shown and in the final year there appears to be an equity increase greater than the average inflation rate.

Succession planning

Preparation of a will and planning for passing of assets to members of the family requires careful planning and will be greatly assisted if a current estimate of net worth is available. An understanding of the value and income earning capacity of assets is necessary to make a well-reasoned decision regarding the manner in which assets are to be dealt with after death.

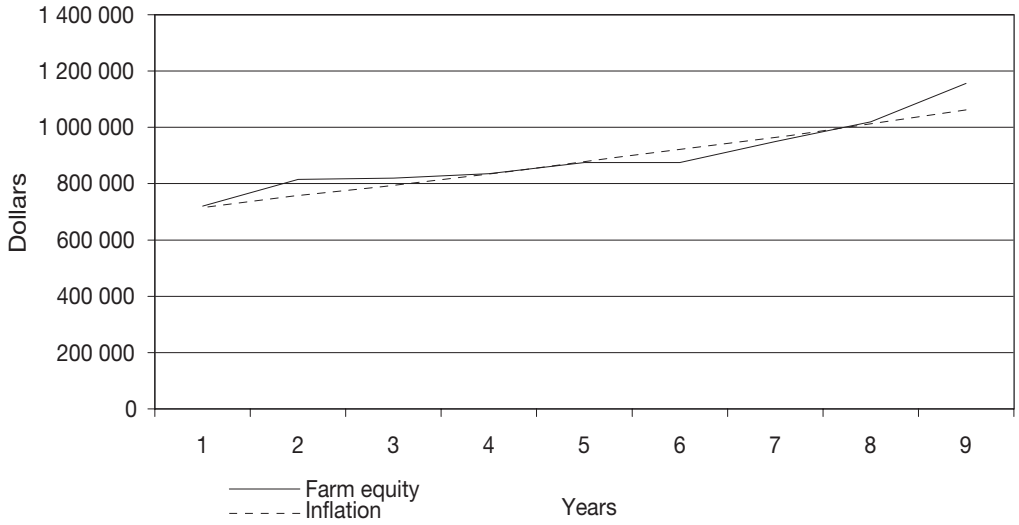


Figure 5.1 Changes to business equity over 10 years.

Equitable inheritance of family assets is a preferred option to avoid disputes and fragmentation of the family group in future years. In addition to this, the maintenance of the business as a going concern must also be addressed as clearly not every business is capable of providing for more than one family unit.

Loan applications

Both the cash flow budget and the statement of assets and liabilities form an important part of any loan application. These statements are used to demonstrate to the lender an ability to meet debt-servicing costs and the level of security that can be provided.

A well-presented loan application is a very important part of the process towards obtaining finance as it indicates a sound understanding of the financial status of the business, and shows that the loan application has been carefully considered and planned for. A detailed discussion of the important aspects of managing borrowed funds is provided in Chapter 12. Borrowing money is a formal procedure consisting of four essential steps.

Step 1 Project assessment

Before approaching any lender with a request for finance it is necessary to justify the proposition from a management point of view, that is, in terms of its profitability and whether or not it is practical and viable. A cash flow analysis will also be required to determine the amount of finance required. To do this the following procedure should be followed:

(i) Estimate the amount and timing of additional capital expenditure.
(ii) Indicate the nature, amount and timing of the anticipated additional income and costs associated with the proposition.
(iii) Combine all estimates of additional budget and expenditure into a detailed cash flow budget.

Step 2 The type of loan
Having completed the first planning step, it is then necessary to consider the type of loan that will best suit the project and the business's financial circumstances. The major consideration in choosing a loan will be the capacity to meet debt servicing commitments. An example of the approach to this problem was given in Chapter 4. In this example it was pointed out that the debt servicing requirements of the loan must be matched to the cash flow being generated by the farm. This was determined with the use of a cash flow budget.

For example, a dairy producer with regular cash flow may find monthly loan repayments to be a suitable arrangement, whereas a monthly repayment schedule would be unlikely to suit a wool producer relying on the yearly wool cheque as the major source of cash inflow for the year.

Step 3 Alternative sources of finance
Having decided on the type of loan required the next step is to investigate the different terms and conditions offered by various lenders. When comparing the different terms and conditions of the lenders it is very important to examine the administrative fees charged, as well as the interest rates, as these additional charges can be quite substantial and increase the overall cost of the loan. Repayment conditions are another important consideration as they will also affect the ability to meet the debt-servicing costs.

Step 4 The Approach to the lender
Requests may fail at this stage due to an inability to present a complete picture of the proposed project and the financial situation of the business. Many lenders may not understand the operation of the particular enterprise and may not appreciate the effect of the proposal on future profits. For example, a farmer may know that improving the farm's laneways to improve stock movement will be profitable because it will save time and will enable the stocking rate to be increased. However, the bank manager may find it difficult to understand why such improvements are necessary, let alone a sound investment, unless the proposal is presented in a clear and logical fashion and is supported with a complete financial analysis of the project.

Loan applications are most likely to meet with success when the applicant realises that the lender has certain requirements that must be satisfied before a loan will be granted. The lender is interested in four main aspects of the proposition: personal attributes, the project, risk-bearing liability and repayment capacity.

Personal attributes
Most lending institutions place considerable emphasis on the personal attributes of the borrower, such as: the manner in which the request for finance is presented, past experience in business, managerial capacity and diligence and previous dealings with the lender. Personal credit rating is also of considerable importance and has become more so with the rapid growth of computer credit records.

The project
The lender should be presented with a full budget for the proposal that outlines its profitability, effect on cash flow and debt servicing capabilities. Details of all the

assumptions made in the budget regarding prices, costs and output levels should be listed separately.

Risk-bearing ability

A statement of assets and liabilities for the business and a statement showing the net worth of the individuals involved in the business enterprise will be required by the lending institution. The lender will use these statements to assess the risk associated with the loan.

All assets and liabilities should be included at realistic market values as previously described. However, the lender will tend to take a more pessimistic approach to valuing assets because the lender is interested in the likely sale price if the property has to be sold due to an inability to meet debt-servicing costs. Under these circumstances the business could be run down and the general market depressed.

It is important that all assets and liabilities are listed, including off-farm investments, and that a complete statement of net worth be presented. Items such as hay, materials, stock and fertiliser on hand should not be overlooked. These are all important and should be included in the statement of assets and liabilities.

The lender will use the statement of assets and liabilities to assess the risk associated with the loan in the following way. First, the present equity level will be investigated to see how further borrowing will affect it. As an example, consider the statement presented in Table 5.4 which relates to a medium size dairying operation. Dairying has the advantage of being reasonably stable with respect to physical production and price, compared with other grazing industries. A proposal to lend further finance to a business with a current equity of 86% would be considered a reasonable proposition by most lending institutions, but this by itself wouldn't necessarily be enough.

Next, the lender will look in detail at the present debt structure of the business. A poor debt structure usually arises because loans are not secured in the most efficient

Table 5.4 Statement of assets and liabilities as at June 30

Current assets	**$**	**$**	**Current liabilities**	**$**	**$**
Cash			Stock firm	12,500	
Fodder on hand	4,000		XYZ Coop.	1,800	
Stock of grain	3,950	7,950	Provision for tax	5,500	
Working assets			Hire purchase loan	6,166	
Livestock	275,000		Mortgage loan	10,000	
Plant and machinery	180,000	455,000	Bank overdraft	18,200	54,166
Non-current assets			**Non-current liabilities**		
Land and improvements		950,000	Hire purchase	18,500	
			Mortgage loan	120,000	138,500
			Owner's equity		1,220,284
Total		**$1,412,950**	**Total**		**$1,412,950**

Table 5.5 Revised statement of assets and liabilities for the situation shown in Table 5.4

Current assets	**$**	**$**	**Current liabilities**	**$**	**$**
Cash	834				
Fodder on hand	4,000				
Stock of grain	3,950	8,784	Provision for tax	5,500	
Working assets					
Livestock	275,000		Mortgage loan	7,000	
Plant and machinery	180,000	455,000			12,500
Non-current assets			**Non-current liabilities**		
Land and improvements		950,000			
			Mortgage loan	181,000	181,000
			Owner's equity		1,220,284
Total		**$1,413,784**	**Total**		**$1,413,784**

manner. First mortgage security may have been offered for a relatively small loan hence reducing the business's flexibility to attract additional finance on this asset.

In the example presented in Table 5.4, the loan secured on first mortgage represents 14% of the market value of land and improvements and 67% of all liabilities, and most of the remaining debt is short to medium term. In fact it is worth making comment on the high level of short-term liabilities this business has; should the short-term or unsecured creditors demand immediate repayment, then a severe cash flow problem would arise and it may be necessary to sell productive assets in order to meet these commitments.

Table 5.5 demonstrates how the debt profile of the business could be restructured to make better use of the property as security and to remove some of the pressure facing this business in the short term. To achieve this, the short-term loans have been eliminated and the level of debt secured on mortgage has been increased to 20% of the value of the land and improvements. Increasing the amount of term loan finance has removed the higher interest costs associated with short-term loans and has reduced the risk of cash flow problems should the short-term debt be recalled.

The mortgage loan used in this case is considered to be a very flexible option and can be tailored to suit the needs of the borrower. Most conditions are negotiable and the ability to make early payments without penalty can be made a part of the contract. Restructuring the loans has increased the use made of the property mortgage and reduced the risks presented by the previously high level of short-term debt.

If the lender is interested in providing the loan, the next step in assessing the risk will be to look at the security the borrower can offer in return for the loan. In this case the property is used for security; however, there still appears to be sufficient equity to maintain the interests of the lending institution. If the lending institutions were not happy with the business's prospects the bank might be prepared to consider the proposal further. The lending policy of most banks considers the future prospects and not only on

the security that the applicant can offer. Should the bank be impressed with a proposal, it might be prepared to provide the finance and accept the mortgage security. In order to provide finance under such circumstances the lender would have to be certain that the earning capacity of the project, and of the business as a whole, was such that all debt servicing commitments could be met.

Repayment capacity
To make an assessment of repayment capacity the lender will investigate the projected cash flow to gauge the ability to service current and proposed borrowings. Banks tend to take a rather conservative approach to this exercise; hence overly optimistic budget forecasts should be avoided.

Summary

The statement of assets and liabilities is prepared to meet legal responsibilities, give a measure of profit and net worth, assist with planning for succession and contribute a vital part of all loan applications. This statement gives valuable information on the viability of the farming business and can be used to detect problems arising from poor debt structure and high levels of debt.

The loan application process described in this chapter demonstrates the importance of a well-prepared and considered loan proposal. However, it also shows the worth of the cash budget and the statement of assets and liabilities as valuable management tools for the assessment of alternative decisions. Even if borrowed funds are not required for a project under consideration, the same reports should be prepared to facilitate a complete analysis of alternatives and assist with the final decision.

6

Assessment of profitability

Income and expenditure

The profit motive is a strong driving force of the economy and, as such, *profit* rates high in the ranks of business performance measures. In the corporate sector management performance is fundamentally assessed on the profitability of the organisation, and as a result profit is the basis of all the major business performance ratios. The *return to asset* ratio is used to assess the income earning performance of the business assets. The *percentage return to equity* provides a measure of the income earning performance of the owners' capital, and the changes to equity from one year to another indicate the relative increase in both the business's and owners' wealth. In addition to being a key determinant of management and business performance there are four other reasons why the calculation of profit is necessary:

- taxation obligations
- drawings on profit by the owner/s
- management decisions on resource allocations
- finance and borrowing decisions.

In simple terms *profit* is the difference between revenue and the expenses incurred in earning that revenue for a specific period, normally the financial year. Confusion may exist between the terms *profit* and *cash flow* but the essential difference is that revenues and expenses can include both cash and non-cash items. Profit aims to match the revenue and expenses for the period regardless of when the cash transaction took place. In this chapter the distinction between cash flow and profit will be clarified, and detailed discussion is provided on the process that enables raw data from both the

financial and physical recording system to be transformed into a statement of income and expenditure.

Return to equity

In Chapter 5 it was suggested that the statement of assets and liabilities could be used to provide a measure of business profit. Using this approach the earning rate of the business's investment was assessed by expressing the change in equity for the period as a percentage of total equity. However, there are a number of problems associated with this approach. For example, it appears from Table 6.1 that business profit for the year is $2,000 (change in equity being $725,500 – 723,500), but suppose that the owner had taken money out of the business for private purposes leaving only $2,000 of the year's profit in the business. Under this scenario the business may in fact have made a profit of $42,000 but the owner withdrew $40,000 for personal use leaving only $2,000 as the increase in equity. Clearly a more accurate determination of profit is required.

Ideally a measure of business profit should not be influenced by such things as non-business income, personal expenditure, and capital gain (or loss) which occurs when land and fixed improvements are re-valued. Taxation should also be disregarded because payments will be influenced by personal factors such as private income and the number of dependants. A more useful measure of profit is provided when tax and personal expenditure are disregarded and profit is separated into two main components – operating profit and capital gain.

Change in equity as a measure of profit fails to fulfil either of these conditions so it is important to develop a measure of profit that meets these criteria. This chapter develops a more comprehensive measure of profit that is calculated through a statement of income and expenditure, which is sometimes referred to as a profit and loss statement.

The statement of income and expenditure is prepared at the end of each recording period and brings together all income and expenditure for that period. It can be used to gauge the overall profit from the business operation and gives an indication of the return received on the investment.

Table 6.1 Statement of assets and liabilities as at the end of the year

	Year 1	Year 2		Year 1	Year 2
Current assets	**$**	**$**	**Current liabilities**	**$**	**$**
Cash		1,000	Stock firm	12,500	8,000
Fodder on hand	4,000	2,000	XYZ Coop.	1,800	2,800
			Provision for tax	14,500	14,500
Working assets			Bank overdraft	18,200	26,000
Livestock	75,000	70,000	Term loan	10,000	10,000
Plant and machinery	180,000	195,000	**Non-current liabilities**		
			Hire purchase	18,500	30,200
Non-current assets			Term loan	110,000	100,000
Land and improvements	650,000	650,000			
			Equity	**$723,500**	**$725,500**
Total assets	**$909,000**	**$917,000**	**Total equities**	**$909,000**	**$917,000**

Before this statement can be drawn up, all expense and income items must be separated into a number of different categories as outlined in Chapter 3. However, not all of these categories will be included in the calculation of operating profit as they may relate to previous or future periods.

The concept of net income

Measurement of profit requires the comparison of income and expenditure for a particular period of time. Initially this appears simple, but one major problem exists, and that is the problem of determining which expenditure relates to the income earned during the relevant period. Many business expenses benefit a number of accounting periods, for example: lease purchases, asset purchases, bulk purchases of fodder, materials and fertilisers.

A simple comparison of cash receipts and cash payments will not give an accurate measure of profit because these items may not relate to the operations for the relevant period (for example, receipts for produce sold in the previous period are not income of the current period). Similarly, some cash payments will not be part of the calculation of profit because they may represent only a transfer of assets from one category to another. For example, the cash cost of purchasing a new item of equipment is not an expense against income, it is merely the conversion of the asset cash into another asset, in this case plant. The asset in this case would be used over more than one financial period to produce income and as such it is more accurate to apportion this cost accordingly.

Using the simple approach shown in Table 6.2 of matching the capital cost of an item against the income of the year in which it is incurred will give misleading information to managers. In this case the round baler purchased in Year 1 causes a substantial loss in that year but this asset will continue to earn income up to Year 5. A more accurate calculation of yearly profit is shown in Table 6.3.

There are a number of general principles that relate to the calculation of profit, but the most important of these is shown in the examples given and that is, the concept of matching income and expenditure for a given period. Income from a particular period must be the result of the operations carried out during that period only. Similarly, the

Table 6.2 Matching capital costs with income

	Year 1	Year 2	Year 3	Year 4	Year 5
Income					
Contracting fees	80,000	80,000	80,000	80,000	80,000
Total income	80,000	80,000	80,000	80,000	80,000
Expenditure					
Fuel	12,000	12,000	12,000	12,000	12,000
Repairs	4,000	4,000	4,000	4,000	4,000
Rego and insurance	1,200	1,200	1,200	1,200	1,200
Administration	400	400	400	400	400
Round baler cost	160,000				
Total costs	177,600	17,600	17,600	17,600	17,600
Net profit	**($97,600)**	**$62,400**	**$62,400**	**$62,400**	**$62,400**

Table 6.3 Matching capital costs with income

	Year 1	Year 2	Year 3	Year 4	Year 5
Income					
Contracting fees	80,000	80,000	80,000	80,000	80,000
Total income	80,000	80,000	80,000	80,000	80,000
Expenditure					
Fuel	12,000	12,000	12,000	12,000	12,000
Repairs	4,000	4,000	4,000	4,000	4,000
Rego and insurance	1,200	1,200	1,200	1,200	1,200
Administration	400	400	400	400	400
Round baler*	22,000	22,000	22,000	22,000	22,000
Total costs	39,600	39,600	39,600	39,600	39,600
Net profit	**$40,400**	**$40,400**	**$40,400**	**$40,400**	**$40,400**

* Depreciation details:

Round baler	$160,000
Expected trade-in value	$50,000
Life expectancy	5 years

Calculation of baler cost: ($160,000 – $50,000)/5 years = $22,000 per year

expenditure to be matched against that income must be the expenditure incurred in earning the income for that period.

It is this general principle of matching that gives rise to the idea of depreciation and the inclusion of changes in the value of livestock and other inventories in the calculation of profit. Increases in the value of livestock over a given period represent income for that period as they show an increase in wealth; the reverse also applies.

Example 1

Consider the following: A new business commences with the purchase of stock for $75,000. It would be incorrect to include the full $75,000 as an expense as some of this stock may still be on hand at the end of the accounting period. To make a valid assessment of profit the change in the value of stock from the beginning to the end of the period must be taken into account. Any increase in value would represent profit and any decrease in value would indicate a loss (for the sake of simplicity this assumes no other transactions).

In order to measure the profit of a business it is necessary to gather both the physical and financial summaries as discussed in Chapters 2 and 3. The summaries that will be referred to in the following discussion include:

- livestock schedule
- cash flow statement

- fodder and materials inventories
- debtors and creditors summaries
- asset register or depreciation schedule.

The following discussion introduces the individual categories of income and expenditure, and explains how these affect the calculation of profit through the statement of income and expenditure. It is important to note that business profit may differ from taxable income as the latter may use different methods of calculating depreciation and other expenditure and income. This chapter is aimed at calculating the business profit as a means of assessing business performance (tax issues are dealt with later in the book).

Income categories

Other income

These items of income are not included in the statement of income and expenditure and include income of a personal nature such as medical benefit rebates, interest on private investments, gifts, off-farm wages and other receipts not earned through the carrying on of the business.

Income from the sale of assets

Receipts from the sale of business assets are not directly taken into account in the statement of income and expenditure. These sales do not represent income but merely a conversion of assets from one type to another (for example, the sale of an item of equipment transfers the asset equipment to the asset cash). However, profit calculations do need to take account of any profit or loss on the sale of assets and these are accounted for through the calculation of the total depreciation of business assets. Profit or loss on the sale of an asset arises where an asset is sold for an amount above or below the item's *book value*. This book value or written down value (WDV) is the assets cost less total depreciation charges over its life.

Example 2

A tractor with a written down value of $5,000 was sold at a clearance sale for $5,940 ($5,400 excluding GST) including GST and the business was charged a $275 ($250 excluding GST) sales commission including GST by the auctioneer. The calculations for the profit or loss are shown below and GST is removed as it has no effect on business profit:

Income from tractor sale (excluding GST)	$5,400
Less commission charged (excluding GST)	$250
Net proceeds	$5,150
Less WDV at point of sale	$5,000
Net profit or (loss) on sale	**$150**

This simple example demonstrates how the sale of an asset that has been subject to depreciation can give rise to income earned on the sale of an asset. The example also emphasises the fact that GST does not flow through into the calculation of business profitability.

Capital gain

Capital gain describes the increase in value of capital assets and may be earned from investments in land and property development. For example:

Opening value of land and improvements (1 July)	$800,000
Total cost of land clearing and development during the year	$30,000
	$830,000
Closing value of land and improvements (30 June)	$850,000
Net gain	**$ 20,000**

Increase in capital value is taken into account in the statement of assets and liabilities, but both the capital expenditure ($30,000) and the capital gain ($20,000) are disregarded in the calculation of operating profit. Capital expenditure (like capital income) is excluded because it only involves the conversion of one type of asset (cash) to another (improvements) and represents neither a profit nor a loss for the business.

Capital gain (or loss) resulting from a change in the value of land and fixed improvements is not taken into account in the statement of income and expenditure, but may be considered as a benefit to the owner as it leads to growth in equity. By definition, the statement of income and expenditure is only concerned with the profit earned from the operation of the business and not profit from holding capital assets. The objective is to isolate the profit earned from business activities so a measure of the return to the owner's investment can be made. Capital gain will be considered in the final analysis of performance but it is not shown in the calculation of profit.

Business income

Business income arises from the sale of produce or the provision of services, but it may also be influenced by changes in the value of stock on hand. Changes in inventory values may be either positive or negative and therefore may add to, or reduce profit. Calculation of net income is therefore a function of sales plus the change in the value of stock on hand.

Net income = net sales + changes in inventory values for financial period

Trading income

Trading income is derived from the buying and selling of stock; this stock may be livestock or other commodities that the business normally deals in, for example, trading income earned from vealer or store enterprises, some prime lamb operations and most feed lots.

To determine the net income from trading it is first necessary to value closing stock (as described in Chapter 5) and calculate the change in value from the beginning to the end of the relevant period. Net sales must also be calculated by deducting total purchases of stock from total receipts from stock sales. In the situation where the cash has not been received for sales made during the year it is necessary to take account of the value of the stock sold, not just the dollar amount received. Similarly, if purchases have not been paid for, the total value of those purchases must be used as the cost, not just the cash payment. The first example demonstrates the method of calculating the income from trading and indicates the sources of the information required.

Example 3: Livestock trading

One hundred (100) steers were purchased early into the new financial year at a cost of $450 per head but due to a downturn in the market only 60 were sold before the end of the financial year. The 60 steers were sold for an average of $800 each, and the remaining 40 steers have a value of $800 each at the end of the year. Livestock trading income for the year would be calculated as follows:

Net income = (sales – purchases) + (closing value – opening value)

	Sales	(60 × $800)	$48,000
less	Purchases	(100 × $450)	$45,000
			$ 3,000
plus	Change in value (closing – opening = 32,000 – nil)		$32,000
Livestock trading income			**$35,000**

The information required for the calculation of trading income can be taken directly from the monthly cash flow statement and the livestock schedule. Total receipts from sales and the total cost of purchases are available from the cash flow statement, and the change in the value of inventories can be obtained from the statements of assets and liabilities for the last two years or the stock schedule itself.

It is important that changes in the value of stock on hand are taken into account in the determination of profit, because income is not influenced by the sale or purchase of assets unless they are sold for more or less than their current value. Cash can be raised by selling assets such as breeding stock, but this does not earn income unless the sale price is greater than their value to the enterprise. The same reasoning applies to the purchase of livestock. The purchase price will have no effect on business profit because the added livestock will be on hand at the end of the year so there is no loss to the business. On the other hand cash flow will be affected hence demonstrating the distinction between profit and cash flow.

Example 4: Livestock trading

Fifty (50) breeding heifers were bought to start a new breeding enterprise in July for $650 each. The heifers were inseminated during the year but will not calve until the next financial year. It is estimated that the heifers have not increased in value due to poor market conditions. The calculation of trading income is as follows:

	Sales	nil
less	Purchases (50 × $650)	$32,500
		($32,500)
plus	Change in value (closing – opening = 32,500 – nil)	$32,500
Livestock trading income		**nil**

There is no need to deduct the value of deaths from livestock income, because the reduced value of livestock on hand at the end of the year will mean that deaths will be accounted for automatically. However, the market value of livestock killed for private use should be included in stock income (see Example 5), as it constitutes a sale of stock from the business. This information can be taken directly from the stock schedule. Example 5 is more realistic and therefore more complex but follows the exact same principles as demonstrated in Example 3.

Example 5: Steer trading

At the beginning of the year 50 steers are on hand and are valued at $450 per head. During the year, one died and one was killed for private use. The rest are sold for $750 per head (average). A further 70 young steers are then bought at an average price of $370 per head and are valued at $400 per head at the end of the year. These transactions would be recorded in the monthly cash flow statement (Table 6.4), the statement of assets and liabilities (Table 6.6), and the livestock schedule (Table 6.5).

Livestock trading income would therefore be calculated as follows:

	Cash sales (48 × $750)	36,000
	Private use (1 × $750)	750
		36,750
less	Purchases (70 × $370)	25,900
Net sales		10,850
plus	Change in livestock on hand ($28,000 – $22,500)	5,500
Livestock trading income		**$16,350**

Table 6.4 Cash flow statement (extract)

	Total	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
Receipts													
Steer sales	36,000							**36,000**					
Expenses													
Animal health	5,342	1,400		120		140	2,625	1,001				56	
Feed	500								250		250		
Contractors	422			422									
Purchases	**25,900**			**25,900**									

Table 6.5 Livestock schedule

Type	No.	Cost each	Opening value	Purch. no.	Purch. cost	Purch. $	Birth	Sales no.	Sales price	Sales $	Deaths & rations	Closing no.	Cost	Closing value
Steers	50	450	**$22,500**	70	$370	**$25,900**		48	$750	**$36,000**	2	70	400	**$28,000**

Table 6.6 Statement of assets and liabilities (Extract)

Assets	Year 1	Year 2	Liabilities	Year 1	Year 2
Livestock	$22,500	$28,000	Bank overdraft	$1,000	$2,190

In this example, if the change in livestock value were not taken into account a lower trading income would have resulted, which would not be a reflection of the true profit as the increase in the value of stock represents a gain that has not yet been realised. Taxation treatment of this *unrealised gain* is similar to the method outlined and is covered in detail in Chapter 7. Stock taken from the business for private use must be considered as a sale because the business is accounted for separately from the owners. The approach used to calculate profit in this example can be used for all livestock enterprises or any other activity that involves the trading of goods.

Income from business produce

A similar approach to that used for livestock trading is also required to account for any change in the value of fodder or other produce held by the business as these changes influence the profitability of the business. Sales and any change in the level of inventories held must therefore be taken into account to ensure that the income for this period is matched against the expenditure for the same period. Two examples are used to demonstrate how the income from produce is calculated but it is still reliant on the basic principles described previously and follows the equation:

Net income = net sales + change in inventory value

Example 6: Wool sales

Wool valued at $7,000 is on hand at the start of the year, which is sold during the year. During the year wool worth $9,000 is produced and sold. There is no wool on hand at the end of the year.

Wool trading statement		
	Cash sales	16,000
plus	change in inventory value (opening – closing = nil – $7,000)	(7,000)
Net wool income		**$9,000**

Total receipts for the period were $16,000 because two lots of wool were sold ($7,000 held at the beginning of the period and $9,000 produced during the period). However, only $9,000 is income for the current period because produce from the previous production

year was recorded as income in that year, and as a result is excluded through the consideration of inventory change this year.

Where produce has been sold but payment has not been received by the end of the recording period, the value of the sale must be accounted for even though no cash has been received. This will occur where payments for produce extend over a number of years such as grain pool payments and goods sold on account or on credit.

Example 7: Payment not received in year of production

A dairy farmer receives a $8,950 back payment for the previous season's milk solids production. The farmer also receives $224,315 for the current season's production and an additional $8,000 is owing to the farmer at the end of the year. These transactions would be recorded in the cash flow statement (Table 6.7) and the statement of assets and liabilities (Table 6.8) as follows:

Table 6.7 Cash flow statement (extract)

	Total
Receipts	
Milk solids	$224,315
Back payment	$8,950

Table 6.8 Statement of assets and liabilities (extract)

Assets	Year 1	Year 2	Liabilities	Year 1	Year 2
Debtors	8,950	8,000			

During the year there has been a change in the amount owing to the business from the sale of milk solids and this amount must be considered as a component of total milk income earned during the year. Milk income will therefore be calculated as follows:

Milk trading statement		
	Cash sales	$224,315
plus	Change in debtors (8,000 – 8,950)	(950)
Milk trading income		**$223,365**

By using this approach the value of produce is always recorded as income in the year in which it is produced irrespective of when payment is actually received. For instance, in Example 7 the $8,950 back payment (see Table 6.8) was income for the previous year and

for the current year it is a receipt of a debt not income. The $8,000 earned this year but not yet received is income for this period and will be reported as a debt outstanding in the statement of assets and liabilities. This $8,000 must be added to the sales for the year to show the total value of this year's production.

Expenditure categories

Expenses can be categorised into four main areas: non-business expenditure, capital expenditure, operating expenditure and finance expenditure. It is important to appreciate that the matching principle also applies to the calculation of expenses in the same way as it applies to the calculation of income. Through this approach, revenue earned for the period is matched against only those expenses incurred in earning that revenue.

Non-business expenditure

Non-business expenditure is defined as those expenses not related to the operation of the business and can include:

- personal expenses – for example, living expenses
- income tax (GST is also excluded as this is not an expense)
- expenses associated with another business.

These expenses are excluded from the determination of business profit as they do not relate to the earning of income. Tax is influenced by the level of earnings from the business but it is also affected by income from other sources and it is a private liability to the government. For this reason profit is first calculated as an *operating profit before tax*. If the business is operated as a private company then it would be possible to establish the tax liability arising from the business because companies are taxed on their income separately. In this case a profit after tax could be calculated by deducting tax from profit.

Capital expenditure

A capital expense is one that leads to the acquisition of an asset or resource that will last for more than one year. This may be contrasted with an operating expense which is consumed within the production year. Expenditure on items such as land clearing, drainage, machinery or fencing will normally be of a capital nature. Such expenditure is normally recorded as fixed (non-current) assets and the expense associated with using such assets is referred to as wear and tear, more commonly known as *depreciation*.

Capital expenditure is not an expense of the period in which it is paid as the resource purchased has a useful life of more than one year. To determine the operating expense associated with the ownership of a capital item it is necessary to consider the annual costs of using or holding such an asset. For example, the purchase of an item of plant costing $15,000 could cause two effects. First, its market value is likely to change and second, the cost of replacing it (replacement price) is also likely to change. Two approaches can be used to estimate the annual cost of capital items and these are known as the *current cost* method and *depreciation*.

Current cost

The calculation of profit through the statement of income and expenditure is concerned with the annual costs of owning capital items, not its initial purchase price. With the current cost method the annual cost is measured by taking into account both the change in value, and the change in the cost of replacement of the item. For example, if at the end of the year the market value of an item of plant costing $15,000 had fallen to $13,000, and the cost of replacing it for a similar item had risen to $15,500, then the annual expense associated with this asset is $2,500. This is made up of:

	Decline in value ($15,000 – $13,000)	$2,000
plus	Replacement allowance ($15,500 – $15,000)	$500
		$2,500

This method of determining the annual cost of capital items accounts for the cost of replacing assets, but there can be difficulties in valuing these assets and determining reasonable replacement values particularly in periods of high inflation.

Depreciation

A more commonly used method of accounting for the annual expense associated with the ownership of capital items is through the calculation of depreciation. Depreciation is the process of writing-off the total cost of an asset over its expected life. For example, where an item of plant costing $15,000 is expected to last 10 years then one tenth ($1,500) would be charged against profit each year. Other methods of depreciation can be used (see later in this chapter) to calculate depreciation and some allowance may be made for the expected residual value of the asset at the end of its life, but despite some differences the concept of depreciation remains the same.

Comparison of current cost and depreciation methods

Of two methods discussed, the current cost method is preferred as it gives a better indication of the costs associated with the ownership of capital. It also means the statement of assets and liabilities can show all assets at their current market value, therefore giving a realistic measure of the owner's equity in the business. Use of depreciation takes no account of the changing cost of replacing assets and results in assets being recorded in the statement of assets and liabilities at a value that does not represent their market value. In times of lower inflation the depreciation method may provide a reasonable approximation of the capital cost as shown in Table 6.9.

Table 6.10 contrasts current cost value and common depreciation methods for a new tractor costing $45,000 at the start of the year. For current cost purposes the tractor is assumed to have a reduced value of $41,000 and a replacement value of $46,900 at the end of the year. The tractor has a life expectancy of 7 years and a residual of $10,000 at the end of its life. For diminishing value purposes the rate of 15% is used which is taken from the suggested rates released by the tax office.

Calculation used in Table 6.10:

Table 6.9 Depreciation schedule

Depreciation schedule for the end of year							
Date	**Description**	**Purch.**	**Sales**	**Opening WDV**	**Dep. rate**	**Dep. expense**	**Closing WDV**
End of year	Tractor			$14,400	10%	$1,440	$12,960
	Utility			$6,750	10%	$675	$6,075
	Motorbike			$4,020	33%	$1,327	$2,693
	Loader			$13,500	10%	$1,350	$12,150
	Truck			$2,250	10%	$225	$2,025
	Mower			$810	10%	$81	$729
	Slasher			$540	10%	$54	$486
	Discs			$630	10%	$63	$567
	Boom spray			$1,230	18%	$221	$1,008
	Plough			$4,050	10%	$405	$3,645
	Rake			Nil	10%		
				$48,180		$5,841	$42,339

Table 6.10 Capital costs

Item	Current cost	Diminishing value	Prime cost
Tractor	5,900	6,750	5,000

Current cost:	
Decline in value over year ($45,000 – 41,000)	4,000
Replacement price allowance ($46,900 – 45,000)	1,900
Cost	$5,900
Diminishing value:	
Written down value × depreciation rate ($45,000 × 15%)	$6,750

The rate used for diminishing value (15% in this case) is based on the effective life expectancy of the asset. This rate may be set by management or taken from the rates set by the tax office. The Written Down Value (WDV) is the cost of the asset less the total depreciation charged over its life. In this case the WDV for the start of the next year would be $45,000 less $6,750.

Prime cost:	
(Cost minus residual value)/life expectancy	
Depreciation per year ($45,000 – 10,000)/7	$5,000

Prime cost depreciation (also known as straight line depreciation) calculates a fixed amount of depreciation per year, in this case $5,000 per year. The amount of depreciation is determined by deducting the estimated residual value from the original cost to determine the total depreciation and dividing this amount by the expected life to give an annual depreciation.

Table 6.10 demonstrates that a significant discrepancy in annual cost may result depending on the method employed. This possible difference should be kept in mind if the results are to be used for comparative assessment of the business or for performance assessment purposes. Consistency from year to year, or from business to business, is obviously important to maintain the reliability of profit calculations for management decision making.

Normally, no annual allowance will be necessary for capital items such as land and improvements as they do not have a limited life, but as with other capital items, the purchase of land and improvements are not included in the calculation of business profit. It is possible that an investment in land clearing or other improvements will result in the added value of the land being greater than the initial capital investment. This increase in value represents a potential capital gain which is excluded from the statement of income and expenditure, as are capital losses (discussed previously in this chapter).

Operating expenditure

The statement of income and expenditure is concerned with the annual expenses associated with the operation of the business, and matching them against the income for the same period. These expenses are called operating expenses and can be separated into variable and overhead expenses – both are included in the statement of income and expenditure as they are both associated with the production of income.

Variable expenses (also known as direct or running expenses) are defined as those items of expenditure that are related directly to the level of production, and include such costs as fertiliser, feed, haymaking, animal husbandry, machinery costs and cropping costs. As stock numbers or cropping area changes, these expenses will change proportionally.

Overhead expenses (also known as indirect or fixed expenses) include such items as depreciation of capital equipment, shire rates, insurance, phone and administration expenses. These costs are not directly related to the level of production and are therefore often called fixed costs.

Applying the matching principle (matching income and expenditure of the relevant period), it will again be necessary to determine whether the cash payment recorded in the cash statement is the correct expense for the current period. Adjustments may be needed to account for items purchased but not yet paid for, or items paid for in a previous period but used in this period. This correction is achieved by adjusting the cash payment for any change in the level of trade creditors, and any change in the value of stocks of materials and supplies on hand. The following two examples illustrate the method of making these adjustments.

Table 6.11 Statement of assets and liabilities (extract)

Assets	Year 1	Year 2	Liabilities	Year 1	Year 2
Stock of fertiliser	3,000	2,000	Creditors (fertiliser)	Nil	5,500

Example 8: Change in value of creditors and inventories

During the current year fertiliser worth $5,500 has been purchased but not paid for by the end of the recording period, and the statement of assets and liabilities shows a decline of $1,000 in the value of fertiliser on hand.

To determine the relevant expenditure on fertiliser to be measured against the income for the year, it is necessary to calculate the value of the fertiliser used during the year. This can be achieved using the following approach:

Expense = (cash purchases + change in creditors) – (change in inventory)

For this example the calculation is:

	Cash purchases	nil
plus	change in creditors ($5,500 – nil)	$5,500
		$5,500
less	change in value of inventory ($2,000 – $3,000)	$1,000
Fertiliser expense		$6,500

These transactions will be recorded in the statement of income and expenditure as shown in Table 6.12. By adopting this approach the true value of the inputs used in the business during the year will be recorded irrespective of whether any payment has actually occurred.

Table 6.12 Statement of income and expenditure (extract)

Statement of income and expenditure					
Variable costs	**$**	**$**	**Income**	**$**	**$**
Fodder	6,000		Sheep trading	18,000	
Husbandry	2,400		Cattle trading	8,000	
Fertiliser	**6,500**		Wool trading	24,000	
Fuel	5,000		Other income	6,000	
Total		19,900	**Net income**		56,000

Table 6.13 Cash flow statement (extract)

	Total	July	Aug	Sept
Expenses:				
Creditors (fert.)	1,500			1,500

Example 9: Cash payments and change in the value of creditors

A fertiliser merchant is owed $2,000 at the beginning of the year. During the year $1,500 is repaid and a further $6,500 worth of fertiliser is purchased but not paid for by the end of the year. There is $500 of fertiliser on hand at both the beginning and the end of the year. These transactions have been recorded in the cash flow statement (Table 6.13) and in the statement of assets and liabilities (Table 6.14).

Fertiliser expense would be calculated as:

	Cash purchases	$1,500
plus	Change in creditors (6,500 – 2,000)	$4,500
		$6,000
less	Change in value of inventory (500 – 500)	nil
Fertiliser expense		$6,000

The true value of the fertiliser used by the business during the year is $6,000. The $1,500 cash payment is only a debt repayment and has no effect on business profit. The true cost of fertiliser for the year relates to the amount used during the year, which in this case is $6,000. In the following year any cash payment made to repay this creditor would be a debt repayment only; it would not be an operating cost and hence not relevant to the calculation of profit in that year.

Financial expenditure

The following example illustrates that the repayment of a loan results only in the rearrangement of assets and liabilities listed and is not relevant to the calculation of

Table 6.14 Statement of assets and liabilities (extract)

Assets	Year 1	Year 2	Liabilities	Year 1	Year 2
Cash	1,000	1,500	Stock agent	1,200	800
Livestock	17,500	28,000	**Creditors**	**2,000**	**6,500**
Stock – fertiliser	**500**	**500**			

Table 6.15 Statement of assets and liabilities (Year 1 – Year 2)

	Year 1	Year 2		Year 1	Year 2
Current assets	**$**	**$**	**Current liabilities**	**$**	**$**
Cash	**20,000**	**Nil**	Stock firm	12,500	12,500
Fodder on hand	4,000	4,000	XYZ Coop.	2,800	2,800
Livestock	75,000	75,000	Provision for tax	14,500	14,500
			Bank overdraft	**38,000**	**18,000**
Non-current assets			**Non-current liabilities**		
Plant and machinery	195,000	195,000	Hire purchase	30,200	30,200
Land and improvements	650,000	650,000	Term loan	120,000	120,000
			Equity	$726,000	$726,000
Total assets	**$944,000**	**$924,000**	**Total equities**	**$944,000**	**$924,000**

profit. On the other hand, interest and other costs associated with the administration of a loan are treated as expense items and will be included in the calculation of profit. Table 6.15 demonstrates that if the cash surplus is used to repay part of the overdraft, then the statement of assets and liabilities will be altered as shown in the difference between the Year 1 and Year 2 columns. In this case $20,000 is transferred from the asset cash to reduce the overdraft. The repayment of the overdraft has had no effect on business profit because business equity has not been altered ($726,000 at both Year 1 and 2). For this reason, debt repayments are not relevant in the determination of business profit.

Summary

It is important to realise that not all of the expenses recorded in the cash flow statement will be recorded in the statement of income and expenditure. To determine what costs and income are relevant for the calculation of profit, it is necessary to match the income from production for the year to the expenditure incurred in earning that income. The following are not relevant for the calculation of profit:

- non-business expenses and income
- capital expenses and income
- loan repayments.

The following non-cash transactions are relevant to the calculation of profit:

- the depreciation and replacement allowance
- changes in the value of trade creditors
- changes in the value of trading stock and other inventories.

The statement of income and expenditure can be drawn up directly from the cash flow statement and the statement of assets and liabilities. This is illustrated in the following worked example.

Profit calculation case study

In this example, the following information is provided:

- the value of the labour and management input is $40,000
- livestock for private use was valued at $1,200
- one third of phone, electricity and administration costs were private
- statement of assets and liabilities and summary of yearly cash flow given in the following tables
- land and improvements were re-valued up by $25,000.

This information from Tables 6.16 and 6.17 can be used to draw up a statement of income and expenditure. Before proceeding, however, it is first necessary to calculate those cost and income items that cannot be extracted directly from the cash flow statement or the statement of assets and liabilities. Two such cost items in this example are fertiliser and an allowance for the replacement and depreciation of plant and machinery.

Adjustment for depreciation
Depreciation has been calculated in Table 6.18 using prescribed rates from the tax office but the current cost method may be of more value for management purposes.

Adjustment for creditors
Fertiliser costs must be adjusted because stock on hand at the end of the period is less than at the start of the period (see Table 6.16). The total cost of fertiliser used by the business during the year can be calculated as follows:

	Payments made (from cash flow statement)	$9,000
plus	Change in value of trade creditors (from Table 6.16, $700 – $1,000)	($300)
Total cost of fertiliser		$8,700

Adjustment for private use
Details given for the case study noted that only two thirds of the phone, electricity and administration costs were business related and the other third were of a private nature. The business cost is therefore: $3,500 × 2/3 = $2,333

Adjustment for trading stock on hand
It is also necessary to account for the change in value of all trading stock to determine business profit. This is achieved in the trading statement shown in Table 6.19.

Statement of income and expenditure

Once the items that require adjustment as a result of non-cash transactions have been calculated, then the statement of income and expenditure can be drawn up and the profit or loss determined. Table 6.20 sets out the full statement of income and expenditure which is developed from the adjusted items already dealt with and the cash flow statement (Table 6.17).

Table 6.16 Statement of assets and liabilities

Assets	Year 1	Year 2	Liabilities	Year 1	Year 2
	$	$		$	$
Current			**Current**		
Cash at bank	nil	25,600	Creditors (fert.)	1,000	700
Stock agent	15,000	15,000	Bank	4,000	4,000
Hay	10,000	12,000	Overdraft	2,000	nil
Materials	14,000	14,000			
Wool		2,000	**Deferred**		
			Bank	36,000	32,000
Deferred			RFA Ltd	nil	10,000
Plant and machinery	82,556	79,660			
Livestock	137,000	142,000	**Equity***	640,556	693,560
Land and improvements	425,000	450,000			
Total assets	**$683,556**	**$740,260**	**Total liabilities**	**$683,556**	**$740,260**

* Change in equity for the period shown is $693,560 – $640,556 = $53,004

Table 6.17 Cash flow statement (total columns only)

Cash receipts	Total $	Cash payments	Total $
Livestock sales	69,000	Drawings	25,000
Wool sales	38,000	Taxation	14,000
Machinery sales	4,500	Fuel – business	5,000
Hay	11,000	Fuel – private car	1,500
Loan received	10,000	Phone, elect., admin.	3,500
GST collected	11,920	Husbandry	2,250
		Shearing	7,800
		Fertiliser	9,000
		Purchases – livestock	4,500
		Machinery purchases	22,000
		Loan repayments	4,000
		Interest	3,500
		Other operating costs	2,850
		GST paid	5,690
		BAS payments	6,230
Total inflow	**$144,420**	**Total outflow**	**$116,820**
Opening balance	(2,000)		
Surplus/deficit (inflow – outflows)	$27,600		
Closing bank balance	**$25,600**		

Table 6.18 Depreciation schedule showing yearly expense

Date	Description	Purch. date	Original cost	Purch.	Sales	Opening WDV	Dep. rate	Dep. expense	Closing WDV
June 30	Ford tractor	1/7	$7,000	22,000	4,500	$4,500	15%	$3,300	$18,700
June 30	International	1/1	$42,500			$26,500	23%	$6,095	$20,405
June 30	Rotary hoe	8/9	$2,000			$1,000	10%	$100	$900
June 30	Rake	12/5	$1,200			$500	15%	$75	$425
June 30	Mower	30/6	$3,200			$1,250	23%	$288	$962
June 30	Spray unit	4/7	$5,500			$4,000	33%	$1,320	$2,680
June 30	Pumps	1/7	$4,100			$4,100	23%	$943	$3,157
June 30	Spreader	4/9	$1,800			$0	10%	$0	$0
June 30	Silo	6/10	$4,500			$2,150	23%	$495	$1,655
June 30	4 × 4 tray	2/7	$16,100			$4,156	33%	$1,371	$2,785
June 30	4-wheel bike	2/7	$5,000			$4,000	33%	$1,320	$2,680
June 30	Tools, etc.	30/6	$3,000			$2,500	33%	$825	$1,675
June 30	Dairy plant	12/7	$24,000			$9,750	23%	$2,243	$7,508
June 30	Bore/pump	12/10	$12,000			$4,150	15%	$623	$3,528
June 30	Plant	31/12	$25,000			$14,000	10%	$1,400	$12,600
	TOTALS					**$82,556**		**$20,396**	**$79,660**

Note: The opening written down value (WDV) and the closing WDV shown in Table 6.18 must equate to the values shown in Table 6.16 (statement of assets and liabilities). The total depreciation expense shown will be used in the calculation of profit or loss. The new tractor was purchased on the first day of the new financial year, the sale price of the old tractor was the same as its book value at the date of sale hence no profit or loss on the sale was involved.

The following receipts and payments shown in Table 6.17 were not included in the profit calculation in Table 6.20 as they are not income and expense items: GST and BAS; loan received; machinery sale; drawings; taxation; fuel for private car; 1/3 of the phone, administration and electricity bill; machinery purchases and loan principal repayments.

Assessing profitability

Measuring management performance as a total dollar figure is not very meaningful as there is no benchmark to measure this profit against. It is therefore necessary to develop measures that are more helpful in assessing the income earning performance of the business assets. The profit or loss calculated through the statement of income and expenditure, as shown previously in this chapter, can assist with the following analysis.

- The economic performance of an organisation can be assessed relative to others of a similar type.
- The owner can determine the earning rate of the money invested in the property through a calculation of return to equity.
- Alternative investments can be compared with the return received from the investment in farming.

Table 6.19 Trading statement

Transaction	Wool $	Hay $	Livestock $
Sales			
Cash	38,000	11,000	69,000
Rations	nil	nil	1,200
Total	**38,000**	**11,000**	**70,200**
Less purchases	nil	nil	4,500
Net	**38,000**	**11,000**	**65,700**
Plus stock change	2,000	2,000	5,000
Trading income	**$40,000**	**$13,000**	**$70,700**

- Large numbers of properties can be surveyed so that the economic state of different agricultural industries can be determined. The data collected can then be used to provide background information for both the creation of benchmark indicators and for government policy decisions.

The first step in understanding how the information from the financial records can be used is to understand the terms utilised in Table 6.20. The use of a consistent format across the industry is critical if performance statements such as these are to be relied

Table 6.20 Statement of income and expenditure for year ending June 30

Operating costs	$		Income	$
Enterprise costs (variable costs)			**Trading income**	
Husbandry	2,250		Wool	40,000
Shearing	7,800		Hay	13,000
Fertiliser	8,700		Livestock	70,700
Total enterprise costs	18,750			
Overhead costs (fixed costs)				
Phone, elect., admin.	2,333			
Fuel – business	5,000			
Other operating costs	2,850			
Depreciation	20,396			
Total fixed costs	30,579			
Total overhead costs	**$49,329**		**Net income**	**$123,700**
		Less	Operating costs	49,329
			Operating income before interest and taxes	**$74,371**
		Less	Interest and lease charges	3,500
			Operating profit before tax	**$70,871**

upon to assess the performance of management and provide a means of assessing alternative business opportunities.

Operating profit before interest and tax

Operating profit before interest and tax is a measure of profit that can be attributed to the total resources (capital, labour and management) used by the business. It is the profit earned by the business before an allowance is made for:

- the cost of borrowed money (interest on borrowed funds)
- the cost of the owner's labour and management input necessary to run the property at its current level of productivity
- income tax.

Because of these omissions, operating profit before interest and tax is not a very useful measure of profit for the individual owner. However, it is of some use for survey purposes where the economic performance of a large number of properties is to be assessed as it excludes factors that are not related to production efficiency.

Operating profit before tax

Operating profit before tax represents the profit of the business after taking into account its debt-servicing costs. Debt structure varies from one business to another and therefore this measure of performance is more useful for comparing individual business performance from one year to another, rather than comparing businesses in the same industry.

Operating profit before tax is used to measure the reward to the owner for the time devoted working in and managing the business, as well as the return on the monies invested. This measure of profit therefore needs to take into account interest on business debt and an allowance for the owner's time and management. For example, a horticultural business returning a net profit before interest and tax of $65,000 may estimate that the value of the owner's time is $40,000.

Operating profit	$65,000
Less allowance for owner's time	$40,000
Return on monies invested (also referred to as *return to equity*)	$25,000

The $40,000 figure was used for the purpose of illustration only, but it is important to estimate a reasonable value if these figures are to be used for comparisons with previous years' profit.

Performance measures expressed in total dollar terms are of little use where the business's financial position has changed from the previous year, or where one business is being compared to another. Expressing performance in percentage terms addresses this concern so more valid comparisons can be made. In this example, if the owner's equity in the business were $450,000 the percentage return to equity would be 5.6% (($25,000/$450,000) × (100/1)). This ratio (percentage) can be used to assess business performance against previous years and other investment opportunities.

Operating return and return to assets

Operating return is calculated by deducting from net business income the actual personal expenditure of the operator. This approach is not recommended, because the resulting measure of profit is not related solely to the productivity of the business, but is influenced by the level of personal expenditure which may bear no relationship to the labour effort required to run the property. To counter this problem a value is placed on the management and labour input of the owner/operator of the business. Operating return is then calculated by deducting the value of labour and management from the operating profit. This approach makes it necessary to determine a reasonable value for the labour and management effort of the owner, which should be estimated by comparison with similar paid positions.

This estimate can be based on current industry wage rate but arguably the owner/operator should receive a greater return than an employed manager because there are greater responsibilities. The final rate chosen should reflect the commercial value of the skills, responsibility and effort required, and the size of the operation. Benchmark performance indicators released by government and private consultants may be useful in arriving at a reasonable owner/operator allowance. The operating return is calculated as:

$$\begin{aligned}\text{Operating return} = {} & \text{operating profit before interest and taxes} \\ & - \text{owner/operator allowance}\end{aligned}$$

To provide a simple method of comparison of investments the operation return can be shown as a percentage of total assets. This is known as a *percentage return to assets* and is calculated as follows:

$$\text{Percentage return to total assets} = \frac{\text{operating return}}{\text{total assets}} \times \frac{100}{1}$$

Percentage return to total assets provides a guide to the earning rate of the total business resources as currently managed, unaffected by personal factors such as taxation, living expenses and equity position (debt). It measures the effectiveness with which each manager combines resources such as labour, land, livestock, fertiliser and machinery.

Percentage return to total assets also provides a useful basis for comparing the effectiveness with which resources are being managed on different properties of a similar type. Properties showing a high return to total asset provide valuable information to other managers on efficient and effective production methods and resource management. Field days and discussion groups provide a good opportunity to compare management techniques and their effect on return to total assets.

It should be noted that interest costs must be disregarded in the calculation of this measure of profit, otherwise comparisons between businesses will be distorted. For example, two managers with very similar businesses, both managing them very efficiently, may have quite different equity positions. The fact that one manager has to pay a large amount of interest does not mean that the earning rate of total assets is lower than the earning rate of the assets controlled by the other business.

Return to equity

Return to equity is a measure of the return earned to the owner's investment. It is based on the return to equity which brings into account interest charges and expresses this as a percentage of equity (assets less liabilities). This measure of profit is used when the owner wishes to know whether the funds currently invested in the business could earn a greater return in some other investment. It provides this information by showing the earning rate of the personal capital investment in the business, that is, the earning rate of equity. Return to equity is calculated as follows:

Return to equity = operating profit before tax – owner/operator allowance

Percentage return to equity is then calculated as follows:

$$\text{Percentage return to equity} = \frac{\text{return to equity}}{\text{equity}} \times \frac{100}{1}$$

Change in equity

Change in equity as a measure of profit is distorted by the amount of funds withdrawn from the business by the owners. However, change in equity is a useful measure for decisions that require both operating profit and capital gain to be taken into account – for example, when an owner is considering selling the business because of low returns to equity.

Although a business consistently provides a return to equity which is lower than other investments it does not necessarily imply that it is a poor investment. To obtain an overall measure of the gain in wealth it is also necessary to take into account any change in the value of business assets. If land values have increased over a number of years then the investment in the business may still be quite profitable because of this potential capital gain which will be reflected in the change in equity over the life of the business.

If percentage return to equity is consistently unacceptably low, and capital gain is negligible, then the owner may consider one of the following alternatives.

- Sell out and invest in non-business assets.
- Sell out and invest in an alternative business.
- Try to improve the economic performance of the present investment.

The first alternative may be unacceptable to those that love the industry and are not highly motivated by profit. However, those who choose to remain in business under such circumstances need to be aware of the effect this decision is having to their personal wealth.

Before accepting the second alternative, it is crucial that the move to a new area or new enterprise be thoroughly investigated to ensure that there is a potential for increased returns. A major change in location or enterprise will mean developing new skills, a possible disruption to family life and will inevitably give rise to transition costs (for example, stamp duty and commission on property sales and purchases). Detailed analysis of the existing property might indicate areas for improvement which are much less expensive to implement.

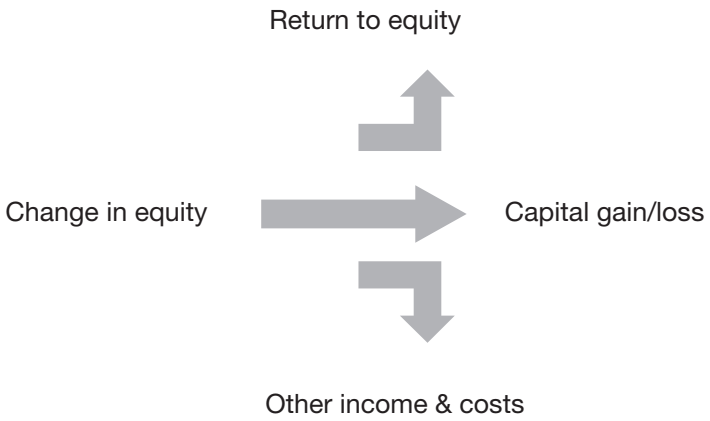


Figure 6.1 Factors influencing change in equity

Alternative three introduces the idea of budgeting and decision making which is discussed in detail in Chapter 9. It is sufficient to say at this stage that before the financial performance of the business can be improved it is necessary to develop strategies that may be profitably incorporated into the overall business operation. Some alternative strategies may come from advisors, consultants and other managers, but often the most valuable ideas are generated during a careful and detailed analysis of the business accounts.

The major problem with change in equity as a measure of profit is that it does not provide the means by which overall business profit can be broken up into its component parts (operating profit and capital gain), so that each part can be independently investigated. The statement of income and expenditure is more useful as an analysis technique because it allows change in equity to be dissected as shown in Figure 6.1.

Applying this procedure in reverse, it is possible by aggregating these components to arrive at a figure which is identical to that obtained by comparing opening and closing equity. This of course provides an extremely useful check on the accuracy of the calculations of return to equity (see examples in Chapter 9, Appendixes 4 and 5).

This check simply involves adjusting the return to equity to allow for those items which are taken into account in the statement of assets and liabilities, but are disregarded in the statement of income and expenditure. It follows that change in equity should equal the total of the following items:

- return to equity
- capital gain
- other net income (if proceeds are deposited in the business working account)
- allowance for the increased replacement costs of depreciable assets
- personal drawings not taken to the full value of labour and management allowance.

Less the following items:

- tax
- capital loss
- personal drawings in excess of the value of the labour and management allowance.

Change in equity can also be used as a checking process by adjusting the return to equity for non-business adjustments as shown below. This checking process also provides an explanation of the factors that produced the change in equity.

Change in equity = return to equity + adjustments

Adjustments include:

- capital gain
- replacement allowance
- other income
- manager's allowance (not drawings)
- tax and drawings.

This checking process can be demonstrated from the case study previously used in this chapter:

Adjustments:	Non-operating gains:		
	– Capital gain		25,000
Less	Drawings:		
	– Cash	25,000	
	– Fuel	1,500	
	– Phone, electricity	1,167	
	– Rations	1,200	28,867
			(3,867)
Less	Tax		14,000
Total adjustments			**($17,867)**

The change in equity for the case study therefore can be calculated from the operating profit determined in Table 6.20 and the adjustments shown above:

Operating profit before tax + adjustments = change in equity
$70,871 + ($17,867) = $53,004

The change in equity of $53,004 can be confirmed from Table 6.16 and it is therefore safe to assume that no arithmetical errors have occurred. The percentage returns based on the case study data can then be calculated as follows.

Percentage return to assets:

$$5.0\% = \frac{(74,371 - 40,000)}{683,556} \times \frac{100}{1}$$

Percentage return to equity:

$$4.8\% = \frac{(70,871 - 40,000)}{640,556} \times \frac{100}{1}$$

This return to equity can be compared to alternative investment returns but it should be remembered that such a comparison should also take account of capital gains.

Percentage increase in equity:

$$8.3\% = \frac{53,004}{640,556} \times \frac{100}{1}$$

If the level of return is unacceptably low then it will be necessary to undertake a process of analysis (see Chapter 9) with the objective of identifying problem areas, and investigating strategies that may be implemented to rectify these problems. A measure of what is acceptable is usually a function of the objectives and aspiration of the owners, as well as being determined by the ability of the property to provide sufficient funds to meet debt-servicing costs and living expenses.

Summary

The calculation of business profit is possible through the development of a statement of income and expenditure, but it is important to appreciate that different measures of profit are used for different decisions. Percentage return to total assets is the most important measure of profit as it measures the efficiency of the operation. It may also be used to compare similar businesses so that different management approaches may be compared.

Change in equity provides a measure of the growth in the owner's wealth and is a combination of the effect of capital gain, operating profit and personal income. This measure of performance is useful when comparisons are being made with other investments that may also have the potential of capital gain.

Later in Chapter 9 a procedure for analysis is developed which may be undertaken to identify areas of inefficiency indicated by a low return to assets. This chapter also explains other methods of analysis that can be used to give a detailed investigation of specific enterprises.

The sample statement format given in Table 6.21 provides a summary of the items that must be included in the calculation of return to equity.

Table 6.21 Sample statement of income and expenditure format

Operating costs	**$**	**Income**	**$**
Enterprise costs (variable costs)		Examples included here:	
All operating costs that can be attributed to a specific enterprise.		Trading income	
		Income from business produce	
		Investment income	
		Profit from sale of asset	
Overhead costs (fixed costs)		Other income	
All fixed costs that cannot readily be allocated to a specific enterprise. Don't include interest as it is included after operating return			
Total operating costs	**$x,xxx**	**Net income**	**$xx,xxx**
	Less	Operating costs	$x,xxx
		Operating profit before interest and tax	**$xx,xxx**
	Less	Interest and lease charges	$x,xxx
		Operating profit before tax	**$xx,xxx**

7

Taxation management

Chapters 7 and 8 discuss the management implications of income tax and the establishment of suitable business structures for effective taxation and succession planning. Even though these two matters are dealt with separately, management decisions influencing income tax may also affect succession planning, so it is important that both areas be considered together as part of the taxation and succession planning process.

This chapter deals with three main areas of taxation influencing the operation and management of the business: income tax, fringe benefits tax (FBT) and the goods and services tax (GST). The impact of each of these taxes is quite different. Both income tax and FBT are real costs to the business but GST should not influence business profit as the cost of GST is passed on to the consumer. However, GST is still important as it imposes an administrative obligation to collect and return the GST to the Australian Tax Office (ATO).

In addition to these three main areas of taxation, some enterprises may be subject to specific industry or property taxes such as the wine equalisation tax and local property taxes.

Introduction

Income tax is a significant business cost; the extent of which depends on both business and personal factors, but like most other costs it can be managed by sound financial practices. For this reason it is important to appreciate that income taxation problems may be created by management decisions that have occurred long before any thought is given to the preparation of an income tax return. Under these circumstances a professional tax adviser can only calculate the amount of tax to be paid, and can do little to help reduce tax as the events and decisions that determined the tax burden have already occurred and cannot be changed.

To manage tax effectively and to make the best use of tax advice the tax situation should be considered during January or February of each year. At this stage, the cash flow statement for the last six months and the cash budget for the remainder of the year can be used by a tax adviser to detect any likely tax problems before they occur.

In addition to seeking professional taxation advice, it is very important that business managers also have a basic understanding of how taxation influences day-to-day management decisions. Without this general level of knowledge it is difficult to make decisions that aim to maximise after-tax profit. Tax is a cost of the business that must not be ignored or simply left for a taxation adviser to calculate at the end of the financial year.

This chapter provides a general outline of the operation of the income tax, fringe benefits tax (FBT) and goods and services tax (GST) systems, and introduces some principles of taxation management. It is not possible in this text to provide a complete understanding of all taxation issues. Consequently, professional advice should always be sought where a major management decision is being considered to determine the likely taxation consequences.

The Australian tax system

Australia's taxation system allows the collection of tax at federal, state and local government levels, but in total terms the majority of taxes are levied by the federal government and collected through the Australian Taxation Office (ATO). Of the total tax collected by the federal government, income tax is by far the most significant, making up about 66% of total federal government revenues. GST accounts for about 15% of total taxes and FBT is only a little over 1% of the total revenue. Other taxes and excises make up the remaining 18%. Local government and state taxes are relatively small in total but they include taxes on the transfer of property (stamp duty), ownership of property (land taxes and local government rates) and payroll. Although this list is not exhaustive it shows that the avenues for governments to collect tax are many and varied, but income tax is still by far the most significant. GST is the second most significant tax but this tax is ultimately borne by the consumer and is not meant to affect business profits.

To understand the operation of the income tax system, it is necessary to first understand the principles underlying the system. Income tax in Australia is levied by the federal government following a policy that income is a good measure of a taxpayer's ability to pay tax. The Australian income tax system also operates on the principle that taxpayers with higher incomes should contribute a higher percentage of their income to the funding of public services such as roads, hospitals, social security, etc. This is achieved by taxing income on a sliding scale so that higher income earners pay tax at a higher rate. Such an approach to taxation means that the income tax system is not just a means of raising public funds, but also a means of redistributing wealth and influencing business and economic decisions. The influence that income tax has on management decisions is therefore very important to all business managers.

In order for the tax system to achieve the above objectives it is necessary for income tax to be based on a measure of income, which is called *taxable income*. Taxable income is then multiplied by a tax rate to determine the income tax liability. This rate is a

progressive rate that increases as income increases. In turn, taxable income is based on a determination of assessable income, less certain expenses which are termed deductions. The final income tax due may then be reduced through concessions known as tax offsets. These concessions are generally provided to reflect family values such as providing support for single parents, single income families, child support and medical expenses to name a few. Tax offsets are also used to adjust the tax of businesses that experience fluctuating income (for example, primary producers), and to account for tax that has already been paid on company dividends.

Income tax is administered by the Australian Tax Office (ATO) and requires a taxpayer to submit a tax return at the end of each financial year, which runs from 1 July to 30 June.

The calculation of tax can therefore be summarised as:

$$\text{Tax} = (\text{taxable income} \times \text{tax rate}) - \text{tax offsets}$$

This equation can be further broken down to help understand how tax is calculated and, therefore, how management decisions affect the amount of tax to be paid.

Step 1 Determine taxable income by determining assessable income and subtracting deductions:

$$\text{Taxable income} = \text{assessable income} - \text{deductions}$$

Step 2 Multiply taxable income by the tax rate to determine the tax on taxable income.

Step 3 Deduct tax offsets from the tax calculated in Step 2 to determine the tax due.

Income tax and management decisions

As stated in the introduction to this chapter, income tax is a cost that must be borne by the business and therefore affects the amount of funds available for expansion, meeting debt repayments and maintaining personal living standards. As a result, income tax should be considered and managed like any other business cost. To do this it is necessary to measure all financial decisions on the basis of the potential profit after tax, and not just the profit realised without allowance for income tax. This change in focus of the assessment of alternative projects is very important because different types of expenditure are taxed differently thereby influencing the financial outcome.

Example 1

Income tax will influence the decision of whether to lease or purchase large items of plant and machinery. This decision should be a choice between different methods of financing the purchase, and the respective interest rates. However, the leasing option allows some deductions to occur earlier in the life of the plant so that the lease option is made more attractive because of the effect of taxation. This does not mean that leasing is always a better financial decision, but it does mean that income tax may change a decision where the non-tax comparison is close.

Income tax also has considerable impact on decisions relating to whether a partnership, company or trust should be used to operate the business. For example, where a business is conducted as a partnership, only the individual partners are taxed on their share of the income because a partnership is not taxed directly. In contrast, if a company structure is used, the business would be first taxed on its company profits, and the owners of the company would then be taxed on their distributions after some adjustment for the tax paid by the company. While tax is an important part of these decisions it should not be the only consideration, as business objectives, family structure and funding requirements are also important. Income tax can also have a significant effect on cash flow, comparison of alternative investments and the profitability of alternative decisions. Consequently, it is very important for all managers to understand the operation of the income tax system so that these effects can be correctly taken into account when making such decisions.

Income tax

Income tax is the major form of taxation influencing management decisions and the first step to understanding this is knowing that income tax applies differently to different business activities. Of particular importance is the different taxation treatment of the income of primary producers.

Taxation of primary producers

Taxpayers classified as primary producers are eligible for a number of tax concessions that are not available to other sectors of the business community – an important example being the tax rate averaging provisions (discussed later in this chapter) which assist primary producers in reducing the impact of higher tax rates being applied in high income years, without a corresponding saving in low income years. Consequently, it is in the interests of those involved in a business of primary production to understand what type of businesses are classified as primary production.

The *Income Tax Assessment Act 1997* (later described as the Act) defines a *primary production business* as carrying on a business of:

- cultivating or propagating plants, fungi or their products or parts (including seeds, spores, bulbs and similar things), in any physical environment, or
- maintaining animals for the purpose of selling them or their bodily produce (including natural increase), or
- manufacturing dairy produce from raw material that you produced, or
- conducting operations relating directly to taking or catching fish, turtles, dugong, bêche-de-mer, crustaceans or aquatic molluscs, or
- conducting operations relating directly to taking or culturing pearls or pearl shell, or
- planting or tending trees in a plantation or forest that are intended to be felled, or
- felling trees in a plantation or forest, or
- transporting trees, or parts of trees, that you felled in a plantation or forest to the place:

(i) where they are first to be milled or processed, or
(ii) from which they are to be transported to the place where they are first to be milled or processed.

Although the Act provides a definition of 'primary production business', no definition of 'primary producer' is provided. However, it is reasonable to conclude that a person who is engaged in the business of primary production will be regarded for taxation purposes as a primary producer. This means that there are two steps towards qualifying as a primary producer: first that there is a business, and second that the business is one of primary production.

To ascertain whether an activity is a business or not it is necessary to distinguish a business from a hobby, as hobbies are pleasure or private activities that are not subject to the income tax system. The Act defines a business as including 'any profession, trade, employment, vocation or calling, but does not include an occupation as an employee'. This definition is of little help except that it clearly excludes an employee from being in business, but an employee may still operate a business separate from his or her employment. There is in fact no requirement under the Act that the taxpayer must own land, nor does it define the size of the enterprise (for example, number of stock) or the amount of production that is necessary to be classed as a business. The only guidance towards a definition of a business is provided through court decisions.

Example 2

From the court cases it can be seen that the level of production is only one factor considered in establishing whether the taxpayer's activities are a business or not. In one case the court held that an activity that started with one angora goat was a business for tax purposes as it was conducted in a businesslike manner although not very successfully. The goat was kept at stud under expert care and was used for breeding involving the transplantation of live embryos.

To distinguish a business from a hobby, the courts look at the manner in which the operation is conducted. For a business to exist the activities must be carried out in a way similar to a commercial enterprise. However, it is not essential to prove that the enterprise will be profitable, either in the current year or in the future, but this could help to establish that a business exists. The criteria taken into account by the courts in determining whether a business exists include:

- whether there is a commercial approach to the activity
- whether there is an intention to profit
- the size and frequency of transactions
- the type of activities conducted.

Determining whether a taxpayer's activities are a business is not a simple matter and can lead to dispute between the taxpayer and the ATO. Consequently, taxpayers who seek to

be classed as primary producers need to collect evidence to support this claim. This evidence could include:

- the size of the property and the intended use at the time of purchase
- steps taken prior to purchase to check the suitability of the property for the intended use
- development plans and projected budgets
- the type and amount of cropping planned
- the nature, type and number of live stock
- average amount of time spent at the property.

The second requirement is that the business must actually be involved in primary production as defined by the Act. It follows that a shareholder in a pastoral company will not qualify even though the company in which the shares are held is regarded as a primary producer. Also, a property owner who has leased land for use in primary production will not qualify as a primary producer, but the tenant is a primary producer because the tenant is the one carrying on the business of primary production. The owner of land used solely for agistment of livestock also may not be considered as a primary producer. However, where agistment is part of other activities such as cropping or grazing, the agistment will still be included in the business of primary production. In contrast, where a property is operated under a sharefarming agreement, both the sharefarmer and the owner may be primary producers as they are both still involved in primary production.

Once the type of business is established it is then necessary to understand how taxable income is calculated and how this affects management decisions. The calculation of tax liability under the Australian income tax system is based on the determination of taxable income, which is in turn determined by subtracting deductions from assessable income. These two important concepts are discussed separately in this chapter.

Assessable income

Assessable income is made up of two components, ordinary income such as receipts from the sale of livestock and produce, and statutory income that is specifically made assessable by the Act (for example, capital gains realised on the sale of land).

What is ordinary income?

In general terms, ordinary income is received from business activities, investments and labour. Conversely, ordinary income does not include receipts from windfall gains (for example, gifts and lottery winnings), hobbies and leisure activities, and capital receipts. This means that the normal proceeds of an agribusiness will be classed as ordinary income and will form part of the assessable income of the business. For example, the sale of livestock, the sale of produce and fees earned from contracting will all be assessable because they are ordinary income. Similarly, income earned in the form of interest, dividends, rent, royalties, off-farm employment income and licence fees are also assessable because they are ordinary income.

Regular payments such as pensions and social security benefits (for example, unemployment benefits) are also ordinary income because they are regular and relied on

by the taxpayer to meet normal living expenses. Other regular payments such as instalments on the sale of property will not be ordinary income just because they are regular. In this case, the sale of the property is capital and the instalments will remain capital even though regular payments are received.

One of the most difficult areas of law in relation to what is ordinary income is distinguishing between capital receipts, which are not ordinary income, and receipts that are ordinary income even though they relate to the sale of capital items.

Example 3

Consider a taxpayer who for many years has operated a commercial farming business close to a large city, and now finds that it is more profitable to sell the land, and buy back in an area where the price is not influenced by city housing prices. If this taxpayer sold the land in its current form then it is clear that the receipt would be capital and not ordinary income, although it may be taxed as a capital gain (see later in this chapter). However, if the taxpayer employed consultants and set about subdividing the land and began a new business as a property developer, then the sales would be ordinary income.

It is difficult to identify the dividing line between what is simply the sale of a business, and therefore capital, and when the sale itself amounts to a business transaction with an intention to profit, making it ordinary income. This distinction is important as capital gains are taxed differently to ordinary income (see later discussion of capital gains tax in this chapter).

What is not ordinary income?

Receipts from the sale of capital items, hobby activities and windfall gains are not ordinary income, and therefore will only be assessable if they are specifically made assessable by the Act. In fact, it was not until 1985 that the Australian income tax system introduced a comprehensive system of taxing profit arising from the sale of capital assets. Prior to 1985 many capital profits went untaxed. As most capital profits are now made assessable by the Act, the main areas of receipts that are not assessable are: windfall gains, receipts from a hobby, non-cash receipts and receipts that do not benefit the taxpayer.

Capital receipts

Capital receipts are not ordinary income but they may be made assessable through specific legislation such as the Capital Gains Tax (CGT) provisions. It is important to appreciate the difference between items taxed as ordinary income and those taxed under CGT as the receipts taxed under CGT may be taxed at a lower rate.

Capital receipts commonly arise from the sale of assets such as land and buildings, but capital assets can also include non-physical assets such as company shares, copyright, patents and water rights. All these assets will be treated as capital for tax purposes provided they are not regularly traded as part of the normal business activities.

Example 4

Shares that are held as an investment are capital (CGT would apply) and the dividends are income, but if the shares are regularly traded then the sale of the share itself will also be ordinary income as well as the dividend. A similar issue arises with tradable water rights. The sale of a water right would normally be capital and not ordinary income (CGT would apply), but if the taxpayer makes a business of trading in water rights the sale will become ordinary income and not receive the concessional treatment of CGT.

Windfall gains

Windfall gains include receipts in the form of gifts, gambling winnings, prizes, lottery winnings and any other receipt that is dependent upon chance and not earned or worked for. However, the gambling winnings of a person who operates a business of taking bets (bookmaker) are income because the taxpayer is in the business of gambling. Similarly, family gifts are not income to the person receiving them because they are given for personal reasons and are not for any work done. In contrast, a family member paid a wage to carry out business activities has received income because the wage is earned. Prizes are a little more difficult because a prize may be mainly dependent upon chance, or it may be earned through the skills or business activities of the taxpayer. For example, prizes won at a wool show by a wool producer are part of the proceeds of the business and therefore they are assessable income. In contrast, a prize won by the wool grower's children at the local show for best pony is not income, because in this case the prize is not associated with any business activity. A person who makes a business of entering competitions has earned assessable income in the form of any prizes received. This will be the case where the person continues to enter competitions and uses special skills to win the prizes. For example, the prizes won from a business of horse breeding and racing would be assessable income.

Hobbies

Receipts from a hobby or leisure activity are also not ordinary income and are therefore not assessable. To determine whether a particular activity is a hobby or a business, it is necessary to look at the factors that go to make up a business activity as discussed earlier in this chapter. When considering these factors it is important that no one factor should be used alone, but all should be considered in making the decision as to whether a business exists.

Example 5

If a person grows a few vegetables in the backyard primarily for personal use, but occasionally sells some of the excess to a neighbour, there is no commercial intention and therefore it is not a business. However, if the taxpayer grows vegetables and regularly sells them at a local market, the activities take on the form of a business and the receipts are assessable income because a commercial approach is used.

Non-cash receipts

One area that has caused problems with defining assessable income is whether receipts that are not paid in cash, but are provided as goods or services, are ordinary income or not. Generally, ordinary income only includes receipts paid in cash, or with goods and services that can be sold and converted to cash. This definition of income means that receipts that cannot be converted to cash are not ordinary income. To prevent the use of non-cash payments as a means of avoiding tax, the Act deems non-cash business receipts to have a cash value. This will make assessable barter arrangements (swapping goods and services) provided they are conducted in a business-like manner. However, no assessable income will arise where friends or neighbours occasionally swap tools, etc. In relation to non-cash payments made to employees, the employer may be liable for fringe benefits tax (see later in this chapter).

Customer loyalty programs come within the category of non-cash benefits. This means that any free airline tickets or any other goods or services received as a result of accumulated loyalty points will not normally be ordinary income. A possible exception would be if an employer accumulated loyalty points through the use of a business credit card, and the employer agreed that an employee could benefit from these points. In this case the employee earned the benefit as a result of their employment and it would be classed as ordinary income or a fringe benefit.

Receipts that do not benefit the taxpayer

For a receipt to be ordinary income it must be an economic gain to the taxpayer. If it is not a gain to the taxpayer then it is not ordinary income. The best example of a receipt that is not a gain to the taxpayer is the goods and services tax (GST) component of the sale price of business produce.

Example 6

Goods sold for $1,100 including GST, generate a business income of only $1,000 as the $100 GST (10%) must be paid to the ATO. The $100 GST is not a gain to the taxpayer as it is merely collected on behalf of the ATO. As a result, the assessable income from the sale is only $1,000 not $1,100, which makes it necessary to separate the GST component in the financial records.

What is statutory income?

Statutory income is the term used to describe receipts that are specifically made assessable by the Act whether they are ordinary income or not. There are a large number of statutory income items in the Act and some of the more relevant and significant ones are discussed below.

Trading stock

The sale of trading stock is ordinary income of the business and therefore assessable. Similarly, the purchase of trading stock is a general deduction (see later in this chapter). However, the income tax system also makes assessable any increase in the value of

trading stock from the beginning to the end of the year, and allows a deduction if the value of trading stock has declined over the year. As changes in the value of trading stock over the year affect the level of taxation, it is very important to understand what is included in the tax definition of trading stock and to understand how trading stock can be valued.

Trading stock is defined in the Act as including 'anything produced, manufactured or acquired that is held for purposes of manufacture, sale or exchange in the ordinary course of a "business"; and livestock'. Trading stock therefore includes all livestock plus other produce held by the business at the end of the year that is ready for sale or is being produced for sale. This definition does not include animal produce not harvested, growing crops or standing timber, as these are not ready for sale until harvested.

Example 7

Wool on the sheep's back is not trading stock until after shearing, fruit is not trading stock until picked, and grain crops are not trading stock until harvested. In contrast to natural produce, manufactured produce is trading stock even though it is not complete, so that partly matured cheese would still be trading stock even though it is not ready for sale. Although wool on the sheep's back is given as an example of something that is not trading stock, it is important to appreciate that the animal itself is trading stock.

The definition of trading stock includes all livestock regardless of their use, which takes in any living animal used in the business including oysters and other animals used in aquaculture or any other business. This broad definition may cause problems because some breeding stock may not be intended for sale. The definition of livestock in the Act does not help to reduce this problem as it only excludes animals used as beasts of burden or working beasts in a business other than primary production. Under this definition guard dogs used to protect a used car yard would not be trading stock, but in a primary production business, working and other animals not intended for sale are still treated as trading stock. Where the value of working animals is significant it is important to realise that their valuation will influence tax liability.

To understand how the value of trading stock changes tax liability it is necessary to understand how trading stock is valued at the beginning and end of each year. Valuation of trading stock at the start of the year is quite simple as it is the value used at the end of the previous year, or zero if the business commenced during the year. However, the valuation of trading stock held at the end of the year is more complex.

Valuation of closing stock

The Act allows a choice between three methods of valuing trading stock on hand, including livestock cost, market selling value and replacement value.

Any of the three methods may be selected for any item of stock and the method used can be changed from year to year. A fourth method is also available, which allows the use of a lower value than that determined by the three basic methods if the stock is obsolete or other special conditions change the stock value.

In addition to the general methods of valuing trading stock, a separate valuation method is available for breeding horses to allow the breeding stock to be devalued each year similar to depreciation of plant. Also, taxpayers that are eligible for the simplified tax system (STS) are not required to value closing stock at the end of the year for tax purposes (see later in this chapter for further detail).

With the wide range and flexibility of valuation methods for trading stock, the decision as to which method to use is an important taxation consideration.

Cost

Cost values are based on the actual cost of purchased or manufacturing stock, but natural increase may be valued at the pre-defined cost or its actual cost. Normal cost accounting rules are used to determine the cost of manufactured trading stock but the valuation of livestock is usually based on the average cost of purchases and natural increase.

Establishing an average cost for income tax purposes is likely to be quite different from the cost determined for management purposes. For tax it is necessary to determine the opening value for the year, the cost of purchases and the cost of natural increase. Opening stock values will be taken directly from the closing tax values for the previous year, and the cost of purchases can be determined from the accounts. It is far more difficult however to value natural increase, and as a result the taxpayer is given a choice of whether to use the minimum values prescribed by regulation or to determine the actual cost. The minimum prescribed costs for natural increase have changed over the years but generally are much lower than the cost of replacing these animals. At the time of publication the minimum prescribed costs were:

- cattle, horses, deer $20.00
- pigs $12.00
- emus $8.00
- sheep, goats $4.00
- poultry $0.35
- The cost of a horse acquired through the payment of a service fee must not be less than the service fee.

Using the minimum values for natural increase has the effect of delaying tax until the sale of the stock. This may be an advantage in situations where livestock sales are not a major source of income (for example, wool and milk production) and replacements are bred rather than purchased. Under these circumstances average livestock values may be reduced to very low levels giving substantial tax savings. The following example demonstrates the effect of using minimum values for natural increase. In this example stock numbers are being increased after a decline caused by two years of poor seasons. Closing value for the livestock held at the end of the previous year was 100 head at $100 per head. Of the 80 animals born during the year, 50 were kept and 30 were sold at $200 per head. Natural increase was valued at $8.00 per head and 140 head were on hand at the end of the year.

Even though stock levels have increased from 100 to 140 during the year their total value has declined from $10,000 to $8,275. This decline in value is caused by using a low cost for natural increase, combined with the effect of using an average costing method.

Table 7.1 Livestock trading account – average cost

Inputs	**No.**		**Value**
Opening stock	100	$100.00	10,000
Purchases	0		0
Natural increase	80	$8.00	640
TOTAL	180		$10,640
Average cost per head to be used to value closing stock will therefore be $59.11 ($10,640/180).			
Live stock trading account (tax)	**No.**		**Value**
Sales	30	$200.00	6,000
Opening stock	100	$100.00	10,000
Total assessable income			$16,000
less deductions			
Closing stock (140 × $59.11)	140	$59.11	$8,275
Purchases	0		0
Deaths	10		0
less deductions			8,275
TAXABLE INCOME FROM TRADING			$7,725

Using a low cost for natural increase has therefore resulted in a reduction in taxable income. For example, if closing stock was valued at the same level as opening stock ($10 per head), then closing stock would increase to $14,000 causing an increase in taxable income of $5,725 ($14,000 – $8,275).

It is not correct to assume that the best tax strategy is to always aim to minimise the closing value of trading stock, because if this is done it may cause sharp increases in taxable income if larger than usual numbers of stock are sold. This may occur if the business is being sold or there are abnormal sales caused by flood, fire or drought. Using minimum costs for natural increase is more suitable for livestock enterprises which are self-replacing, and where only a small percentage of the total number of stock held on the farm are turned over each year, for example, dairy or wool production.

An alternative to the prescribed minimum cost method of valuing natural increase is the actual cost method. Despite the availability of this option it has no practical application in livestock enterprises because it is very difficult, if not impossible, to determine the actual cost of natural increase.

Market selling value

Market selling value is based on an estimate of the market value of stock held at the end of the tax year. Despite the fact that market values fluctuate widely, this method of valuation gives a more realistic indication of potential profit. Using the market value method will mean that tax is paid when the value of stock increases, and because the eventual sale value of the stock will be closer to its tax value, the sale of stock will have less effect on taxable income.

Market value may be the best choice for enterprises in which a large proportion of the stock are sold each year, for example, fattening and selling steers and other non-self-replacing enterprises.

Replacement value
For livestock it is likely that the market selling value and the replacement value will be similar, as the stock would normally be purchased and sold in the same market. The replacement value method may result in a different valuation to the market selling value for manufactured trading stock such as clothing and cheese, as the replacement cost may be the cost of manufacture. However, in this case the replacement cost will be the same as cost price. For these reasons, replacement value rarely provides a practical alternative to either cost or market selling value.

Breeding horses
Horses over the age of three years that have been purchased for breeding purposes can be valued using special rules that allow the value of the horse to be depreciated over a number of years. This system operates to recognise that breeding horses are not normally held for resale and therefore should not be valued in the same manner as other trading stock. Under this method of valuation all female horses over 12 years are valued at $1, and younger male and female horses can be depreciated over a minimum of four and 12 years respectively.

Abnormal sales and uses of trading stock
Trading stock sold as a normal part of business activities is ordinary income and forms part of assessable income. Abnormal sales of trading stock also give rise to assessable income in the form of statutory income. Abnormal sales are valued at market value, which may arise when trading stock is sold with the sale of the whole business or transferred on the death of the owner. Trading stock taken for private use (for example, animals killed for household use) is also assessable income of the business and is potentially valued at market value because this represents an abnormal sale. However, as a general practice the ATO allows the assessable value of trading stock taken for private use to be based on the cost these items are valued at for tax purposes rather than their market value.

Abnormal sales resulting from fire, flood or drought are also assessable income (in the case of losses the insurance recovering is assessable). However, taxation concessions are available which allow these abnormal receipts to be spread over the next five years, or removed from assessable income if the sale proceeds are used to replace the stock sold. The Act also contains concessions where a wool grower is forced through fire or seasonal conditions to shear sheep twice during the financial year. This concession allows the taxpayer to choose to defer the taxation of the second shearing to the following tax year.

Capital gains

Capital gains made on the disposal of certain assets acquired after 19 September 1985 may give rise to assessable income in the form of Capital Gains Tax (CGT). In turn, capital losses may be used to reduce the assessable amount of capital gain for that year or the losses can be carried forward to reduce future capital gains. The key elements of the CGT legislation are as follows.

- It only applies to CGT assets acquired after 19 September 1985.
- *Net gains* (sale price less costs) are assessable as statutory income.

- Capital losses can be used to reduce the assessable amount of capital gain but they cannot be used as a deduction against other forms of assessable income. If the capital loss cannot be used in the current year it can be carried forward to reduce future capital gains.
- CGT assets acquired after 21 September 1999 may be eligible for a 50% discount on the assessable capital gain.
- CGT assets acquired before 21 September 1999 are eligible to have their cost increased to allow for inflation, or the net gain reduced by the 50% discount. It is necessary to calculate the effect of these two options to determine which gives the least assessable income.
- CGT generally applies to all assets including private assets but some gains are disregarded (for example, assets that are depreciable for tax purposes and the main residence of the taxpayer).
- CGT only applies to the part of the gain not taxed elsewhere in the Act.

Allowances for inflation and the 50% discount mean that capital gains are taxed more favourably than ordinary income and other statutory income. As a result there may be reduced tax if a sale gives rise to CGT rather than being taxed under some other provision of the Act.

Assets subject to capital gains tax

Although it is fairly obvious that capital gains will apply to physical assets such as land, buildings and machinery, it is less obvious that it also applies to non-physical assets such as goodwill, gains on foreign currency transactions, shares, lease agreements, options to purchase property, patents, licences to use technology, and many other agreements and legal rights. One of the most important aspects of capital gains is that it has a very broad application and can affect transactions that most taxpayers would not recognise as having capital gains consequences.

Example 8

Capital gains tax may arise when gifting land or other property to a family member, making payments as guarantor of a loan, and receiving compensation for damages relating to a business matter. Consequently, it is wise to seek advice from a professional tax consultant before entering into any agreement or obligation: for which payment is received, which alters the business structure, which could be sold, or which changes the value of other assets of the business.

Capital gains exemptions and concession

Although the coverage of CGT is very wide, there are some exemptions and concessions that exclude or reduce the capital gain that is assessable. For example, there is no CGT on gains realised on the disposal of cars and small commercial vehicles, trading stock, items subject to tax depreciation, assets disposed at death and the taxpayer's home (see Appendix 2 to this chapter for a checklist of exemptions to CGT). The most important of these exclusions are covered briefly in the following discussion.

Personal use assets and collectibles
Gains or losses realised on the sale of personal use assets (for example, personal furniture and belongings) are not subject to tax if the asset cost $10,000 or less. However, personal use assets such as jewellery, artworks, antiques and other collectibles listed in the Act are exempt if the item, or the collection set, cost $500 or less.

Main residence
It is a common misunderstanding that the sale of a private home is never subject to CGT. The sale of a private home is potentially subject to CGT, and it is only because of the specific exemption that any gain or loss on the sale is not assessable. Specifically, any gain or loss realised on the sale of a taxpayer's main residence, including two hectares of land, is disregarded for CGT provided it is not used for business purposes. If the private home or any part of the two hectares surrounding it is used for business purposes (for example, farm office or farm sheds) then the full exemption will not be permitted. In this case the gain will be apportioned between the private and business use and only the private proportion will be exempt.

Special rules apply where the owner of the main residence is not living in the home and has not taken up a new main residence. In this case the exemption continues for up to six years if the property is rented, or indefinitely if the house is not used to earn assessable income. Care must also be taken when selling a home and buying another as the exemption only allows two houses to be owned for an overlapping period of six months. Specific rules also apply to families that own more than one house, to building or renovating a home and to homes inherited from a deceased estate.

Deceased estates
Under the general rules of CGT the transfer of assets as a result of death would give rise to CGT, but the Act specifically exempts any capital gain or loss arising from the transfer of the deceased's asset to the beneficiaries of the estate. As a result there will normally not be any CGT levied at the time of death. However, this exemption does not apply if the beneficiary is a tax exempt entity such as a charity, and therefore assets passed by will to a charity could result in CGT being levied on the deceased estate. It is also important to note that this exemption only relates to the deceased taxpayer, and the beneficiaries of the estate need to be aware that they have acquired assets subject to CGT. The beneficiaries' acquisition takes place on the date of death and could give rise to CGT on the sale of these assets at a later date. In some cases the tax liability of the beneficiary will include the capital gain accumulated during the life of the deceased taxpayer.

The main residence of the deceased will normally be exempt from CGT provided it is sold within two years after the date of death.

CGT rollover
Some situations that give rise to CGT would create a tax liability even though there has not been a genuine change in ownership. For example, the transfer of assets to a company that is owned by the taxpayer, the transfer of assets on marriage breakdown and the replacement of assets lost or destroyed. In these cases the CGT realised is not taxed at the time of the event but is deferred until the asset is actually disposed of. This deferral of tax is known as *rollover*.

Small business CGT concessions
Primary producers may be eligible for additional CGT concessions if they are classified as a CGT small business. These concessions considerably reduce the tax liability on capital gains from the sale of separate assets or the sale of the whole business. To be classified as a small business for CGT the following conditions must be satisfied.

- Net assets (assets minus liabilities) owned or controlled by the taxpayer must not exceed $6 million. Private use assets are excluded from this test. To avoid a business being split into several entities to meet this test, business assets controlled through a company or other entities are included. Simplified tax system (STS) taxpayers are not required to satisfy the net assets test.
- The assets to which the concession applies must be *active* assets. That is, the assets must be actively used in carrying on of a business. This requirement prevents the small business concessions applying to passive investments such as rental properties.
- For assets not owned directly by the taxpayer but which are held in a company or trust, additional tests relating to the control of the entity holding the assets must be met.

Provided the taxpayer meets the CGT small business tests, then one or more of the following concessions will be available to reduce or defer the tax liability on capital gains.

- The assessable amount of the capital gain realised is reduced by 50%. This is in addition to the general 50% concession available to other taxpayers and will result in a total 75% reduction in the assessable capital gain.
- The sale will be exempt from CGT where the asset disposed of has been owned continuously for 15 years and the taxpayer is over 55 years of age and retiring.
- CGT is deferred if the funds from the sale are invested in superannuation. This is limited to a maximum of $500,000 over the life of the taxpayer, and the gain will be taxed when the funds are withdrawn from the superannuation fund.
- Funds subject to CGT that are used to purchase new active assets are excluded from assessable income. However, this reduces the cost of the new asset for tax purposes thereby deferring rather than eliminating the tax liability.

Other exemptions
Gains or losses on the sale of assets that are taxed outside of CGT are specifically excluded from CGT to avoid double taxation. These include:

- trading stock
- compensation or damages for personal injury
- grants or compensation for firearms surrender, dairy re-establishment payments sugar industry exit scheme and other rural adjustment schemes
- transfer of personal life insurance
- assets depreciated for tax purposes
- gains taxed as ordinary income.

When are capital gains assessable?

Normally capital gains tax is due in the tax year that the taxpayer receives the money for the CGT event. For physical assets such as land, this will occur at the time of sale, but

with non-physical assets such as rights to compensation, it is far more difficult to determine if CGT is due. For example, a CGT event may occur when the taxpayer enters into an agreement and as a result receives money.

Example 9

The taxpayer plans to sell property and a prospective buyer pays money to acquire an option to purchase that property. In this case the seller of the property has disposed of an asset (the option) and the money received will give rise to CGT. It is important to note that the creation of the option is not a disposal of the land that is being sold. Specific CGT provisions deal with the treatment of options, so that where the property is ultimately sold to the holder of the option, the option is ignored and any money paid for it is simply added to the value of the property sold.

Calculation of capital gains or losses

Once a CGT event occurs then the net gain, if any, will be assessable provided it is not assessable under some other provision of the Act. If there is a net loss this loss can be used to reduce other capital gains from the current year, or if the loss cannot be used it may be carried forward indefinitely to reduce future net capital gains. Capital losses are only allowed as a deduction against capital gains, they are not allowed as a deduction against other types of income such as business income.

To calculate the capital gain, the capital costs of the asset (cost base) are subtracted from the sale price (capital proceeds). To realise a capital loss, the capital proceeds must be less than the cost base of the asset.

Capital proceeds on the disposal of an asset include any money received, and the value of goods or property received as a result of the disposal. Capital proceeds therefore include the normal sale price of the asset, the market value of property exchanged for the asset and insurance recoveries on the loss or destruction of the asset.

The cost base of a CGT asset is the addition of the following five factors but does not include any amount that has been or would be deductible under some other provision of the tax legislation:

- money or the value of property given to acquire the asset
- the capital cost of improving the asset provided those improvements are reflected in the value of the asset at the time of sale
- the costs of acquisition and disposal of the asset
- the costs of defending ownership of title to the asset
- non-capital costs of ownership that have not been allowed as a deduction (for example, rates and interest on a property that has not earned assessable income). These costs cannot be included if the sale resulted in a capital loss.

Market value will replace the actual amount used to determine the gain or loss where the cost or the sale value of the asset is nil, or not commercially justifiable (for example, sold to a family member). This means that if the taxpayer gifts property subject to CGT to a family member, then the taxpayer will be deemed to have received the market value

of the property even though nothing was actually received. This can cause the imposition of tax despite the fact that no money was paid.

Allowances for inflation
Assets acquired before 21 September 1999 are eligible to have their cost base *indexed* to allow for inflation. Indexation increases the cost base of the asset and therefore reduces the amount of assessable capital gain, but indexation cannot be applied if the sale results in a loss. Assets acquired before 21 September 1999 are also eligible for the 50% discount (see below) so it is important to ask a tax professional to determine which method produces the lowest taxable income.

Fifty per cent discount
Assets sold after 21 September 1999 may be eligible to have the assessable capital gain reduced by 50%. To be eligible for this concession all of the following conditions must be met:

- the asset must be held for at least 12 months
- the asset is not owned by a company
- the cost base is not indexed
- the CGT event is not excluded by the Act. Common disposals such as a normal sale or the loss or destruction of an asset are not excluded.

Other statutory income

Trading stock and CGT are the most significant areas of statutory income applicable to agribusiness but other important provisions are discussed briefly below (see Appendix 3 for checklist of assessable income).

Business related bounties, subsidies and rebates
Bounties and subsidies received in relation to the carrying on of the business are assessable income either as ordinary or statutory income. This will include drought subsidies, payments to exit an industry, payments to assist recovery from fires and rebates of fuel tax. However, in specific cases the government may exempt certain payments from tax such as disaster relief payments, sugar industry exit grants and Farm Household Support payments. Charitable gifts received are not income under these provisions and are therefore not assessable income.

Withdrawal of farm management deposits (FMDs)
Investments in farm management deposits are allowed as a tax deduction in the year of investment and are assessable when withdrawn (see later in this chapter for a more detailed discussion of FMDs).

Profit on the sale of leased motor vehicles
Profit made on the sale of a leased motor vehicle used in carrying on of a business, which was acquired by the lessee at the end of the lease and then sold, is assessable income.

Wages and salaries
Salaries and wages are ordinary income and are therefore assessable, but some receipts may also be assessable as statutory income at reduced tax rates. For example, fringe benefits provided by an employer are not assessable to the employee but the employer may

be liable for Fringe Benefits Tax (FBT is covered in more detail later in this chapter). Payments received on termination of employment may also be eligible for tax concessions.

Dividends

Dividends received from the ownership of company shares are assessable as ordinary income. However, dividends are also specifically made assessable as statutory income and may be eligible for a rebate for tax already paid by the company. This rebate is known as an imputation or franking credit and it will be shown on the dividend statement.

The following example (shown in Table 7.2) illustrates how dividends and imputation credits affect tax. In this example the taxpayer has received a fully franked dividend of $4,200 (imputation credit of $1,800) and an unfranked dividend of $1,500. Franked dividends are dividends that the company has already paid some tax on, whereas unfranked dividends have had no tax paid on them. The franking or imputation credit allocated with the dividend payment is included in assessable income, but is also allowed as a credit against the tax due on assessable dividends.

Imputation credits can result in a tax refund if the taxpayer is not liable to tax or if the credit is greater than the total tax due. This refund can be claimed through the submission of a normal tax return or through special application to the ATO.

Table 7.2 Taxation of dividends

Fully franked dividend	$4,200
Unfranked dividend	$1,500
Total dividend received	$5,700
plus imputation credit	$1,800
Total assessable dividend	$7,500
Tax on assessable dividend assuming a tax rate of 45% = $7,500 × 45%	$3,375
less imputation credit	$1,800
Tax due on dividends	$1,575

Trust income

Distributions of income received by a beneficiary of a trust are specifically made assessable as statutory income. However, if the taxpayer receiving the distribution is under the age of 18 at the end of the tax year, then the trustee is liable to pay the tax on behalf of the beneficiary.

Partnership income

The share of partnership income allocated to each partner of a partnership is statutory income and assessable income for each partner. In addition, partnership tax losses allocated to each partner can often be used to reduce the partner's taxable income.

Exempt income

For social and political reasons some taxpayers and some specific items of income are exempt from income tax. These include the obvious organisations such as charities, schools, churches and community services, but they also include associations established for promoting and developing resources in the areas of agriculture, horticulture, pasture improvement and viticulture. Exempt income includes a very limited range of pensions

and social security benefits, but notably does not exempt common social security benefits such as unemployment benefits, AUSTUDY, Youth Allowance, and aged and sickness benefits, which are all assessable. Some exemptions are however given for income received as drought relief or as a result of compensation paid in relation to natural disasters.

Allowable deductions

The second part of the calculation of taxable income is the determination of the deductions that can be claimed against assessable income. This next step is shown in the tax equation introduced at the start of the chapter.

Taxable income = assessable income – deductions

Like assessable income, the rules allowing deductions are divided into two classes – general deductions and specific deductions. It is under the area of general deductions that most deductions are claimed but the specific deductions contain some important tax concessions (see Appendix 3 to this chapter for a checklist of deductions).

General deductions

General deductions are allowed for expenses that are associated with the production of assessable income or carrying on a business. One of the most critical requirements in determining deductibility is to show the connection between the expense and the earning of assessable income. Capital and private expenses are specifically excluded from general deductions, but some capital expenses are still deductible under the specific deduction provisions.

Normal operating expenses of a business usually fit within the category of general deductions. This includes such expenses as wages, animal husbandry, annual cropping and harvesting costs, pasture maintenance, annual administration costs, machinery maintenance and running costs, interest paid on business loans, fodder conservation and purchases, and purchases of trading stock. However, the capital exclusion means that expenses such as the purchase of equipment, farm improvements and building, land clearing and legal advice on changing the business structure are not deductible as general deductions. To obtain a deduction for capital expenses it is necessary to rely on specific deductions permitted under the Act.

Personal expenses are not deductible, so that private living expenses such as food, clothing and housing are not deductible. This exclusion may also apply even if members of the family are paid employees of the business. Separation of private and business expenses is often a difficult and controversial matter.

Example 10

Where part of the family home is used as a business office, a reasonable percentage of power and other costs associated with running and maintaining the office are a general deduction. However, a share of the ownership costs such as mortgage interest and rates on the home would not be deductible because the home is essentially private in nature. For ownership costs such as interest and rates to be deductible, the office would have to be a place of business that was not a normal room in the home.

Difficult distinctions between private and business expenses also arise in relation to travel and clothing. For example, normal work clothing is seen as personal and not deductible, but specific protective clothing such as overalls and waterproof clothing are deductible as they perform a specific role in carrying on the business. Similarly, where the owner of the business does not live on the property but has to travel to get to work, this home-to-work travel is private and not deductible. In contrast, travel related to the business, such as attending field days, is deductible because it is associated with carrying on the business. It is also important to note that some expenses are only deductible if the prescribed records are kept (see later in this chapter), and where an expense is partly business and partly private, only the business proportion is deductible.

Specific deductions

In addition to general deductions, a deduction may be available because of a specific provision of the Act. To be eligible for a deduction under these specific provisions it is necessary to fulfil the specific requirements of the Act. The most important of these specific deductions are summarised below.

Tax-related expenses

Income tax is a personal expense and therefore the costs associated with meeting tax obligations are not allowed as a general deduction. However, the non-capital costs of preparing an income tax return and managing income tax affairs are specially allowed as a deduction. The cost of income tax itself is not an allowable deduction as it is a personal expense, as is interest paid on borrowings to fund the payment of income tax. Other taxes such as property rates and fringe benefits tax that are related to the carrying on of the business or earning assessable income are deductible as a general deduction.

Businesses that are entitled to claim a credit for the GST paid on purchases cannot include the GST proportion of the cost as a deduction as this is not a real expense. Even though GST is paid at the time of purchase the real cost of the item is the cost less GST, as the GST will eventually be allowed as a tax credit. If the business is not entitled to a credit for the GST paid, then the full value of the purchase including GST can be claimed as a deduction.

Repairs

The cost of repairs associated with the business could be a general deduction; however, they are also a specific deduction. Although repairs are deductible, capital improvements are not, and it is often difficult to distinguish between a repair and an improvement. A repair is normally defined as a restoration of the asset to return it to working order, but where there is an improvement or alteration of the asset the expense will be capital and not deductible.

Example 11

When the taxpayer maintains a fence by replacing a broken wire or post the work is clearly a repair, but if the fence is fully dismantled and rebuilt using the same wire but new posts, the work has substantially improved the fence. In fact, if the wire was later replaced, then all the materials in the fence are new and the work is more of an improvement than a repair.

Similarly, if an item of machinery is purchased in a poor state of repair and requires initial repairs to get it into a functional state, then these costs are capital and not deductible because the item has been improved from its condition at purchase. Even though capital costs are not deductible under the repair provisions they may be partly deductible under some other specific provision such as depreciation.

Bad debts

Where the taxpayer shows income as assessable on an accruals basis (discussed later in this chapter), a deduction is allowed for debts that cannot be collected provided they have previously been declared as assessable income. The deduction for the bad debt is allowed in the year that the debt is written-off in the accounts. If the taxpayer only declares income as assessable when actually received (cash basis) then there can never be a deduction for bad debts.

Capital allowances

Although capital expenses are not allowed as a general deduction, some capital expenses are deductible under specific provisions of the Act. The most significant capital deduction is for depreciation of assets that decline in value over time, but other capital costs such as the cost of landcare and water conservation may also be deductible.

Depreciation

A specific deduction is allowed for depreciation to recognise the fact that some assets have a limited life, and their capital value is used up over that life. Depreciation is therefore allowed as a deduction if the asset is used in carrying on the business, it has an effective life and it declines in value over its life. This will include most assets used in a business of primary production including: plant and machinery, buildings and sheds, fences, production equipment, and employee accommodation and facilities. However, depreciation deductions are not permitted on land, some structural improvements, trading stock, and some non-physical assets such as goodwill.

Example 12

Deductions for depreciation are allowed as a percentage of the cost (excluding GST credits) of the asset spread over its normal working life. For example, if an item of plant costing $50,000 was purchased on 1 July and has an effective life of 10 years, then a depreciation deduction of $5,000 ($50,000 × 10%) can be claimed each year until the asset is depreciated to nil value. The depreciation rate of 10% is based on a straight line depreciation of 1/10th of the cost of the asset per year for the life of the asset.

Two methods of calculating depreciation are permitted for tax purposes. First, the prime cost method as illustrated in the previous example and second, the diminishing value method which allows higher depreciation in the early years of ownership but the amount claimed as a deduction declines each year. Using the diminishing value method the rate of depreciation is 2.0 times the prime cost rate giving a deduction for depreciation of this

asset in the first year of $10,000 ($50,000 × 10% × 2.0). In the second year the deduction is $8,000 (($50,000 – $10,000) × 10% × 2.0), as this method requires the accumulated depreciation to be deducted from the purchase price before depreciation is calculated for the next year. The choice between the prime cost and diminishing value methods depends on the nature of the business, but many tax advisers recommend diminishing value depreciation as it gives higher deductions in the first few years of ownership.

Where an asset is not owned for the whole year the depreciation deduction is only allowed for the proportion of the year the asset is available for use. For instance, if in the previous example the item costing $50,000 was purchased on 1 January, then in the first year only $2,479 ($50,000 × 10% × (181/365)) of the prime cost depreciation of $5,000 will be allowed. The full depreciation also may not be deductible if the asset is used partly for business and partly for private purposes. In this case it is necessary to determine the percentage business and private use of the asset and only the business proportion of the depreciation is deductible.

This example illustrates some of the many technical aspects of calculating depreciation that the taxation adviser will use when determining the final depreciation claim.

Special depreciation rates

In addition to the normal methods of calculating depreciation deductions, some provisions apply to simplify the recording of depreciable assets. The most relevant of these are the rules relating to the purchase of low value capital items and the rules relating to smaller businesses. To reduce the need to individually record small items of plant, articles costing less than $1,000 can be pooled and depreciated on the total value of the pool rather than as individual items. In addition, items costing $300 or less that are used to earn non-business assessable income can be depreciated in full in the year of purchase.

Smaller businesses may also be eligible to use the simplified method of depreciation that is part of the simplified tax system (STS). Under the STS it is not necessary to keep records of each individual asset for tax purposes as assets are pooled into one of three categories and depreciation is applied to the total value of the pool. An STS taxpayer is permitted to fully depreciate in the year of purchase items costing less than $1,000, and dearer items are pooled into one of two pools depending on the expected life of the asset.

Depreciation rates are normally determined from the effective life of the asset but in the case of non-physical assets such as patents, copyright and registered designs the effective life is difficult to determine. To overcome this problem the Act specifies the effective life that is to be used for these assets, for example, registered designs are treated as having an effective life of 15 years.

Limits are placed on the deductible depreciation that may be claimed on motor vehicles that are used in the business. This limit is implemented by setting a maximum value for motor vehicles. The current maximum value can be obtained from the Australian Tax Office website (www.ato.gov.au).

Sale of depreciated assets

When a depreciable asset is sold, an adjustment is made to taxable income depending on whether too much or too little depreciation had been allowed. This adjustment is termed a *balancing adjustment*. In the previous example, a $50,000 asset was depreciated at 10%

per year for 4 years resulting in the value of the plant being written down from $50,000 to $10,000 ($50,000 – ($50,000 × 10% × 4)). If this asset was sold for $15,000 in the current year, then too much depreciation has been allowed and the $5,000 excess (sale value less written down value) is added to assessable income to recover the surplus depreciation claimed. Conversely, if the plant sold for less than its written down value then a deduction equal to the difference between the sale value and the written down value will be allowed.

Other capital deductions

In addition to depreciation, deductions are also allowed for other specific capital costs not covered by the depreciation provisions. In some cases these deductions are only available if they are incurred in carrying on a business of primary production.

Buildings and structural improvements

Capital works on new structural improvements and buildings that are not eligible for depreciation, or any other specific deduction, may be eligible for a 2.5% or 4% deduction per year.

Write-off of business capital costs

Certain capital business expenses that are not deductible under any other provision of the Act may be written off over five years. These expenses include: business establishment costs, costs of altering the business structure and the cost of winding up a business.

Landcare

Capital expenditure on landcare is fully deductible in the year of the expense if it is incurred in carrying on a business of primary production or a business of providing water to rural properties. This deduction extends to expenditure on fences, dams and certain other structural improvements but it does not include expenditure on plant. Landcare includes expenditure that relates to:

- the destruction of animal and plant pests
- prevention of soil degradation through erosion and declining soil fertility and structure, or
- construction of fencing and drainage works required for the above operations or to assist with other landcare plans.

Water facilities

Capital expenditure on water facilities is deductible over three years if incurred in carrying on a business of primary production or a business of providing water to rural properties. The first deduction of one-third of the expense is allowed in the year incurred. Items eligible for this concession will include:

- irrigation development and equipment costs
- costs of constructing and improving facilities for conveying water including the cost of supplying electricity, or
- dams, earth tanks, concrete and steel tanks, windmills, channels, tank stands and other similar items.

If the expenditure includes items that are not wholly used for primary production then the deduction is reduced proportionally.

Horticultural plants
A deduction is available for the capital costs of establishing horticultural plants, including grape vines, provided the expense is not deductible under any other provision. The deductible expense includes the cost of the plants owned or purchased by the taxpayer provided the plants are used in a horticultural business for the production of assessable income. In addition, establishment costs such as preparing the plant and planting site can also be included. The deduction allowed depends on the life of the plant and the time owned during the current year. For example, a plant with a life of less than three years gives rise to a deduction of 100% of the costs, a plant with a life of three to five years – 40% per year, through to a plant with an effective life of over 30 years for which 7% per year is allowed. Trees planted to gain carbon credits are not eligible for these deductions.

Electricity supply
A deduction of 10% per year for 10 years is allowed for the capital costs of upgrading or connecting mains power to land owned or occupied by the taxpayer and used to carry on a business to earn assessable income. The full deduction is allowed in the first year regardless of when the expenditure is incurred, and the deduction is allowed even if the power used is not solely for business purposes. To be eligible for the deduction it is not necessary to be in a business of primary production.

Telephone lines
A 10% deduction per year for 10 years is allowed for the capital costs of connecting or upgrading a telephone line to land used in a business of primary production. The full deduction is allowed in the first year regardless of when the expenditure is incurred, and the deduction is allowed even if the line is not solely for business purposes. Radio telephones are included in this deduction provided it is not practical or economical to install a conventional landline.

Cost of acquiring growing timber
A deduction may be available for the purchase of the right to fell timber or standing timber acquired with land, provided the purchase price recognises the value of the timber. This deduction is allowed at the time of sale of the timber by allowing a proportion of the purchase price attributed to the timber to be offset against the revenue from the sale. A deduction may also be available if an immature plantation is purchased as part of a timber operation and the land is later sold with the standing timber. In this case, a deduction is allowed at the time of sale for the separate cost originally paid for the standing timber. The provisions of the Act allowing these deductions also contain provisions to prevent the use of non-commercial valuations of the standing timber.

Other deductions for capital expenditure
These can include:

- lease preparation costs
- loan establishment and termination fees

- certain research and development expenditure
- environmental impact studies
- environmental protection.

Past and current year losses
In the event that taxable income is negative for any year (deductions are greater than assessable income), then the resulting tax loss may be carried forward indefinitely and used as a deduction against future taxable income until all the loss is used as a deduction. However, current year business tax losses cannot be used as a deduction against income from other sources (for example, employment) unless one of the following criteria has been met:

- business assessable income is equal to or greater than $20,000
- taxable income was positive for at least three of the past five years
- real property assets of the business are $500,000 or more, or
- other assets of the business are $100,000 or more.

This restriction only applies to losses realised from business activities and it does not apply to losses from investments such as rental properties or share investments. Losses that cannot be used as a deduction in the current year can be carried forward and used as a deduction in later years once the business meets one of the above tests.

Farm management deposits (FMDs)
One disadvantage of agribusiness is that business income may fluctuate substantially from year to year because of the effect of market and climatic conditions. These fluctuations cause additional tax liability because the higher rate of tax paid in the years of high income is not fully compensated by the lower tax paid in poor years. One of the methods of reducing the effect of these fluctuations is through the use of farm management deposits (FMDs).

Concessional tax treatment on FMDs is available to individual taxpayers (not companies) involved in a business of primary production. The tax concession is achieved by allowing a deduction for FMDs (normally a non-deductible capital expense), and making the withdrawal of the investment assessable income (normally in a low or loss income year).

Deposits must be made with an eligible investment institution, be a minimum of $1,000, and the total of all FMDs held cannot exceed $300,000. Withdrawals must be a minimum of $1,000 and they cannot be withdrawn within 12 months of deposit unless exceptional circumstances apply.

Gifts
Gifts of $2 or more to specified charities are deductible. It is important to check if the charity is registered as not all donations to charities are entitled to the deduction. Deductibility must be shown on the receipt for the gift.

Limits to deductions
The final step in determining the amount of deductions available against assessable income is to appreciate that some expenditure that may normally be deductible is denied

a deduction. The following areas of expenditure are limited in their deductibility (see Appendix 3 for a checklist of expenses excluded from deduction).

GST credits
Goods and services tax (GST) included in purchases and other expenses cannot be included in the deductible amount if the taxpayer is eligible for a GST credit. In this situation the GST paid is not an actual expense as it is refunded by the ATO and therefore cannot be included in your deductions.

Example 13

Purchase of fuel to the value of $2,200 (including GST) will give rise to a $200 GST credit, and the tax deduction allowed will be $2,000 ($2,200 – $200). If the expense does not include GST, or the taxpayer is not entitled to a credit for GST, then the full amount of the expense is deductible.

Where the taxpayer is entitled to a GST credit, GST must also be deducted from the cost of depreciable assets, the cost base of CGT assets and the value of closing trading stock.

Entertainment
The cost of food, drink and other entertainment expenditure is denied a deduction unless it meets the general rules of deductibility and is specifically listed in the Act as not covered by the exclusion. Examples of the expenditure that are not denied a deduction include seminars of at least four hours, and certain expenses relating to employees, advertising and the entertainment industry.

Excessive payments to associates
To prevent excessive deductions being claimed for payments of wages and salaries to family members, the Act limits the deduction to a 'reasonable amount', which is judged on normal commercial rates. A similar restriction applies to wages paid to associates of a partnership or company.

Higher Education Loans Programme (HELP)
Higher Education Loans Programme (HELP) (previously the Higher Education Contribution Scheme, HECS) payments are not deductible unless paid by an employer and subject to fringe benefits tax (FBT).

Non-compulsory uniforms
Only truly protective clothing is deductible as a general deduction; however, non-compulsory uniforms will be deductible if the design of the uniform is registered with the Secretary to the Department of Industry, Science and Tourism.

Relative's travel expenses
General exclusion of personal expenses will deny a deduction for the travel costs of family members who accompany the taxpayer on business trips. These costs are also specifically excluded by the Act.

Timing of assessable income and deductions

Having determined what is included in assessable income, it is important to understand in which year it is assessable because an important part of tax planning is understanding the timing of the tax liability. For example, at the end of the tax year farming produce may have been sold but may not have been paid for. In this case the question arises whether this assessable income is included in the year of the sale or the year of the receipts. To answer this question it is necessary to understand that two different systems exist for determining the timing of income and deductions, these are *the cash accounting* and the *accruals accounting* methods. Strictly speaking the taxpayer does not have a choice on which of these two methods are applied to the business as it is determined by the type of business and the way it is operated.

Most businesses are required to use accruals accounting, but small businesses that do not employ labour and that account for business transactions on a cash basis may use the cash accounting system for taxation purposes. Regardless of which tax accounting method is applied, accruals accounting will always apply to trading stock transactions. It is important to note that the cash or accruals accounting methods do not influence the taxation of capital gains.

Cash accounting

Under the cash accounting basis receipts are assessable in the year received and expenses are deductible in the year the liability for payment arises. No deduction is allowed for bad debts, and assessable income for the year does not include sales for which payment has not been received.

Accruals accounting

Under the accruals system income is assessable in the year that the right to be paid arises and deductions are allowed in the year the obligation to pay occurs. For example, with the accruals method the cost of fuel delivered to the farm but not yet paid for will be deductible in the year of delivery, not the year of payment. Similarly, the delivery of produce to a customer will be assessable in the year of delivery regardless of whether payment has been received or not. An exception to this will arise when produce is delivered to a marketing cooperative or pool. In this case, the income will only be assessable when the cooperative or pool informs the producer of the amount to be paid for the produce.

Prepayments

Under both the cash and accruals tax accounting systems expenses are normally deductible in full in the year they are incurred. However, in the case of payment for services that are not fully supplied in the year of income, the deduction will only be allowed over the period the service is provided. Some exceptions to this rule apply to taxpayers using the simplified tax system.

Calculation and collection of income tax

The final step in determining tax liability is to understand how the amount of tax is determined from the taxable income. As explained previously in this chapter, Australian

income tax is levied based on the principal of the taxpayer's ability to pay, resulting in higher rates of tax for higher incomes. This means that as total taxable income rises, the average rate of tax paid per dollar also increases, as does the marginal rate of tax. The tax rate applied to the next dollar earned is termed the *marginal tax rate* and this is the rate that must be used to determine the effect that changes in taxable income will have on the tax paid.

Whereas individuals pay tax on an increasing tax scale, companies are taxed at a flat rate of tax for every dollar earned. Similarly, children under the age of 18 years that earn income from investments also pay tax at a flat rate that is equal to the highest tax rate paid by individuals. Different rates of tax applicable to companies, individuals and children under 18 years affect the decision on what structure to use to operate a business (see Chapter 8).

The income tax system is also used to collect other taxes, which are used to fund public health and education costs. In Australia a fixed Medicare levy is added to the tax rate, and a Higher Education Loan Programme (HELP) operates to collect additional tax from taxpayers who have undertaken tertiary education. HELP tax is levied once the taxpayer earns above a specified level and increases as taxable income increases.

Tax rate averaging

A progressive tax rate is a disadvantage to taxpayers whose income fluctuates considerably from year to year. This is because the higher rates of tax paid in the high income years will not be fully compensated for by the lower tax paid in the low income years. To alleviate this effect primary production income may be taxed using an averaging system. Averaging operates over a five-year period and has the effect of levelling out the tax liability by lowering tax in years of high income, and increasing tax in years of low income. This effect may not always be seen as an advantage because it may cause added cash flow problems in low income years. However, averaging will lower the total tax due over the life of the business unless average income is continually decreasing. Steadily decreasing income results in the currents year's income always being taxed at the higher average rate. If this is the case the taxpayer may withdraw from averaging and return to normal taxation rates. Once a taxpayer withdraws from averaging it is not permissible to re-enter the scheme.

Averaging is available only to primary producers who do not operate under a company structure (companies are taxed at a flat rate and therefore averaging would have no effect), and it will only be applicable to a primary producer's non-farm income if this income, excluding capital gains, is $10,000 or less in any one year. Where non-primary production income is between $5,000 and $10,000 the benefits of averaging on the non-primary production income are reduced. Full benefits of averaging on non-primary production income will only apply if that income is below $5,000. Non-primary production income includes receipts that do not result from the business of primary production and include such things as interest, dividends, contract income and wages.

The following example demonstrates how the averaging provisions operate. It is very important to note that with averaging, tax is not paid on the average taxable income. Tax

is still paid on the current year's taxable income, but at the tax rate applicable to the average taxable income.

Income for previous 5 years:	
Yr 1	$170,000
Yr 2	$7,000
Yr 3	$123,000
Yr 4	$40,000
Yr 5 – Current year	$110,000
Total	$450,000
Average taxable income = $450,000/5 =	$90,000

The average income for the last five years of $90,000 is used to determine the average rate of tax. For the purposes of this example, the tax due on the average income of $90,000 is assumed to be $26,100 (this will change as tax rates change), giving an average rate of tax of:

$$(\$26{,}100/\$90{,}000) \times 100 = 29\%$$

Finally, the average rate of tax is used to determine the tax on the actual income for the current year. In this example the last year's income is $110,000 and the average tax rate is 29%, therefore the tax due is $31,900 ($110,000 × 29%). If the $110,000 had been taxed without averaging the tax would have been higher because the average income is lower than the actual income.

Simplified tax system (STS)

Small business enterprises including primary producers may be eligible to benefit from the simplified tax system (STS). The aim of the STS is to reduce the administrative time necessary to comply with income tax obligations. STS taxpayers use a simplified and more generous depreciation system, a simplified trading stock system, more generous prepayment deductions and in some cases lower tax rates.

To be eligible to use STS (it is not compulsory) the taxpayer must meet all the following conditions:

- carry on a business
- the average annual turnover of the business, ignoring GST, for any three of the past four years must be less than $2 million.

Specific rules aim to prevent a business being divided into separate smaller entities in order to meet these requirements. Joining the STS is optional and eligible taxpayers may choose to join at any time, and they remain in the system unless they choose to leave it or become ineligible. Once a taxpayer has opted out of STS they may rejoin the system after five years or earlier in some cases. Taxpayers that leave STS because they are no longer eligible may rejoin once they again become eligible.

STS depreciation
STS taxpayers use a more generous and simpler depreciation system than taxpayers that are not part of the STS. Under STS there is no need to keep individual records of all depreciable assets as each asset is pooled into one of the following three categories.

- Depreciable assets costing less than $1,000. These items are fully deductible in the year of purchase.
- Depreciable assets costing $1,000 or more and with an effective life of less than 25 years. This asset pool is depreciated at 30% per year.
- Depreciable assets costing $1,000 or more and with an effective life of 25 years or more. This asset pool is depreciated at 5% per year.

Adjustments to the depreciation deduction are necessary when assets are bought or sold and when assets are not used wholly for the production of assessable income.

STS trading stock
Where an STS taxpayer can reasonably estimate that the difference between opening and closing trading stock is likely to be $5,000 or less, the taxpayer is exempted from valuing closing trading stock for tax purposes. The effect of this is that the change in value of trading stock during the year will not alter taxable income. As a result, the tax effect of trading stock transactions will simply be that sales are assessable and purchases are deductible. It should be remembered that a stock take would still be necessary for management and normal accounting purposes.

STS prepayments
Under normal tax provisions expenditure on services that are not fully provided in the current tax year must be apportioned for deductibility. However, STS taxpayers are able to claim a full deduction in the current year provided the service is fully supplied within 12 months of payment. The cost of prepaid services extending over more than 12 months are only deductible in the year the service is provided. For example, the deductibility of the cost of a service that is provided over three years will be spread over the three years on a daily basis. If the service extends beyond 10 years the deduction is spread over 10 years on a daily basis regardless of the service period.

STS entrepreneur offset
Taxpayers that have opted to be treated under the STS may also be eligible for the 25% entrepreneurs tax offset, which effectively is a 25% reduction in the total tax due on STS income. The full 25% offset is available if the STS turnover for the year is $50,000 or less and this is phased out to zero when turnover reaches $75,000. Where the taxpayer has income from other sources the offset only applies to the STS income.

Tax offsets (rebates)

Once the tax due on taxable income has been determined, the final tax paid may be reduced by the value of any tax offsets (rebates) that are available to the taxpayer. Tax offsets are provided for a number of social and equity reasons including allowances for dependants, the baby bonus, family allowances, single parent families, pensioners,

recipients of social security, receipt of dividends that have already been taxed, and payments received as the result of termination of employment. It is important to discuss the eligibility for tax offsets with a taxation adviser so that all entitlements are received.

Payment of tax
Income tax liability is determined from the tax return submitted by the taxpayer. However, the process of preparing the return, submission to the Australian Tax Office (ATO), assessment and payment of tax is a long process and could delay the payment of tax for more than one year after the income is earned. To reduce the delay in the collection of taxes, taxpayers contribute instalments of tax during the tax year through a system known as Pay-As-You-Go (PAYG). The PAYG system is implemented using a business activity statement (BAS) and requires tax to be paid before the final tax return is prepared. This means that tax payments are based on an estimate of tax liability, and the final tax return determines the taxpayer's actual tax. The tax paid is compared to the actual tax assessed to ascertain whether additional tax or a refund is due.

Pay-As-You-Go (PAYG)
Under PAYG businesses are responsible to first, withhold tax from certain payments, and second, pay instalments of tax on income that has not had tax withheld before it is received.

Tax withholding
Tax must be withheld from the following payments, and the amount withheld must be reported in the BAS and paid to the ATO.

- Payments for salaries and wages. This includes payments to contractors where the contract is primarily for the provision of labour.
- Directors' remuneration.
- Payments for supplies where the supplier does not provide an Australian business number (ABN).

Calculation of the amount withheld depends on a number of factors and it may be necessary to seek advice on how these calculations are made.

Tax instalments
The PAYG system also requires the taxpayer to pay instalments of tax on any receipts that have not had tax withheld from the amount received. This will include such receipts as business sales, partnership income, trust income, contract income and in some cases interest on investments. These amounts are reported on the BAS and the amount of the instalment may be self-assessed or predetermined by the ATO.

Taxpayer's obligations and rights

Preparation of the annual income tax return is not the only obligation of the taxpayer. Other obligations include the requirements to keep accurate and timely records and to regularly submit completed business activity statements (BAS).

Business activity statement (BAS)
A business activity statement (BAS), sometimes known as an instalment activity statement (IAS), must be prepared to report all tax liabilities and credits for the relevant

period. This statement is not an income tax return but it is required by the ATO to periodically determine tax instalments due or entitlement to refunds. The BAS covers the following taxes: income tax (PAYG), fringe benefits tax (FBT), goods and services tax (GST) and the wine equalisation tax (WET).

Most taxpayers are required to submit a quarterly BAS but a monthly statement is required if annual PAYG withholdings are more than $25,000, or if GST annual turnover is $20 million or more.

Australian business number (ABN)

The Australian business number (ABN) is a unique number used to identify a business for all dealings with the government. Applications for an ABN can be completed by a tax adviser, made personally online or by contacting the ATO. This ABN must be quoted on all tax invoices, and although not essential, it should be quoted on all accounts and business stationery.

Submission of a tax return

The normal tax year runs from 1 July to 30 June, and all individuals earning taxable income above the tax-free amount are required to submit a tax return before 31 October following the end of the tax year. Each individual submits only one return and this return requires the taxpayer to show assessable income from all sources (for example, wages, interest, dividends, business, partnership share and trust distributions), allowable deductions, tax offsets and tax withheld from any receipts.

Companies, partnerships and trustees must also submit a tax return regardless of the level of income, but of these only a company is a true taxpayer and must pay tax on the company income. Partnerships are required to submit a tax return, but no tax is payable by the partnership as the partnership return simply serves to show the amount of taxable income that each partner must show on their personal tax return. Trustees also must prepare a tax return that will show the taxable income to be included on each beneficiary's personal return. However, a trustee may be liable to pay tax on trust income that is not distributed, or trust income that is distributed to beneficiaries under 18 years of age. The taxation of companies, partnerships and trusts is discussed in more detail later in this chapter and in Chapter 8.

Penalties will be imposed if the taxpayer does not submit a tax return or submits it after the due date. Penalties also apply for the late payment of tax and false or misleading information contained in the tax return.

Record keeping (substantiation)

Every taxpayer is required to keep records of all transactions relevant to the determination of their tax liability. These records are to be kept in English and must be kept for at least five years. In addition to the general requirement to keep records some deductions will not be allowed unless specific records are retained. This system of requiring certain specific records is known as substantiation.

Substantiation of expenditure is required for all employee expenses, car expenses, overseas travel and extended Australian travel (five days or more). For these expenses to be deductible the taxpayer must keep detailed records including receipts that show the amount of the expense, the goods or services purchased, the date and the supplier. For car expenses there are several alternative methods of substantiation that depend partly

on the business use of the vehicle. Where business use is less than 5,000 kilometres per year, a travel diary is kept to record business travel and the deduction is then based on a set rate per kilometre. Where business travel is over 5,000 kilometres per year the deduction can be based on a percentage of the original cost of the vehicle, or claimed as a percentage of the actual running costs. Regardless of the amount of business use of the vehicle the actual business cost can be claimed if it is substantiated using the logbook method. In all cases the taxpayer should seek advice from a tax professional to determine which method of substantiation is the most appropriate, and to explain the precise records that have to be kept.

Companies are not subject to the substantiation rules, and individuals are not subject to substantiation, if the total expenses subject to these rules are $300 or less for the year. In addition, records do not need to be kept for laundry expenses up to $150, and separate expenses of less than $10 need not be substantiated if the total of these expenses is less than $200 for the year. However, these exemptions do not remove the obligation to keep general records to support all claims for deductions.

Tax audits

Administration laws controlling the powers of the ATO allow authorised officers of the ATO to gain access to a taxpayer's records, and to require a taxpayer to answer questions in relation to their own, and others', tax returns.

Obligations to deduct tax made to other taxpayers

As an employer, the taxpayer is required to deduct tax from employees' wages and pay the tax deducted to the ATO. Further obligations to withhold tax exist in relation to payments made to contractors that are engaged primarily to provide labour and where an ABN has not been quoted on an invoice. Failure to meet these obligations may give rise to significant penalties.

Measures used to reduce tax avoidance

The *Income Tax Assessment Act*, and other legislation, contains rules to prevent taxpayers avoiding their obligations to pay tax. There are specific rules that allow the Commissioner of Taxation to disallow deductions for excessive wages paid to relatives of the taxpayer or associates of a company. In addition to specific rules, the Act contains a general anti-avoidance provision that aims to prevent taxpayers from devising complex tax planning schemes that have the main purpose of avoiding tax. Penalties are imposed on taxpayers that are subject to the anti-avoidance provisions of the Act.

In an attempt to reduce the amount of tax lost through taxpayers not declaring their income, some transactions require the provision of the taxpayer's tax file number. A tax file number must be presented to establish an investment or bank account, or the financial body is required to deduct tax from any interest payments. A tax file number must also be provided by an employee when commencing employment or the highest rate of tax will be deducted from the wage before payments. Tax file numbers must also be presented for the payment of social security benefits and for the deferral of payments relating to the Higher Education Loans Programme.

Goods and services tax (GST)

Goods and services tax (GST) is a 10% tax that is borne by the final consumer of the goods or services, and although it is added at each stage of production it should not affect the profitability of the business. The supplier simply acts as a collecting agent by adding the GST to the sale price and then returning that amount to the ATO. In addition, any GST component of business purchases can be claimed as a tax credit thereby providing a refund of the GST paid. GST therefore does not alter the profitability of the business unless the business is the end consumer. For this reason it is vital to understand that GST is not included in the determination of the profit or loss of the business (see Chapter 6), and it is not normally included in the calculation of income tax. For income tax purposes the assessable amount of a receipt is the amount less the GST component and the deductible amount is the expense less the GST credit.

Table 7.3 illustrates that the GST collected on sales increases the amount that is paid to the ATO and the GST component of cost reduces the amount due. It is also important to note that it may be necessary to determine the amount of GST from the GST inclusive price. This is done by taking 1/11th of the price to determine the GST component. In this example, the GST portion of the sale price of $4,400 is $400 (1/11th × $4,400). If the GST credit was greater than the GST liability then the difference will be refunded to the business.

Table 7.3 also shows that GST does not influence business profitability. In this case the business purchased the clothing for $3,300 and sold them for $4,400, which is a difference of $1,100, but $100 GST had to be paid to the ATO leaving a profit of $1,000. If GST did not apply the farmer co-operative would have purchased the protective clothing for $3,000 and sold them for $4,000, realising a profit of $1,000, which is the same as that realised under GST.

Table 7.3 GST example: farmer co-operative

	Amount	GST		ATO
Purchases protective clothing including GST	3,300	300	GST credit 300	
Clothing sold including GST	4,400	400	GST due 400	
			Net GST 100	
Paid to ATO				**$100**

GST liability

Although the final cost of the GST is borne by the final consumer through the payment of a higher price, the actual tax is collected by the supplier and it is the supplier that is liable to pay this tax to the ATO. A liability to pay GST to the ATO arises if there is a *taxable supply*.

Taxable supply

A taxable supply arises if:

- the supplier is registered for GST

- a supply is made in relation to a business that is not a GST-free or input taxed supply
- the supply is for consideration (cash, property or an agreement)
- the supply is connected with Australia.

When all these conditions apply the supplier is liable to pay GST on the sale to the ATO regardless of whether GST was taken into account when determining the sale price. It is therefore very important to understand which sales give rise to a GST liability.

Who has to register for GST?
GST liability only arises if the business is registered for GST. Registration is compulsory where the taxpayer carries on a business and annual turnover (total sales excluding GST) exceeds the turnover threshold. The turnover threshold for non-profit organisations is $100,000 and it is $50,000 for all other businesses. Registration is optional if the taxpayer carries on a business and the annual turnover is less than the turnover threshold. An activity that is not a business activity cannot register for GST.

GST-free supply
Supplies of GST-free goods and services do not give rise to a GST liability. Consequently, GST cannot be added to the sale price of these items. There are a range of GST-free supplies but in rural and agricultural business the main GST-free supplies are: fresh food supplied for human consumption, the sale of a business as a going concern, the sale of land used for farming and the supply of water and sewerage. Other common GST-free supplies include: health, education, religious services and non-commercial activities of a charitable organisation.

Classification of food as GST-free raises the question as to what extent this exemption applies to farm produce. From the definition of food provided in the legislation it is very difficult to obtain a precise list of GST-free food, but it is generally defined as fresh food sold for human consumption. GST-free food therefore includes the following provided they are for human consumption: slaughtered animals, fresh fruit and vegetables, eggs, manufactured dairy products such as yogurt and cheese, and shellfish that can be eaten raw such as live oysters.

GST-free food does not include the sale of live animals, growing plants, unprocessed grain and non-manufactured dairy produce or unprocessed milk.

Input taxed supply
Input taxed supplies also do not give rise to a GST liability, and as a result businesses making input taxed supplies are in effect taxed as end consumers bearing the economic cost of the GST. In this situation businesses will normally pass on this added cost by increasing the sale price of produce provided it is possible to do so. Input taxed supplies include: financial supplies, residential rent, and residential housing, not including the sale or construction of new dwellings.

In addition to the listed input taxed supplies, it is important to appreciate that businesses that are not registered for GST are also effectively treated as making input taxed supplies. This is because these businesses are not liable for GST on sales and have to absorb the economic cost of GST as they are not entitled to any GST credit.

GST credits

Businesses that are registered for GST may be eligible for a credit for GST paid on costs incurred in the production of goods and services. However, to be eligible for this credit the purchases must be used for a creditable purpose. This means that the goods or services must be used in the production of a taxable or GST-free supply, and they cannot be applied for personal use. Where fencing supplies are purchased for the construction of farm fences but are used to fence the private home, then a credit will not be allowed on the cost of these materials as they are not used for a creditable purpose. Also, a credit can only be claimed if a valid tax invoice is retained showing the amount of GST in the expense. For this reason it is very important to maintain an efficient and accurate record system as described in Chapter 3.

The process of allowing a credit for GST paid on business purchases means that GST should not influence the final profit of the business (see Table 7.3), and therefore the GST component of expenses and income is not included in the financial accounts. GST must also be removed from income tax calculations, as the GST does not form part of deductible expenses, assessable income, the value of depreciable assets and the cost base of capital items.

Businesses that supply input taxed goods and services, or which are not registered for GST, are not liable to GST on supplies and are not entitled to a credit for the GST paid on goods and services. Where no credit is available for GST paid, the full cost of inputs (including GST) is taken into account for income tax and profit and loss calculations.

GST records and returns

GST liabilities and credits must be reported in the BAS to determine the net amount of the tax paid and collected in the period. If the net amount is positive this will be added to the tax payment due for the period, and if it is negative it will reduce the tax payment due or result in a tax refund.

Calculation of GST liabilities and credits depends on the timing of transactions and whether a cash or accruals tax accounting method is used. For GST purposes, a taxpayer with an annual turnover of $2 million or more must use the accruals method, but all other taxpayers are able to use either the cash or accruals accounting methods.

Businesses using the cash basis report GST liabilities when the payment for the sale is received, and claim GST credits in the period the payment is actually made. Businesses using the accruals method report GST liabilities in either the period in which the payment is received or the tax invoice is issued, whichever is earlier. GST credits are then claimed when the payment is made or a tax invoice is received, whichever is earlier.

Administration of the GST system depends on the issue and retention of valid tax invoices to record the GST component of all transactions. Without a valid tax invoice GST credits will be wasted or delayed, as a credit cannot be claimed until a tax invoice is provided. Where the total amount of the invoice is $1,000 or less then the following elements must be present for the invoice to be a valid tax invoice:

- prominent display of the words ‘Tax Invoice’
- ABN and name of the supplier

- date of issue
- full price including GST of each separate supply and a description of the item
- total GST payable
- total amount payable.

Where the total amount payable exceeds $1,000 the additional information required for a valid tax invoice is:

- recipient's name
- recipient's address or ABN.

Fringe benefits tax (FBT)

Benefits provided to employees that are not part of the normal wage may be taxable to the employer under the fringe benefits tax (FBT) system. Examples of benefits that are subject to FBT include: free private use of a business vehicle, reimbursement or direct payment of an employee's private expenses, provision of free or cheap accommodation, and the provision of free or cheap meals or produce.

Liability to pay FBT is placed on the employer not the employee, which means that these benefits are not assessable income for the employee. However, the employer may take into account the value of the benefit and the FBT when determining a final wage package. The calculation of the amount of FBT due on benefits is very complex but as a general rule of thumb the tax can be estimated to be approximately equal to the value of the benefit.

Example 14

An employer provides and employee with a fringe benefit valued at $1,000 and as a result the employer will incur a FBT liability of approximately $1,000. Although a 100% tax seems very harsh, it has the same tax effect as paying the same cash amount to an employee on the top tax rate. This is because the calculations take into account the fact that the employee would have been taxed if cash were paid rather than the benefit, and that the employer will normally be allowed an income tax deduction for the cost of providing the benefit and for the cost of the FBT itself.

A fringe benefit will arise where there is:

- a benefit
- provided by an employer or their associates or a third party by arrangement
- to an employee or their associate, and
- in relation to employment.

The definition of fringe benefit is very broad and includes benefits provided to associates such as other family members and benefits that are not provided directly by the employer. However, a benefit is only a fringe benefit if it is provided in relation to employment. Therefore benefits provided to family members who are also an employee

will not be a fringe benefit if the benefit is provided for family reasons only. To determine whether the benefit is in relation to employment it is necessary to consider how the employer treated the provision of the benefit for income tax purposes. If the employer claimed a tax deduction for the cost of providing the benefit then it will also be a fringe benefit, but if no deduction was claimed then it will not be a fringe benefit.

Although the definition of a fringe benefit is very broad the legislation also exempts some benefits for the FBT. Exempted benefits are considerably more valuable to the employer and the employee as they are not taxed under FBT nor are they assessable income for the employee. The main benefits exempted from FBT are:

- superannuation benefits
- use of non-passenger motor vehicles
- use or consumption of property by the employee on business premises during work time
- in-house childcare facilities
- newspapers and periodicals provided for business use
- benefits of less than $100 that are provided infrequently
- mobile phones, notebook computers, protective clothing and tools of trade provided that are mainly used for work related purposes
- remote area housing
- meals provided during the working day for primary producer employees.

Taxation of fringe benefits

Fringe benefits tax applies to benefits that are defined as fringe benefits and which are not exempted, but the amount of tax is determined differently for each type of benefit. While the benefit may be subject to tax, the tax amount may be zero or reduced depending on the type of benefit. The main types of benefits are:

- car fringe benefit – a vehicle is made available for private use
- debt waiver fringe benefit – employee's debt is cancelled or reduced without repayment
- loan fringe benefit – a loan is provided at lower than commercial interest rates
- expense payment fringe benefit – employer pays or reimburses a private expense
- housing fringe benefit – free or low cost accommodation
- board fringe benefit – provision of accommodation and meals
- property fringe benefit – provision of free or discounted goods
- residual fringe benefit – benefits not covered by the other categories.

The taxable values determined for each class of fringe benefit will be used to determine the final FBT amount, but the final amount of tax may be reduced due to specific exemptions and because of the 'otherwise deductible rule'. The taxable value can also be reduced if the employee contributes to the cost of the benefit.

The 'otherwise deductible rule' applies to reduce the taxable value of the fringe benefit to avoid double taxation of these benefits. This rule applies where the employee would have been entitled to an income tax deduction for the benefit had the employee incurred the expense rather than the employer.

Example 15

An employer provides an employee with a free mobile phone and pays all call costs so that the employee can be contacted at any time to deal with emergencies on the farm. If the employee had paid for these expenses then the business proportion of these expenses would be deductible for income tax purposes, and so the 'otherwise deductible rule' applies to reduce the amount of the taxable fringe benefit for the employer.

To administer the 'otherwise deductible rule' it is necessary to require employees to keep records of activities such as business related travel and other activities that may be subject to FBT.

Other taxes

Other taxes that may be applicable to the business include the following.

- **Payroll tax:** a state tax levied on the payment of wages above a set level.
- **Stamp duty:** a state tax levied on documents necessary to transfer ownership of property such as shares, land, leases and motor vehicles. The rate of tax varies depending on the property that is being transferred and its value.
- **Land tax:** a state tax based on the ownership of land. Primary production land is normally exempt from state land taxes.
- **Property rates:** are imposed by local government bodies such as shire councils, and are normally levied on the value of property owned. The methods of valuation and the rates applicable vary widely throughout Australia.
- **Wine equalisation tax (WET):** a federal tax that was introduced to reduce the impact of the removal of sales tax on wine products. The WET was introduced at a rate of 29% on the last wholesale sale value, and applies to grape wine, grape wine products, fruit and vegetable wines, cider, mead and sake. The first $1 million of domestic wholesale wines sales are exempt from the WET, which effectively provides for a maximum rebate of $290,000 per year.

Tax planning

In addition to affecting business profitability, and increasing the accounting services required, tax also exerts a considerable influence on cash flow. Although the income tax scale is designed on an 'ability to pay' basis, it is possible to experience high income tax in a low income year. Under these circumstances the cash flow will be restricted and the owners may be forced to reduce living standards, or cut business expenditure, which could reduce the efficiency of the business.

Cash flow and taxation timing

Good professional advice should ensure that the best advantage is made of all the deductions and concessions available. As well as using professional advice it is important

to remember that an accountant can only work from the farm records provided. If these records are deficient, some tax deductible expenses may be overlooked causing the payment of unnecessary tax.

Good tax planning involves considering the influence of tax on any proposed major financial or enterprise changes and should also include at least a six-monthly review with the accountant. It is also important to understand that it is not always the aim of taxation management to reduce taxable income as much as possible. In fact, it can sometimes be of benefit to increase taxable income in a particular year to avoid large fluctuations in taxable income, or to avoid wasting deductions when a tax loss is expected. For these reasons it is important to consider the tax effect of the timing of business transactions before the end of the tax year. Managing the timing of taxable income can be achieved using strategies relating to:

- income averaging
- livestock valuations
- the appropriate use of choices and options available under the Act
- managing the timing of income and expenses
- investing in FMDs.

Income averaging

As discussed previously, income averaging is an option available for primary producers to reduce the unfavourable tax effect of a progressive tax rate on fluctuating income. Table 7.4 demonstrates how averaging reduces total tax where income fluctuates, but if there is a long-term downward trend in taxable income averaging will cause higher tax. This is because the average taxable income will be consistently higher than the actual taxable income.

The example in Table 7.4 demonstrates that tax averaging substantially reduces the negative impact of fluctuating income on income tax costs. In this example, comparing

Table 7.4 The effect of averaging on total tax paid

Year	Taxable income	Total for averaging	Years averaged	Average income*	Tax with averaging**	Tax without averaging**
1	10,000			10,000	600	600
2	80,000	90,000	2	45,000	15,733	19,850
3	60,000	150,000	3	50,000	12,420	13,350
4	120,000	270,000	4	67,500	27,733	35,850
5	80,000	350,000	5	70,000	18,685	19,850
6	150,000	490,000	5	98,000	41,403	47,850
7	10,000	420,000	5	84,000	2,553	600
8	100,000	460,000	5	92,000	26,793	27,850
Total	**610,000**			**76,250**	**145,920**	**165,800**

* Averaging cannot be applied in the first year of operation and only commences once there is at least two years of income and the second year's income is greater than the previous year. In this example the income for Year 2 ($80,000) is greater than Year 1 ($10,000) and therefore averaging commences in Year 2. If the income in Year 2 was less than Year 1 then averaging would not commence. Once averaging starts (Year 2 in this example) an extra year is added to the total until five years are included and after that the last five years only are included in the total to be averaged.
** Tax rates are based on a progressive rate system but as the rates may change from year to year the tax calculated using the current rates might not give the same results.

the total tax with and without averaging shows that averaging gave a total tax saving of $19,880 over the eight-year period, which is an average saving of about $2,500 per year. Averaging will normally result in lower income tax with the one exception being where annual income is declining each year and the average is constantly greater than the actual income for the year.

Trading stock valuations

The value of trading stock held at the end of the tax year affects tax because any increase in the value of closing stock over opening is assessable, and a decrease is deductible. In light of this tax effect, the selection of the method of valuing closing stock will potentially influence the final tax liability. The importance of this decision is discussed earlier in this chapter under 'Assessable income'.

Appropriate use of choices available to the taxpayer

Apart from the opportunity available to select different methods of valuation of closing trading stock, there are a considerable number of other choices available to the taxpayer that influence the timing of the payment of tax. Advice on these choices should be sought from a tax adviser. The following list gives an indication of some of the choices available.

- Determination of appropriate depreciation rates and setting of the effective life of depreciable items.
- Use of concessional deductions for some capital expenditure.
- Deferral of capital gains through rollover in certain circumstances.
- Concessions available on the abnormal disposal of trading stock.
- Use of the indexation or 50% discount when determining CGT.
- Concessional treatment of small businesses for CGT.
- Joining the simplified tax system.

Timing income and expenses

Earlier in this chapter it was suggested that the tax situation should be assessed in early January or February each year so that any tax problems can be predicted and corrective action taken. With early warning of tax problems it may be possible to consider what options exist to manage the timing of income and expenditure as a means of tax planning.

The purchase of major capital items may be considered in years of high taxable income, but it is extremely important to guard against an end-of-year 'spending spree' that is only motivated by attempts to reduce tax. Each item purchased must be genuinely needed on the property and not purchased just because it represents a tax deduction. The objective must always be to maximise profit after tax. It is also important to remember that depreciation claims normally allow only a proportion of the initial expense as a deduction each year, and this is further reduced if the item is not held ready for use for the whole year.

If expenditure is to be brought forward to reduce tax in a year of high income, it is better to consider expenses that are fully deductible in the year incurred and are not added to trading stock, for example, increasing fodder reserves by purchasing fodder,

stocking up on fuel and animal husbandry supplies and carrying out repairs that may have been delayed from previous years.

Strategies to minimise tax through delaying the sale of livestock or other farm products should be considered very carefully, as the loss in price received as the result of poorly timed marketing may outweigh the tax saving obtained. If non-perishable items such as grains are to be kept from one tax year to the next, it must be remembered that the increase in value of produce on hand will be taxed as income through the trading stock provisions. There may also be the additional costs of storage.

Investing in FMDs

Farm management deposits (FMDs) can also be used to even out tax liabilities and provide improved cash flow in years of low income. Deposits into an FMD in years of high income will assist to reduce taxable income as investments are allowed as a tax deduction, and in a year of high income the tax saved will be at a higher marginal tax rate. Withdrawing the deposits in years of low income will even out cash flow, and although the withdrawn deposits are assessable, they will be taxed at a lower marginal rate of tax in the low income year. If the deposits are withdrawn in a year of tax losses it is possible that there would be no additional tax in that year.

Variation of tax instalments

Under the current PAYG system all taxes including income tax, FBT and GST are reported in the BAS and due to be returned to the ATO at the end of each quarter. It is vital that these tax obligations be included in the annual cash flow budget so that adequate funding is available to meet these debts. Most elements of the quarterly BAS statement can be determined reasonably accurately but the income tax instalment payments are based on estimates of tax from the previous tax year. If the estimate of the income tax instalment made by the ATO is significantly different to the actual tax situation, it is possible to vary the instalment to better reflect the true tax situation. Care must be taken when making any variation as there are penalties if the taxpayer's estimate of income is substantially below the actual income that is finally reported.

In the first year of business the ATO will not have any information on which to make an estimate of tax instalments to be paid during the year, and therefore the periodic tax payments will be much lower than normal. Following the completion of the first tax return there could be a significant amount of back taxes due and it is important that cash provisions for this are planned well in advance.

Income splitting

A progressive tax scale with set levels of minimum taxable income for each taxpayer mean that less total tax will be paid on business income if the income is distributed between members of the family. By dividing the total business income into smaller amounts the average rate of tax paid on the total income will be reduced.

In the example shown in Table 7.5 the business has a taxable income of $150,000. This is contrasted with a situation where the same income is distributed between three members of the family, that is, the same total income but with a tax saving of $21,470. This saving may be reduced if tax offsets such as dependant rebates are lost.

Table 7.5 The effect of income splitting on total tax paid*

Tax due on $150,000	$54,050
Tax due on three incomes of $50,000 each, 3 × 10,860 (tax on $50,000)	$32,580
Tax saving	$21,470

* Tax savings may change from year to year with changing tax rates

Income splitting may be achieved using one, or a combination of the following methods:

- paying wages
- forming a partnership
- forming a family trust, or
- incorporating the farm business into a proprietary limited company.

Paying wages

Where the business is operated as a sole trader (one owner), income may be split among family members by paying wages for the labour they contribute to the running of the business. This payment should be tax deductible against business income, but will be taxed in the hands of the recipient at a lower tax rate than that paid on the business income. If this is not the case then there is no advantage in splitting the income.

For any wage to be deductible against business income it must be a legitimate expense of the business, but for wages paid to a family member to be deductible it is also necessary to show that the wage is commercially justifiable. When considering the contributions made to the business by family members it is important to remember all aspects of the business including record keeping, secretarial activities, ordering supplies, marketing and other indirect business tasks. If the ATO considers the wage to be unreasonably high compared to the task, then the full deduction claimed may not be allowed. It is also important to register the business as an employer, to actually pay the wages on a regular basis, deduct the appropriate tax under PAYG, pay the required employer superannuation contributions, have appropriate workers compensation insurance and keep good records of all payments.

Part of the advantage achieved through the reduced tax rate may be eroded by added administrative requirements and some additional costs. For example, payroll tax may be applicable (only relevant to larger employers) and workers compensation insurance must be paid. Added administrative requirements include deducting and managing the PAYG tax system, and making contributions to superannuation funds on behalf of the employee. Although some of these aspects may be seen as a disadvantage, there are also some advantages as treating family members as employees provides an opportunity to consider accident insurance and retirement saving for family members.

A further disadvantage of paying wages is that it may cause cash flow difficulties. This problem can be alleviated through a system of the employed family member lending back to the business a portion of the wage payment. Again, it is essential that the loan back is initiated by the employee, it is properly documented, interest is paid (another tax deduction), and that all financial transactions actually occur.

Investments in superannuation funds

Where family members are employed by the business, investing surplus cash into superannuation funds for retirement can also be used to increase the income tax saving of both the employer and employee. Superannuation contributions made by self-employed people can also be used to reduce taxation. These tax savings are possible because tax concessions are provided to taxpayers that contribute towards their own retirement savings. The nature of the concessions provided allow employer and self-employed contributions as a full or part deduction, also the earnings of superannuation funds are taxed at a lower rate and the funds returned on retirement are tax-free.

A superannuation fund can be formed independently or it could be operated through any of the companies offering superannuation products. Generally, it is advisable to operate the superannuation through a reputable superannuation fund as this will reduce risk and administrative problems. Whatever method is used to establish the superannuation fund, it is extremely important to seek good advice because the tax concessions are only available to those funds that meet strict rules.

For taxpayers earning less than $58,000 (this amount may change from year to year) per year the Federal Government will make a co-contribution to their superannuation fund of $1.50 for every $1.00 contributed by the taxpayer to a maximum of $1,500 per year. This superannuation co-contribution scheme is very generous and should be considered where family members are employed by the family business.

Operating the business using a partnership

Formation of a partnership is another means of splitting income between the members of the family. This is possible because a partnership is not taxed on its separate income, but individual partners pay tax on their share of the partnership income.

When forming a partnership to operate the farm business, it is extremely important that it is done correctly and with professional advice. Otherwise it is possible that the ATO will declare that the sharing of income is not justified and that the partnership, for tax purposes, does not exist. Factors to be considered in the establishment of a partnership are discussed in Chapter 8.

Partnerships have other tax advantages over some business structures, but the main one is that tax losses may be distributed to the partners. Other business structures such as companies and trusts require that losses be accumulated in the entity to be later available as a deduction against future business income. The ability to pass tax losses directly to partners is a considerable advantage where the partner has other income. This is because the loss can be used immediately as a deduction against other income provided it is not a non-commercial tax loss.

The chief disadvantage of a partnership relates to the problem of personal liability of each partner for the debts of the partnership. For example, if one partner contributes $100,000 to a partnership which eventually becomes bankrupt owing $300,000, then that partner will be liable for the full $300,000 if the other partners cannot be found, or are unable to pay their share of the debt. This is the case because partnerships are not subject to limited liability as companies are. This problem would be exacerbated if it were intended to include partners who are under the age of 18 years, because people

under the age of 18 cannot be held to a contract. The choice of business structures is discussed in more detail in Chapter 8.

Operating the business through a family trust

Discretionary family trusts can also be used as a business structure to enable income splitting. The formation of a trust is a complex legal task and must only be undertaken after careful consideration and sound professional advice. However, at this point it is necessary to understand that trusts have their own specific characteristics that affect their usefulness for income tax management.

Trust income is generally not subject to tax. It is normally the beneficiaries of the trust that are liable to tax on their distributions allocated from the trust's income. In this way, trusts are similar to partnerships, but the trustee of a trust will be liable to pay tax if no beneficiaries are entitled to receive trust income. A higher than normal rate of tax will be levied in this situation and so it is very important to avoid this occurring. A further disadvantage with trusts, compared to partnerships, is that trusts are unable to distribute losses to their beneficiaries, as any losses must be carried forward within the trust to be used as a tax deduction in future years. Sound professional advice on the formation and operation of the trust structure should avoid these potential problems.

People of all ages can be beneficiaries, but taxpayers under the age of 18 years are taxed at higher than normal rates on trust distributions. This reduces the benefits of distributing income to people under 18, as only $416 (this amount may change with changes in income tax rates and also may be increased if the beneficiary is entitled to the benefits of tax offsets) can be earned before tax must be paid. Despite this, the distribution of income from a discretionary trust can be managed to avoid this problem, because in a discretionary trust, trust income can be paid to the beneficiaries in any proportion according to their needs and at the discretion of the trustee. The problem of justifying the sharing of partnership income therefore does not arise with a trust.

A trust can effectively give the protection of limited liability that is available to a company, but not to a partnership, through the use of a proprietary limited company as the trustee. A trust can also enable the owner of the business to maintain control of the business through the trustee.

Operating the business through a private company

Although a company allows income to be shared between shareholders, the company itself must pay tax, and so it is not always a useful vehicle for income tax management. However, the company may still be quite useful as a structure for the operation of the business, if the income tax disadvantages can be reduced through careful management. The formation and operation of a private company is discussed further in Chapter 8.

The following apply specifically to the taxation of companies.

- Companies are only entitled to a deduction for past year losses and bad debts if the majority of the shareholders remain the same or the nature of the business has not changed.
- Companies are taxed at a flat rate of tax that is commonly below the top marginal rate for individuals. This means that companies do not benefit from a tax-free amount but

high levels of income will be taxed at a lower rate until they are distributed to the shareholders. A further effect of the flat rate of tax is that companies receive no benefit from income averaging, and shareholders are also not eligible to average income from a company operating a business of primary production.
- A company may be classified as a primary producer to be eligible for some income tax concessions.
- Shareholders are taxed on dividends received from the company but they may claim a rebate to account for the fact that the company has already paid tax. This system of providing a rebate for the company tax paid is known as *dividend imputation*. This rebate is not a tax concession, but limits the disadvantage of the income being taxed twice, first in the hands of the company, and second as a dividend paid to the shareholder.

A company is a separate legal entity and therefore may own employees' and directors' houses, directors' vehicles and other items that may normally be owned directly by the individual. Transferring private assets to a company may alter the level of tax deduction, but it may also cause capital gains tax and fringe benefit tax problems. Sound tax advice should be sought before a company is used to own the private assets of shareholders.

A company may also employ members of the family so that income to the members is paid in the form of wages rather than dividends. This has the advantage that wages are tax deductible to the company whereas dividends are not, but it can cause added costs and administration. It must be possible to commercially justify this wage, but the company may have an advantage over a sole trader in this regard as directors may be able to justify a higher payment.

Where the company employs family members, the company will be able to obtain a tax deduction for contributions to the employees' superannuation funds. Deductions available to employers are more generous than those available to self-employed people, and members of the family will receive added personal security in retirement, in case of disability or in the event of death.

Once the company has been formed the asset base of the company may be increased by borrowing funds from the shareholders rather than by issuing more shares. This allows company income to be transferred to the shareholder as tax deductible interest rather than a non-deductible dividend. Company tax may also be reduced if it does not own the assets used in the business. This could be achieved by the company operating the business and renting the land, fixed assets and stock from a partnership that controls these assets.

Summary

A working knowledge of the income tax law should enable the tax effect of management decisions to be taken into account during the year, therefore making it possible to take best advantage of taxation concessions and avoid unnecessary tax problems. The basic principle of maximising profits after tax must always be adhered to.

It is also important to seek taxation advice part-way through the year so that tax problems can be foreseen early enough for appropriate action to be taken. Finally, a

detailed and accurate set of records must be maintained so that the best possible advantage can be taken of available deductions.

The appendix to this chapter contains useful checklists and some useful Internet resources related to taxation issues. The checklists are intended as a general guide only.

Appendix 1 Internet resources

Australian Tax Office. General information of businesses and links to specific information for primary producers:
http://www.ato.gov.au/businesses/
Department of Agriculture, Fisheries and Forestry website. Search for 'tax' to locate specific taxation information:
http://www.affa.gov.au/index.cfm

Appendix 2 CGT

Assets subject to CGT

- Collectibles, or sets of collectibles, costing more than $500. Different rules apply if the asset was purchased before 1 July 1995.
- Contractual right, for example, payment received to restrict business activities.
- Currency of a foreign country.
- Goodwill from the sale of a business.
- Improvements made to property acquired before 19 September 1985 may be a separate CGT asset to the original property.
- Intangible property such as debts, shares, options, copyright, licences, business names and patents.
- Interests in partnership assets.
- Lease agreements.
- Personal property costing more than $10,000. Different rules apply if the asset was purchased before 1 July 1995.
- Physical assets including business and private assets, land and buildings, etc.
- Rights to compensation for commercial losses.

Assets not subject to CGT

- Assets acquired before 20 September 1985.
- Assets subject to taxation depreciation.
- Collectibles listed in the Act (for example, jewellery, paintings, stamps, antiques) that cost $500 or less. Different rules apply if the asset was purchased before 1 July 1995.
- Compensation or damages for personal injury.
- Grants or compensation for firearms surrender, dairy re-establishment payments, sugar industry exit scheme and other rural adjustment schemes.
- Main residence of the taxpayer plus 2 ha of adjacent land provided it was not used for income producing purposes.
- Motor vehicles.
- Ordinary income or other amounts taxed outside the CGT provisions.
- Personal life insurance.
- Personal use assets (assets used for personal use and enjoyment but excluding collectibles) costing $10,000 or less. Different rules apply if the asset was purchased before 1 July 1995.
- Trading stock.

Appendix 3 Income tax

Assessable income checklist

- Bonuses paid on short-term (less than 10 years) life insurance policies
- Bounties and subsidies received in relation to the business
- Business income
- Capital gains
- Commissions
- Compensation for losses of assessable income
- Contract earnings
- Dividends and franking credits
- Farm Management Deposits withdrawals (FMDs)
- Incentive payments
- Insurance and indemnity for loss of assessable income
- Interest on overpayment or early payment of tax
- Interest received
- Levies refunded
- Non-cash business benefits
- Payments received on termination of employment
- Pensions other than those specifically exempted
- Prizes and awards (business)
- Profit on the sale of depreciated property
- Profit on the sale of leased motor vehicles
- Rebates received, for example, diesel fuel rebate
- Recoupment of previously deductible expenses
- Recovery of bad debts previously claimed as a tax deduction
- Rent received
- Royalties
- Sale of property that was acquired with an intention to sell at a profit
- Share of partnership net income
- Share of trust net income
- Termination of employment payments
- Trading stock sales
- Unemployment benefits
- Wages, salaries and allowances from employment
- Wine producers rebate
- Youth allowance and AUSTUDY

Non-assessable income checklist

- Bequests
- Betting winnings
- Board – family members
- Body corporate levies
- Child support payments

- Clothing allowances
- Compensation receipts – some
- CRAFT scheme
- Customer loyalty rewards
- Damages for personal injuries
- Death benefits – some
- Eligible termination payments – some
- Exempt income
- Family tax benefit
- Frequent flyer rewards
- Fringe benefits
- Gambling winnings
- Gifts (personal)
- GST – if the business is registered for GST
- Hobbies
- Interest on personal injury awards
- Lottery winnings
- Maintenance payments
- Mining payments – some
- Non-cash benefits relating to employment
- Pensions – limited, for example, veterans
- Personal injury annuities
- Personal injury lump sums
- Pocket money
- Principal residence – some CGT exceptions
- Redundancy payments – limited
- Reimbursements paid to employees to refund work related expenses
- Scholarships – some
- Security deposits
- Small business capital gains – some
- Workers compensation – some
- Wrongful dismissal – some

Deductions checklist – business proportion

- Accounting costs
- Administrative costs
- Advertising
- Ammunition and other annual costs incurred in eradicating vermin
- Animal husbandry
- Bank charges
- Borrowing expense
- Breeding service fees
- Business insurance expenses
- Business operating expenses

- Commissions
- Computer supplies
- Cropping costs
- Depreciation of assets
- Domestic wages paid, such as the proportion of time employed washing, cooking, cleaning for employees or business guests, and cleaning the farm office
- Domestic water rates
- Donations
- Electricity expenses
- Employee expenses
- Environmental protection
- Fodder
- Fringe benefits tax
- Gas expenses
- Income tax return preparation
- Insurance premiums
- Interest on business loans
- Interest on funds borrowed that are used in the operation of the business regardless of the security used to obtain the loan. Interest on funds used for private purposes are not deductible
- Lease payments
- Legal expenses (non-capital)
- Licences
- Membership fees
- Motor vehicle expenses, substantiated motor vehicle expenses such as trips to market, agricultural shows, field days, and any other trips associated with the business
- Newspapers and journals purchased and used for business purposes
- Parking fees
- Pasture management costs
- Postage and stationery expenses
- Protective clothing – this does not include ordinary working clothes, but includes protective clothing such as waterproofs, overalls, rubber boots, goggles and respirators
- Rent
- Repairs to assets
- Self-education expenses that can be shown to be related to the operation of the business or earning assessable income (first $250 is not deductible)
- Shearing costs
- Shire rates
- Stock feeds
- Superannuation
- Tax advice
- Tax agent's fees
- Telephone expenses

- Trading stock
- Travel between places of work
- Wages and associate costs
- Water fees (annual)
- Water rates

Non-deductible expenses checklist

- Capital purchases
- Child minding
- Entertainment expenses (some exceptions)
- Fines and penalties
- First $250 of self-education expenses
- GST payments
- HECS–HELP (unless it is subject to FBT)
- Leisure facilities and recreational clubs
- Meals and accommodation for family members even if they are employees
- Non-work related clothing (to be work related it must have a specific work related protective function)
- Partner's salary
- Private component of property rates where your private home is located on the business property
- Private proportion of magazines, etc.
- Private use of business motor vehicles
- Private use of business office and computer facilities
- Private use of telephone, electricity and gas
- The percentage of interest on debt attributable to the proportion of the loan used to acquire private assets such as your private home
- Travel to and from work
- Water rights (unless they are trading stock)

8

Succession and estate planning

The taxation considerations discussed in Chapter 7 influence the day-to-day decisions of the business, but it is also very important to take a long-term view of the business and its future. In the longer term, business plans need to take account of family objectives, provisions for retirement and passing assets to the next generation. Longer term considerations may place a different emphasis on management decisions to shorter term objectives, but shorter term objectives should always be viewed in the light of long-term plans so that they are not in conflict.

Succession planning is often only seen as the arrangements necessary to pass on the capital assets, in particular land, to the next generation. However, good succession planning is far more than this as it will involve the process of:

- developing and transferring management responsibilities to the next generation
- planning for an exit strategy if transfer to the next generation is not an option
- planning for the financial security of the current owners and managers
- providing for appropriate opportunities for the upcoming generation
- taking steps to protect the assets of the business from being dispersed into smaller unviable portions
- doing all this and still maintaining good open relationships within the family.

Beginning the process of succession planning can require considerable foresight as the emotional significance of planning to give up managerial and ownership control should not be underestimated. Consequently, succession planning should not be left simply to the preparation of a will, but must be seen as a process that should be a normal part of business planning. Succession plans should also be constantly reviewed to account for changes in financial and family circumstances. Essential to the development of a successful succession plan is open family discussion of the plans and goals of all family

members. Involving all family members in this planning process is an important step in trying to minimise the potential for family conflict, which can be very destructive and may even lead to the breakdown of family relationships. The following are important elements in the succession planning process.

- Review the current financial position. The tools for doing this are dealt with in detail in Chapters 6 and 9.
- Have open discussions where all family members can express their personal and financial plans and goals for their future. This process may be supported through the use of a professional facilitator if the members of the family agree to this approach. A professional facilitator may be valuable as an independent support person.
- Seek professional legal and financial advice about alternative means of meeting the family's plans and goals.
- Consider whether the proposed alternatives require changes to the business structure. This should include an estimate of the costs of establishing alternative structures.
- Consider the taxation effect of the alternative plans. Professional taxation advice will be important at this stage.
- Reach agreement on the most appropriate succession plan to implement.
- Implement and regularly review the plan as changing financial and family circumstances may require adjustments to the plan.
- Ensure that wills are prepared to complement the succession plan.

An important consideration in succession planning is the preservation of business assets that may otherwise be dissipated through contested wills, business failure and family disputes. Recognising that the business is made up of two distinct parts, the ownership of the assets and the operation of the business provides an important starting point as it opens up the opportunity for using more flexible business structures and providing better asset security. This approach also makes it easier to focus on succession plans for the management of the enterprise without confusing this with ownership of the assets.

Chapter 10 summarises an approach to preparing a business plan, and it is important at this point to appreciate that the setting of long-term goals and objectives is a vital step in the process of deciding on the most appropriate succession plan. Appendix 2 provides a list of family and business goals that could be considered in this planning process.

Alternative business structures

Selection of a business structure will significantly influence the amount of income tax paid during the life of the business, the security of personal assets, the management structures required, the ease of changing the participants in the business, the ability to borrow funds and the degree of complexity created by the death of a participant. Selection of a business structure should therefore take into account business, personal and taxation factors, as they will all have an impact on the final choice. It is also important to avoid 'off-the-shelf' or 'backyard' solutions as each individual situation will need to be treated differently. There is no 'fix all' answer to the question of which structure or combination of structures is most suitable. For this reason it is vital to

prepare clear family and business objectives before considering the issue of which business structure is the most appropriate.

Chapter 7 provided an introduction to the taxation of partnerships, trusts and private companies. However, for succession planning it is necessary to have a more comprehensive understanding of the nature and methods of formation of the four principal business structures: sole trader, partnership, trust and private company, and also deal with the non-tax implications of these structures.

Sole trader

Operating a business as a sole trader is the simplest form of business structure. In this case a single person holds the assets, is responsible for all management decisions and is entitled to all the income from the enterprise. As this structure does not allow other parties to be involved in the business except as employees, it is generally not suitable for succession planning.

Partnership

A partnership is not a separate legal entity like a company; it is simply an agreement to share the profits of a business enterprise among the parties to the agreement (partners). These partners may be individuals, other partnerships, a trustee or a company. As such, a partnership cannot own assets, it cannot sue or be sued, it cannot borrow money, it cannot enter a contract and it does not have to pay tax. In fact, any reference to a partnership is simply a reference to an agreement, either verbal or in writing, which outlines how the profits of the enterprise will be split, what each partner contributes and what their responsibilities are. Consequently, all loans, contracts, legal action and the ownership of assets are held directly by the partners.

Example 1

Partners own the assets of the partnership jointly and are therefore jointly bound by any loan agreements and other contracts, and are jointly and individually liable in the case of any legal action. The last of these points is very important because it means that a single partner is liable for the actions of other partners and the extent of this liability is to all assets including personal assets. This means that if one partner commits the partnership to a debt that cannot be paid, all partners are liable to pay the debt from their private assets.

A partnership exists wherever there is agreement to share the profits of a business activity. This agreement need not be in the form of a deed (although it may be) and need only be an informal written or oral agreement. A partnership may also be deemed to exist merely as a result of the action of two or more parties. In this situation the partnership is implied if the participants in a business enterprise act as if they are partners, sharing their resources and the profits from the business. A partnership may therefore exit under circumstances which may not be intended and could lead to

obligations which were never contemplated or understood. To ensure that the relationship between partners is examined carefully, and the duties and responsibilities of partners are thoroughly understood, it is extremely important to establish the partnership with a formal agreement prepared with professional assistance.

Partnerships are also controlled by the various state acts which contain provisions governing the definition of partnerships, the relationship between partners, the liability of the partners and the interests and duties of partners. However, these acts do not lay down any formal requirements for formation, operation or reporting of financial dealings. The *Corporations Act 2001* (Cth) also limits partnerships to a maximum of 20 people except in the case of professional partnerships, which are permitted to have a larger number of partners depending on the profession.

Example 2: Steps for the formation of a partnership

1 Prospective partners should reach agreement as to the resources that each will contribute and the share of income that each will be entitled to, distribution of assets on dissolution and dispute resolution. Partnership profits may be shared as a percentage, and/or according to the level of labour and/or capital provided by each partner.
2 On the basis of this agreement a formal document should be prepared using legal advice.
3 Where it is proposed to operate the business under a specific business name it is necessary to register that name, which is done through the relevant state authority (for example, Victoria – Department of Justice, Consumer Affairs). When making this application it is wise to provide some alternatives in case a similar name is already registered. Registration is not required if the business is conducted under the names of the partners.
4 Local government authorities should be contacted and any specific registration required or regulations applying to the business should be complied with.
5 A partnership bank account should be established to conduct all partnership transactions through. Appropriate signatories to this account should be established.

Duties and obligations of partners

Liability to meet partnership debts

Individual partners are normally liable for the debts of the partnership and cannot contract out of this liability. In practice, this means that each partner is liable for the total debt of the partnership and if any other partners are unable to contribute their share towards the debt, the whole of the debt will rest with the remaining partners. Liability to pay the debts of the partnership extends to all the assets of the partners including personal assets such as the family home. The only exception to this are limited partnerships which may be appropriate in high risk ventures.

Power to contract
Once a partner commits the partnership to a contract all members of the partnership are bound by that contract. It therefore becomes very important to understand how a partnership can enter a binding contract. Under most circumstances each individual partner has the power to bind the partnership to a contract. The exceptions are where the individual entered an agreement which was outside the scope of the normal business of the partnership, or if the third party to the contract knew that the partner had no authority to contract on behalf of the partnership.

Where a minor (under 18 years), as a member of a partnership, contracts on behalf of the firm, the partnership will be bound by the contract unless the exceptions mentioned previously can be proven. This problem is compounded further if it is considered that a minor is able to deny responsibility, and therefore not meet their share of the debt from personal assets as an adult would be required to do. For this reason it may be unwise to include an individual under 18 years of age as a partner.

Partnership agreement is not public information
A partnership agreement is not a public document and may not even be written down, and therefore people outside the partnership cannot be expected to know the contents of the partnership agreement. Following from this basic principle, people outside the partnership should not suffer a loss if they make an agreement with a partner who did not have the power to bind the partnership. For example, if the members of a partnership are required (according to the partnership agreement) to have the consent of all partners before purchasing goods of a value greater than $2,000, yet a partner orders goods to the value of $4,000 without the consent of the others, the partnership would still be liable to pay for the goods provided the transaction was within the ordinary scope of the business and conducted in the usual way.

Duty of utmost good faith
All partnership agreements are based on a duty of utmost good faith to fellow partners. This requires that each partner must show utmost good faith and fairness in all dealings with other partners on matters which affect the partnership. All transactions must be revealed and all work carried out for the firm must be performed with the appropriate care and skill.

Sharing of profits and losses
If no agreement to the contrary exists all the profits of the partnership must be shared equally. Similarly, all losses must be borne equally by each partner. Even if an agreement is made to share profits according to some other formula, it does not automatically mean that the losses would be distributed in the same manner. If it is intended that losses are not to be shared equally this must be stipulated clearly in the agreement.

A partner cannot contract with the partnership
Where a partner contributes a greater than average proportion of the labour input, the sharing of profits may be adjusted by the payment of a wage to compensate for the extra labour input, before the balance of profits are distributed. However, a partner can never be an employee of the partnership as this would amount to contracting with oneself. Any

arrangement to pay a partner because of extra work towards the partnership is only a means of distributing income and not a wage for income tax purposes.

Management control
Most state partnership acts give all partners equal management control unless the agreement between partners says otherwise. Where different responsibilities are intended for the members of the firm this must be clearly set out in the agreement. Expulsion of a partner is normally a power that can only be exercised if that power is expressly given in the partnership agreement, and even then it will only be effective if the process is carried out in good faith and in accordance with the agreement.

Transfer of ownership
Changes to the membership of a partnership cannot be made without the consent of all partners. This means that it may be difficult in cases such as marriage breakdown to transfer ownership to new members if the partners cannot agree.

Dissolution
Under normal circumstances a partnership may be dissolved where:

- a member retires from a partnership which has been establish for no fixed duration
- notice is given
- a partner dies or becomes bankrupt
- the agreed period of the venture is reached, or
- the partnership business is illegal.

Dissolution may take place under other circumstances with the provision of a court order. This may be granted in the case of the mental disorder of a partner, breach of the partnership agreement, where there is little chance of operating at a profit or where it seems equitable to do so.

As a partnership is a contract between the parties to the agreement, it follows that a partnership will cease if any one of the partners dies or wishes to withdraw from the partnership. This fact has definite implications for the use of partnerships as a structure for the operation of a business enterprise. A similar situation will arise if a partner becomes bankrupt or is certified mentally insane. If the remaining partners wish to continue operating the firm it will be necessary to draw up a new agreement which may bring in new partners or continue with a reduced number of members.

The sudden cessation of business due to the death of a partner may cause difficulties with continuing the operation of the business. It is therefore important to build into the original agreement provisions for the continuation of business in the event of the death of a partner. Probably the simplest method of achieving this is to include in the agreement the right of the remaining partners to continue operating the business, to purchase the deceased partners share and form a new partnership.

Dissolution of a partnership will require the accounts to be finalised and a tax return to be submitted as at the last day of business. Winding up a partnership must be conducted in the manner as laid out in the partnership agreement if there is one, and it

must also take into account the provisions of the *Partnership Act* relating to the settlement of the partnership accounts. The most important rules for the distribution of assets on winding up are as follows.

- Losses are to be paid first out of any profits, next out of capital and if the loss has still not been fully paid they must be shared by the partners individually in the same proportion as they share profits.
- Any residual remaining after the payment of all debts and losses will be distributed according to the agreement, or in the same proportion as profits are shared if there is no agreed formula. Capital is not distributed in the same ratio as the original contribution of capital. This may cause problems if the original capital afforded was not equal and the profit sharing was not tied to the percentage of capital. A number of specific rules also apply to the order in which funds are paid out and it would therefore be prudent to seek professional advice on the winding up of any partnership.

Advantages

- Simple to form and operate, therefore minimising accounting costs and problems associated with meeting formal obligations.
- Enables shared management responsibilities.
- Partnerships are not taxed thereby providing a simple means of income splitting for taxation purposes.
- The nature of the business can be changed at will but this may necessitate the creation of a new partnership.
- Assets of the business can be transferred to new partners and these assets are owned jointly by the partners.

Disadvantages

- The most important disadvantage of the partnership structure is that members are liable to meet the debts of the partnership from personal assets.
- The partnership structure on its own does not provide an opportunity to separate the business assets from the operation of the business.
- Partners cannot contract with the partnership therefore preventing them from being employed by the firm and receiving the benefits of employer superannuation. Self-employed superannuation will still be possible.
- There is no CGT rollover relief for assets committed to a partnership which may result in CGT.
- A partnership is not a permanent structure as its existence depends on the continuation of the agreement between all partners. This also makes it more difficult to transfer the ownership of a business operated as a partnership.
- A partnership is not a separate legal entity and therefore cannot enter a contract in its own right. Individual partners are themselves party to the contract and a partner may therefore be bound by another partner to a contract that was not agreed to by the firm as a whole.

- Partnership assets are held jointly by all partners and therefore on the death of a partner the interest held by the deceased will pass automatically to the remaining partners regardless of the will.
- Some decisions of a partnership require unanimous agreement (for example, changes to membership) and this may be difficult to achieve.

Private company

The term company means no more than the association of a number of people with some common goal. However, a company may be incorporated under the *Corporations Act 2001* (Cth) to become a separate legal entity capable of contracting in its own right. A company is separate from its shareholders and may own property, sue and be sued, continue indefinitely and generally hold a legal status similar to that of an ordinary person.

Companies are classified according to their liability. The most common form are companies limited by shares (Ltd); that is, the liability of the shareholders in the company is limited to the paid up value of the shares. With limited companies shareholders are not liable to meet the debts of the company from personal assets as is the case with a partnership. Companies may also be limited by guarantee, which means that the members of the company guarantee to meet a certain level of debt of the company in the event of its winding up. A company may also be limited in its liability by both shares and guarantee or it may be unlimited. An unlimited company is similar to a partnership in that the members are required to meet the debts of the company to the extent of their personal resources. An unlimited company is not what is envisaged for the operation of an agribusiness and therefore will not be commented on further.

Corporations law divides companies into proprietary and public companies. This major distinction is drawn between companies that can call on the public (public companies) to invest in their operations by purchasing shares in the company, and proprietary companies that are restricted to a set number of shareholders. Proprietary companies are commonly referred to as private companies because the shares are not available to the public at large. It is not envisaged that a public company would be established for the operation of a family farm, and as a result the discussion in this section concentrates on the private company structure.

Where a company structure is used to operate a small business the private company structure is the most appropriate. A private company is distinguished from a public company by the following restrictions:

- it is limited to no more than 50 members not including employee shareholders,
- it is unable to seek funds from the public at large because they cannot engage in conduct that requires a prospectus.

A private company can be incorporated with only one shareholder, which makes it possible to use a company where only one individual owns and operates the business. The Corporations Law also classifies private companies as either small or large proprietary companies. Classification of a company as a small private company generally

reduces the formal financial reporting required under the Corporations Law. A private company is a small private company if the company and the entities it controls satisfies at least two of the following three tests. A private company is a large private company if the company and the entities it controls fails at least two of these three tests:

- it has a gross operating profit for the financial year that is less than $10 million
- it has gross assets less than $5 million
- it has less than 50 employees.

Incorporation of a private company

Incorporation is strictly controlled by the operation of the Corporations Law, which requires that certain formalities must be adhered to in the formation, operation and liquidation of an incorporated body. For this reason, as with all other business structures, it is very important to seek professional advice regarding the decision whether or not to incorporate. If incorporation is proceeded with then it should be carried out under legal guidance. The following gives a brief introduction to the nature of a private company and some aspects of its formation, operation and winding up.

Incorporation may simply be achieved through the purchase of a so-called 'shelf company'. A shelf company is one for which the process of incorporation has been completed but that has not traded. All that is required to begin operation of the shelf company is to transfer existing shares held in the shelf company to the members of the business wishing to incorporate. Incorporation of a new company is more complex and should only be undertaken with professional assistance.

After the process of incorporation has been completed there are still a number of other formal functions that must be performed. These include:

- setting up and maintaining a register of members and if required, a register of option holders, debenture holders and charges
- establishing bank accounts, the appointment of directors and other office holders, the allotment of shares, and submission of returns to the relevant statutory bodies.

Following the successful incorporation of the entity it is then important to understand how the entity is operated and the responsibilities of the company members and officers. These rules are contained in the company constitution but it is not compulsory for a constitution to be prepared. Where no constitution exists the legislation specifies 'replaceable rules' that govern the duties, rights and obligations of the members and office bearers of the company.

During the formation of a company, it is also necessary to determine the structure and class of shares that will go to make up the share capital of the company. Different classes of shares may have different rights to receive dividends or capital on winding up, or carry different voting rights. There are many different forms of shares but some of the more common ones are listed below.

Ordinary shares

The holder of ordinary shares takes the risks associated with the operation, and receives the return should the enterprise prove profitable. These shares are normally all equal in

rights and carry with them the right to vote, to receive dividends and to receive a share of any surplus on winding up.

Preference shares
These shares entitle the holder to a fixed dividend which is paid before (in preference) any dividend on ordinary shares. Rights to receive part of the distributions on winding up, and the voting rights attached to these shares, must be set out in the company constitution.

The allotment of shares may be made in exchange for property or for the direct payment of cash. It is in this way that a company raises the necessary money for its operation, or obtains control over the assets of a business. Further funds, if they are required, may be raised through borrowing.

Operation of a company
The constitution or the replaceable rules in the Corporations Law will detail the extent of the powers of the directors and the decisions that require the sanction of the members as a whole. Normally, it will be the board of directors that hold the power to carry out the day-to-day activities of the company, although it is possible that the constitution will place all managerial power with the governing director.

Directors of a company must at all time act in good faith when carrying out their duties and responsibilities, and they must not stand to benefit personally from their position as a director. The selection of directors is therefore extremely important in the establishment of a private company as they must be able to work together in a managerial situation.

Members of the company (the shareholders) have the ultimate power to be able to remove directors and to change the constitution of the company, but they have little power to affect the day-to-day decision making of the firm.

Incorporation carries with it the responsibility to fulfil many formal functions. For example, every company must have a registered office, maintain various registers and supply the required annual returns to the appropriate body. Companies require a common seal and must hold an annual general meeting. Most companies must also appoint an auditor (small private companies may be excluded), and report directly to the members of the company explaining whether proper accounting records have been kept. On incorporation the company will also be issued with an Australian company number (ACN) which must accompany the company name when used on cheques, published documents and documents lodged with the appropriate bodies.

The constitution of the company can be changed depending on the terms of the constitution, and the provisions of the Corporations Law. Major elements of the constitution can be changed by special resolution.

Winding up (liquidation)
Winding up a company may take place voluntarily or under court order, but regardless of the reason for the winding up it generally involves the realisation of the assets, the payment of creditors, the distribution of any surplus among the shareholders, and finally the dissolution of the company itself. This process requires compliance with the company's constitution and the provisions of the Corporations Law.

There are a number of circumstances that can lead to a company being wound up by court order but the most important of these are as follows:

- the company is unable to pay its debts
- the company has resolved by special resolution to be wound up
- statutory requirements have not been fulfilled, or
- the directors have acted in their own interest rather than in the interests of the company.

Voluntary winding up may be brought about by a special resolution of the members, but the company may also be forced to wind up by its creditors.

Advantages

- Liability of members is limited to the paid up value of its shares provided the company is limited by shares. This advantage may be reduced to some extent in practice because the directors of small private companies are often required to give personal guarantees to secure borrowed funds.
- The transfer of ownership is relatively easy to achieve through the sale of shares.
- Control is formalised and reporting requirements help to ensure that a check on the operation of the firm is maintained.
- A company's separate legal entity gives it perpetual succession as it does not depend on the life of any one person for its existence.
- The separate legal nature of a company also allows the members and directors to be the employees of the company and receive the benefits of employer superannuation and the superannuation co-contribution scheme.
- Capital gains tax can be deferred in the event that assets are transferred to the company.

Disadvantages

- Members are not entitled to take part in the management of the organisation unless they are also directors.
- Establishment and operating costs are higher than those of a partnership.
- The formalities associated with the operation of a company introduces the likelihood of added administrative costs, and may present problems if the complex processes required to administer a company are not fully understood by the company officers.
- Companies are liable to income tax in their own right and this can cause some taxation problems. For income tax purposes companies are not normally a good entity in which to hold assets that may realise a capital gain. One of the reasons for this is that a company is not eligible for the 50% income tax concession on CGT.
- The transfer of shares in a private company can be difficult if there is disagreement among the directors and shareholder.

Trust

Trusts are a very old legal concept that arose out of the middle ages when the adult male of the family was called to war and wished to appoint someone to look after the family and property. In this type of situation the person concerned would make an agreement

to trust a friend or relative to manage his property while he was away and use the income to provide for his family. In the event that he did not return, which was very likely, the agreement may be that his property would then pass directly to his family. From these early agreements, trust law has developed into a very complex legal field which is dependent upon common law as there is very little relevant legislation influencing trust law.

A trust agreement may be compared to a partnership to demonstrate the different relationships created. A partnership agreement is primarily an agreement to share profits from a business activity, whereas a trust agreement gives all the power of management to a trustee who is then responsible to manage the business and distribute the profits and/or capital as directed by the trust agreement. The person responsible for the trust may not benefit from it at all. A very simple example of a trust is where a parent opens a bank account as trustee for his/her child and operates the account but does not benefit personally. To understand the relationships created in a trust it is necessary to understanding the meaning of a number of legal terms.

Definition and types of trusts

A simple definition of a trust is difficult to arrive at as, unlike a company, it is not a separate legal entity, nor is it a simple contractual arrangement like a partnership. A trust is an obligation which binds a legal person (trustee) to hold, administer, manage and/or control assets or income (trust property) on behalf of others (beneficiaries). The duties of the trustee are significant and must be carried out with complete integrity to protect the financial interests of the beneficiaries.

Suppose that a husband and wife, who have operated a farm for a number of years, transfer their assets to a trust under the control of a trustee. This trust had previously been established by a friend (settlor) who had settled a small amount of money under the control of a trusts deed. According to the trust deed the trustee was required to pay the income from the trust property (now the farm and its associated assets) to the husband and wife and their three children until the parents' death. After the parents' death the trustee is required to continue the operation of the trust until the youngest child reaches 23 years, after which time the trust property itself is to be divided equally among the surviving children. Once the trustee has completed the responsibilities outlined in the trust deed the trust ends; this is known as the vesting date. A trust cannot continue indefinitely and will end when the conditions of the trust deed have been fulfilled or when it vests because of the rule against perpetuity which imposes a limit of 80 years on the life of a trust.

The example above illustrates the main elements of a trust. The major elements of a trust are:

- **settlor:** a person who initiates the trust with a gift of property (regardless how small) to be administered by a trustee.
- **settled fund:** something which is given by the settlor which becomes the subject, or property, of the trust.
- **trust deed or instrument:** the document which defines the duties of the trustee and the conditions under which the trust property must be administered.

- **trust property or corpus:** the property that is under the control of the trustee via the powers of the trust deed. The trustee is the legal owner of trust property although the powers to deal with that property are limited by the trust deed.
- **trustee:** person/s or entity (for example, company) that holds the trust property and is bound by the terms of the trust deed to administer the property according to that deed.
- **beneficiaries:** those that are entitled to receive either income and/or capital from the trust.
- **vesting date:** the time when the trust comes to an end and any remaining assets are distributed to the beneficiaries.

There are many other terms used in the operation of a trust but these cover the major elements. Terms such as appointor, guardian and different types of trusts are covered in the following paragraphs.

Forms of trusts

The most common names given to trusts (for example, settlement trust, will trust, family trust, discretionary trust, unit trust, mixed trust) simply describe the characteristics of the trust and the circumstances under which they are created. Some of the different forms are as follows:

- **settlement trust:** describes a trust created by a person to take effect before their death and is evidenced by a trust deed, also called an *inter vivos* trust.
- **testamentary trust:** a trust created through a will which only comes into effect after the person's death.
- **discretionary trust:** the term *discretionary* merely describes the power given to the trustee and a discretionary trust may be created during a person's life or through a will. The discretionary trust gives the trustee power to divide the income and/or capital among the beneficiaries in any proportion that is judged appropriate. No specific entitlements to income and/or capital are set out in the deed, giving the trustee the flexibility to determine the distributions.
- **family trust:** means no more than a trust involving members of the one family. Such a trust may take any of the other forms described.
- **unit trust:** a unit trust is still a trust in the true sense, but the trust deed is drawn up so that the beneficial ownership of the trust property and the rights to income are divided into a number of distinct units. In a unit trust the trustee has no discretionary powers and the trust property is held absolutely for the owners of the units. Unit trusts may be used in a business environment that requires the ability to buy and sell the rights to the trust income. This adds flexibility to the trusts structure and makes it suitable for carrying on a business that involves people from different families.
- **trading trust:** simply means that the trust is carrying on a business and it may be structured in any form such as a discretionary or unit trust.
- **mixed trust:** a mixed trust usually mixes the characteristics of both the discretionary and unit trusts. This may be done to obtain the advantages of both structures in the same trust.

Trusts may carry many different names but these are generally no more than a description of some practical aspect of the trust. The important aspects to be aware of are whether the trustee has the power to decide how the income and/or capital is to be distributed (a discretionary trust), or whether the rights to the trust income/capital are held within separate units (a unit trust) and can therefore be bought and sold.

Creating a trust

A trust may be created with a written or verbal agreement, but the written agreement is preferred where the trust is intended to operate a business. Where the trust is to hold an interest in land the trust must be evidenced in the form of a deed (a written instrument signed, sealed and delivered, to testify the agreement between parties). A trust may also be implied as a result of the actions of a person. For instance, opening a bank account in the name of a minor could create a trust. Similarly, the purchase of property in the name of a minor could also create a trust even though no trust deed is prepared.

Ignoring the implied trust, there are three conditions that are required to successfully create an express trust (one that is created by the express intentions of the people concerned):

- certainty that a binding trust is intended
- certainty as to the property of the trust
- certainty of the identification of the people who are to benefit from the trust.

As with partnerships, the only formalities that are required are those that relate to the transfer of land and other related transactions. A trust that does not involve land may in some circumstances not even require a deed to make it a valid trust. However, the formation of any structure that is required to operate a business should be formed with the appropriate professional advice and assistance. Some personal understanding is also important to ensure that the operation of the business structure is understood and the implications of its formation realised. The creation of a trust requires the careful consideration of a number of crucial elements:

- It is advisable that the settlor not be a beneficiary or the parent of a beneficiary. A close friend is usually chosen and this person makes a small contribution to establish the trust. Once the trust deed has been drawn up and the settled fund received the settlor has little more to do with the trust.
- The settled fund can be an item of property (for example, a watch), or a nominal sum of money such as $20. This settled fund should be kept in a separate and identifiable form, so that it is not confused with other property that may latter be transferred to the trust. When the trust has been established other business assets may be transferred to the control of the trustee but they are not the settled fund.
- One or a number of individuals may be appointed as the trustee, but generally a private company is appointed as the trustee because this gives the trustee some protection via the limited liability features of the company structure (discussed earlier in this chapter). Using a company as trustee also avoids the problem of the death of a single trustee, as the company will only end when it is decided it is no longer required. Control of a trust through a corporate trustee also allows the original owners of the

business to share the control of the trust by being the directors of the trustee company. This company does not trade in its own right but merely acts as the trustee over the trust property. A corporate structure may also enable the directors to take advantage of the benefits of superannuation and does not preclude them from also being beneficiaries of the trust.

- When establishing a trust most people do not want to commit themselves irrevocably to a decision as to the ultimate beneficiaries of the income and/or capital from the trust. It may be desirable to maintain flexibility in regard to the beneficiaries because of the birth of children, the death of beneficiaries, divorce, marriage and other family considerations. The discretionary trust is the most suitable to preserve flexibility provided the above considerations are borne in mind when the trust deed is prepared.
- Any person that holds the power of appointment for a trust holds the power to change the trustee and as a result holds the ultimate power over the control of the trust. If the existing trustee is a private company or individual/s it may be removed and replaced by a trustee chosen by the person holding the power of appointment.
- A guardian may also be appointed under a trust deed to ensure that the control of the trust remains with the people intended. The guardian is a person who must give their consent before fundamental changes can be made to the trust deed. For example, this power may be exercised if a change in the method of determining the disposition of capital is being contemplated.

Operation of a trust

Normally there are no responsibilities to report to government bodies except where a private company is appointed as the trustee. In this case the requirements of the Corporations Law must be adhered to. Other formal responsibilities may exist in relation to the ownership of property but these will be the same regardless of the business structure employed.

The trustee is the legal owner of the trust property and as such has the power to deal with that property within the terms of the trust deed. Consequently, the trustee is responsible for all decision making and therefore also bears the responsibility for those decisions. It is therefore very important to understand the rights, duties and obligations of a trustee.

The trust deed will set out the major duties of the trustee and will deal with the powers of discretion to distribute income and/or capital, restrictions to the way the business can be conducted, etc. Failure on behalf of the trustee to carry out the duties required could amount to a breach of trust and lead to the trustee being personally liable for the losses. To avoid the liability resulting from a breach of trust, a trustee must at all time act diligently and without negligence or fraud. The trustee owes this duty to the beneficiaries and will be personally liable, without limit, if a case for breach of trust is proven. If a third party (for example, a creditor) makes a claim against the trustee, the trustee will not be personally liable provided the trust has been administered in the proper manner. In this event the trustee can recover losses from the trust property as long as the trustee does not profit from the transactions.

Beneficiaries owe no liability to the trust but they do have some powers. The major power of the beneficiaries is, if they are all of full capacity (able to contract in their own right), to direct the trustee to bring an end to the trust. This can only be effective if the beneficiaries are unanimous in their decision. Other rights of the beneficiaries are to: receive accounts, force the trustee to administer the trust according to the deed, prevent or avoid any breach of trust, or seek the courts' assistance to determine questions on how the trust should be operated and administered.

Unless the trust instrument specifically gives the power to enable the provisions of the deed to be altered, there is no formal mechanism to change the terms of the trust. However, there would not appear to be any restrictions to prevent the terms being changed if all the parties to the trust agree. Where the express power to change the terms of a trust exists it is usually given to a particular party such as the settlor, guardian or a beneficiary. Alterations may also be approved by the courts under certain circumstances.

Control of a trust is initially established through the trust deed and for this reason it is very important that the deed be carefully prepared and considered before the trust is established. Upon the establishment of the trust, control passes to the trustee and certain other elements of control may be given to the appointor and the guardian, should they be provided for in the trust instrument. The appointor has the power to remove the trustee and therefore has considerable power over the way in which the trustee acts. The guardian must give consent to any changes to the trust deed and therefore also holds considerable power over the operation of the trust.

Dissolution

A trust can be terminated under certain circumstances by the unambiguous action of the beneficiaries. It also may vest as a result of the rule of perpetuities in which case the whole effect of the trust will be void from its beginning. The trust deed will normally be the main controlling factor in determining the dissolution of a trust. For example, the trust may be required to vest with the death of the family's parents and after the children reach a stated age.

Advantages

Most of the advantages of the trust structure relate to its ability to provide a business vehicle that is flexible in how income and property can be distributed to its members. This flexibility may have considerable impact on the taxation of the entity. The major advantages are as follows.

- It allows flexibility of the distribution of income and assets.
- It enables the creators of the business to maintain control of assets without having ownership, and also makes it possible to set out how property is to be dealt with after death.
- People under the age of 18 years can benefit from a trust without the problems associated with their inability to contract.
- The unit trust enables a trust to be used where different families are involved and gives flexibility for the transfer of ownership.
- A trust can afford a greater degree of protection from liability than a partnership especially if a corporate trustee is used. In addition, a trust can also reduce the effect

of a challenge to a will as the assets of the business will not generally be subject to the will, unless the trust is a unit trust.
- Family members can be employees of the trust and therefore benefit from the income tax concession given for superannuation investments and the superannuation co-contribution scheme.
- A trust does not have the problems associated with the death of a party to the agreement as does a partnership. Some difficulties may occur with the death of a trustee but this can be avoided if a corporate trustee is used.

Disadvantages
The disadvantages of a trust are as follows.

- It is more expensive than a partnership to create and possibly more expensive than a company.
- The complexity of a trust means that its operation may not be fully understood by the members of the business, and unless advice is sought problems could arise.
- The administration of a trust will usually be more expensive than a partnership.
- Trust structures are often viewed with suspicion by the Australian Tax Office and Australian Federal Government and may be the subject of stricter taxation laws.
- There is no rollover relief from CGT when assets are transferred to a trust.

Comparing alternative business structures

Having introduced the basic concepts of the partnership, trust and company, it is important to consider the factors that should be taken into account when trying to decide whether an agribusiness should be operated as a sole trader, or run under one of the other business structures discussed in this chapter. This decision can have considerable impact on the business succession plan and taxation and therefore it would be wise to seek professional advice, but there are a number of basic factors that should be borne in mind.

The choice of business structure should take into account the size of the business (that is, the total value of assets and the level of annual income), as this will influence the taxation advantages that may be achieved through the sharing of income as explained in Chapter 7. To obtain the greatest advantage from income sharing it may well be of benefit to consider the trust structure, especially for larger businesses. However, for most family farms the partnership structure will provide a simple and effective means of sharing income and is less likely to be the subject of taxation reform.

The degree of control required over the assets of the business and the manner in which it is operated must also be taken into account. Both the trust and company structures can provide a formalised system of control, allowing the creators of a business to operate it without owning the assets directly. A partnership does not have any formal control mechanism unless it is included in the partnership agreement, and even then, it is still limited by the operation of the *Partnership Act*.

Flexibility for the transfer of ownership and for the distribution of income is also important, as a structure that cannot be changed at some later date could be a greater

liability than benefit. The trust structure, provided it is well designed, is probably the most flexible of the three as it allows both the income and capital to be distributed at the discretion of the trustee.

Costs associated with the formation and operation of the structure also affect the final decision, as do the formalities and other administrative duties that are required to administer the business. The partnership structure is relatively cheap to establish and quite simple to operate. In contrast, the company structure requires compliance with the Corporations Law which may impose a wide range of formalities. Similarly, a trust using a corporate trustee will require certain formalities to be met thereby increasing the administrative costs.

In the final analysis it is important to choose a structure that helps achieve the main objectives of the owners of the business, without imposing a situation that increases costs unnecessarily, or requires excess time to be spent on administrative duties rather than the task of running the business. Any decision involving the reorganisation of the business structure must take into account the plans for succession to the business, and be coupled with the wills of the people concerned.

Handing over the reins

A sound succession plan will pay particular attention to when and how to transfer managerial responsibility to the next generation. This will commonly be a staged process and could include higher education, farm apprenticeships or time working away from the farm. Consideration of the structure of the business is also very important in this process, as different entities provide varying opportunities to share management decisions. For example, a partnership structure allows shared decision making but there is no formal managerial structure. In contrast, a company structure can provide for the clear designation of management responsibilities. There is no magic formula for determining the best time to hand over managerial responsibility but an important factor is to begin to give appropriate responsibilities to children from an early age. Some families allow their children to raise calves for example, or carry on other small enterprises on the farm to begin accepting responsibility for their decisions and to learn what is involved in a farming enterprise.

The issue of handing over managerial responsibilities also raises the question of the plans and ambitions of the next generation. Although the discussion in this chapter is about succession planning, there is also the possibility that some or none of the next generation wish to continue farming. In this case it is important to develop an exit plan and to determine other means of securing the children's future. The old English nobility approach of the eldest son gets the land, the next son goes into the army and the third son joins the church, may be somewhat of a joke, but at least it was a plan and it did prevent the disintegration of the estate. In this day and age however, opportunities are far greater for higher education towards professional and trade careers that may be supported by the family rather than the inheritance of the farm.

Treating all family members fairly is a common concern of parents in the design of a succession plan. However, it may not be possible to define what is fair to all family

members, but if these issues are discussed openly then there is a greater chance that family conflict will be avoided. It is therefore vital to openly discuss family members' goals and plans to avoid misunderstandings and personal conflict, but it is also important to openly discuss how each child will be catered for in the succession plan. Fairness is a matter of personal perception and a feeling of unfair treatment can result simply because people do not appreciate the full facts and considerations behind the succession plan.

Planning for retirement

Succession planning must involve planning for retirement so that it is clear how retirees will fund their retirement and what role, if any, they will continue to have in the business.

Plans for funding retirement must begin as early as possible as the longer the time available the greater the opportunity to accumulate assets and superannuation investments. Some of the factors that should be considered include:

- maintaining an income-only interest in the business with no managerial responsibilities. This can be achieved though various business structures but care needs to be taken that it does not significantly reduce the cash available for the operation and development of the enterprise, nor the living standards of those running the business.
- superannuation contributions. There are considerable income tax advantages given to encourage taxpayers to contribute to superannuation and thereby save for the funding of their retirement. These contributions could be made to one of the many organisations offering superannuation products or a self-managed superannuation fund can be established to keep the superannuation investments under the control of the taxpayer. The taxation concessions relating to superannuation are very complex and are constantly changing and it is therefore essential to seek professional advice on how superannuation may be used to help fund retirement.
- social security benefits and pensions. Rules governing the entitlement to social security benefits constantly change and therefore it is important to seek advice on how the succession plan will influence these entitlements. Consideration will need to be given to the assets and income means tests for social security benefits, and the effect of each party's will on these tests.

Wills and power of attorney

Writing a will should not be seen as the only step that is needed to put a succession plan in place, as a sound succession plan requires careful long-term planning over the life of the business. In fact, a well-structured succession plan should mean that the wills of the parties concerned should merely complement the succession plan already in place. It is also important to review all wills as part of this process. However, wills should not only be reviewed if the business structure is being changed, they should in fact be reviewed every one to two years as personal situations can change.

All wills should be prepared by a solicitor acting on the advice of a financial adviser who is familiar with the structure of the business. It is possible for a person to draw up their own will, but the major problem is to make certain the will cannot be misinterpreted. A poorly expressed will could lead to the situation where the estate is not distributed as was intended, or the will may be challenged by the beneficiaries.

If a person dies intestate (without a will for all or part of their estate), the estate not covered by the will is distributed according to the rules of intestacy. For example, if a person dies intestate leaving a spouse, the estate normally passes to the spouse but an upper limit may apply. The legislation also normally sets out the order of distribution to a surviving spouse, children, parents, siblings, etc. If no relatives can be located the estate will pass to the government.

A will can be used to create a trust (testamentary trust) which can continue for some time after death. This could be achieved by leaving a life interest to the beneficiary, rather than leaving the estate directly. A life interest would entitle the beneficiary to the income of the estate for their life but not the assets. The will would also name the beneficiaries to whom the estate will pass when the life tenant dies. For example, a father may leave his estate to his son for life (life tenant) and state that on the son's death the estate will pass to any remaining grandchildren (remainderman). A significant disadvantage of this type of arrangement under a will is that the life tenant may not be able to make appropriate decisions in relation to the property to adapt to changing market circumstances.

A valid will

The elements of a valid will are contained in state legislation, but as a general rule the following elements are required.

- To make a valid will a person must be over the age of 18 years (unless allowed by statute) and be of sound mind, memory and understanding.
- The will must be signed by the testator (the person making the will, or by another person in the presence of the testator) in the presence of two adult witnesses. If a witness is a beneficiary or the spouse of a beneficiary, the legacy will be void. If an executor is a witness, the opportunity to claim payment for services will be forfeited.

The legacy can also be declared void if certain conditions are placed on the beneficiary. This, and other pitfalls, can be avoided if professional advice is taken.

Altering a will

A will may be altered by means of a *codicil* which is a separate document to the will but executed in a similar manner. No alteration may be made in writing on the original document, nor should another sheet be attached to it. A will may also be altered by the making of a new will which automatically invalidates any previous will. Marriage also invalidates a previous will unless it was made in contemplation of marriage.

Choosing an executor

The testator normally nominates an executor who, on the death of the testator, will distribute the estate according to the will. The person or company nominated should be:

familiar with the business, aware of the duties and responsibilities involved, able to afford the time required and willing to accept the nomination.

It is quite common for members of the family or bank managers to be appointed as executors. If the estate is complicated, thought should be given to the appointment of a solicitor, an accountant or an executor company with specialised legal knowledge and experience. Solicitors and accountants will charge for their services, and executor companies are able to claim a percentage of the total assets and any income earned while they are in control of the estate. Other executors can only claim payment by filing for a court order, but a simple means of overcoming this difficulty is to name the executor as a beneficiary in the will; however, this could have income tax consequences.

Deaths occurring in rapid succession

This situation can arise where a testator and the beneficiaries to the will are killed in an accident. As a result, the estate would need to be settled a number of times within a short period and may not be distributed according to the intention of the testator.

To alleviate this problem, the will should be drawn up in such a way that the beneficiaries will only be able to receive their legacy if they survive the testator by a period of say three to six months. If this is not the case, then alternative provisions should be stated in the will.

Power of attorney

At the time of preparing wills it is also important to consider the need to grant power of attorney in case a member of the family cannot act on their own behalf. This is an important consideration as it may be difficult to conduct necessary business transactions if a member of the family is incapacitated.

Granting power of attorney is a decision that should be taken very carefully as it grants a person power to make certain decisions on behalf of another. The common forms of power of attorney are as follows:

- general power of attorney. Grants the authority to another person to make decisions relating to financial and legal affairs, often for a limited length of time. If a time limit is not stated the power of attorney will end when it is revoked or the person granting the power is unable to make a reasonable judgement, becomes bankrupt or dies.
- enduring power of attorney (financial). This is similar to the general power of attorney except that it continues even though the person granting the power of attorney is unable to make a reasonable judgement.
- enduring power of attorney (medical treatment). Grants the authority to another person to make decisions in relation to medical treatment where the person granting the power is unable to make these decisions.
- enduring power of guardianship. Authorises another person to make personal and lifestyle decisions on behalf of the person granting the power of guardianship.

Appendix 1 Internet resources

Rural Law Online provides current information and discussion on many legal issues including succession planning:
http://www.rurallaw.org.au/
Registration of business names (Victoria):
http://www.consumer.vic.gov.au

Appendix 2 Setting family and business goals

Family considerations

- Maintaining control of assets: consideration needs to be given to the timing of transfer of assets to the next generation.
- Managerial control: select the most appropriate business structure and also consider plans for the transfer of managerial control.
- Security of personal assets: consideration needs to be given to whether the personal assets of the participants are adequately protected in the case of the business failure.
- Avoiding family conflict: open and frank discussion of individual's goals and objectives is important as it helps to reduce later conflicts which ultimately can be very destructive.
- Flexibility is important to accommodate changing family requirements: family circumstances may change and therefore it is always important to maintain a degree of flexibility to cater for these changes.
- Succession: plans need to be made for the transfer of the business to the next generation and alternative strategies need to be considered if there is nobody to transfer the business to.
- Preparing a will: the wills of the individuals involved in the family business must complement the succession plan.
- Planning for retirement: long-term plans need to take into account plans for retirement and means of providing financial security. This may include consideration of eligibility for social security benefits which can be influenced by both income and asset tests.

Business and financial consideration

- Cost of establishing and operating any new business structure: there are considerable differences in the costs of establishing and operating various business structures and these are important because they will influence the profitability of the business.
- Understanding alternative structures: some business structures are quite complex, and it is important the owners understand how these structures operate, how they affect the conduct of the business, and the relationship of the business to the owners.
- Management structures and processes: selecting different business structures may affect the formality of the managerial processes required.

- Raising capital and borrowing: lenders will always be concerned that the business structure used does not reduce the level of security that they have over the assets of the business.
- Long- and short-term business strategic plans: the most suitable business structure must be aligned with both the short- and long-term business plans.
- Taxation considerations: different business structures impact differently on the taxation of the owners of the business.
- Separation of asset ownership from the operation of the business: separating the ownership of the assets, especially land, from the operation of the business can be an important step in making a succession plan more flexible. Separating asset ownership from the operation of the business also makes it easier to identify the steps needed to protect assets in case of a family dispute, a contested will or business failure.

9

Financial analysis

Regular monitoring of financial and managerial performance over time is a vital element of the business management and planning process. Without constant monitoring the first indication of poor performance may be a decline in the business owners' living standards. With constant monitoring, it should be possible to identify weaknesses in performance before they become significant, and provide an opportunity to take these weaknesses into account when planning future strategies for the business. This analysis will be primarily based on current and historic financial data, and while this may appear to be of limited value for planning future activities, it can provide valuable insight into the key factors governing the operation of the business. There are a number of fundamental questions that this business financial analysis seeks to address.

- Are business goals being met?
- Are the resources of the business being used effectively and efficiently?
- What are the most important areas to focus on to improve business performance?

Is the business successful?

Financial performance is usually measured by relating the level of profit to the assets controlled by the business. Other measures of success may relate to non-financial performance such as farm environment improvement, lifestyle or physical performance, which includes livestock or crop production achievements. However, it is the financial performance that ultimately means the business owners can continue to fund the operation and growth of the business and meet their personal goals.

Financial analysis begins with a review of the statement of income and expenditure and the statement of assets and liabilities, along with relevant physical records. This

analysis aims to provide valuable clues to possible strengths and weaknesses in the management of the business, as being aware of these strengths and weaknesses can help to establish priorities that could be followed in order to improve overall productivity and profitability.

While the statement of income and expenditure may give the first indications of low profitability, it does not immediately mean the cause of the problem can be isolated. It will be necessary to do more detailed analysis so as to more precisely identify what is causing the low profitability. This analysis can take the form of comparisons with similar agribusinesses in the area, a financial analysis of the whole business, and/or a closer look at the enterprise profitability through the use of gross margin analysis (see later in this chapter).

The objective of any analysis process is to identify the areas of strengths and weaknesses and then to develop alternative strategies to improve overall performance. These alternatives will need to be compared so a well-reasoned management decision can be implemented (see Chapters 10 and 11). As part of this analysis it is essential to take into account the impact that income tax will have on the alternatives, as income tax may alter the ranking of the alternative under consideration.

Management analysis procedure

The process of analysing a business's financial and management performance requires an understanding of the measures of profit discussed in Chapter 6, and an understanding of the statement of assets and liabilities prepared in Chapter 5. These two statements provide the primary information necessary to begin an analysis of financial performance, and the information obtained from this analysis can be applied to the management analysis chart

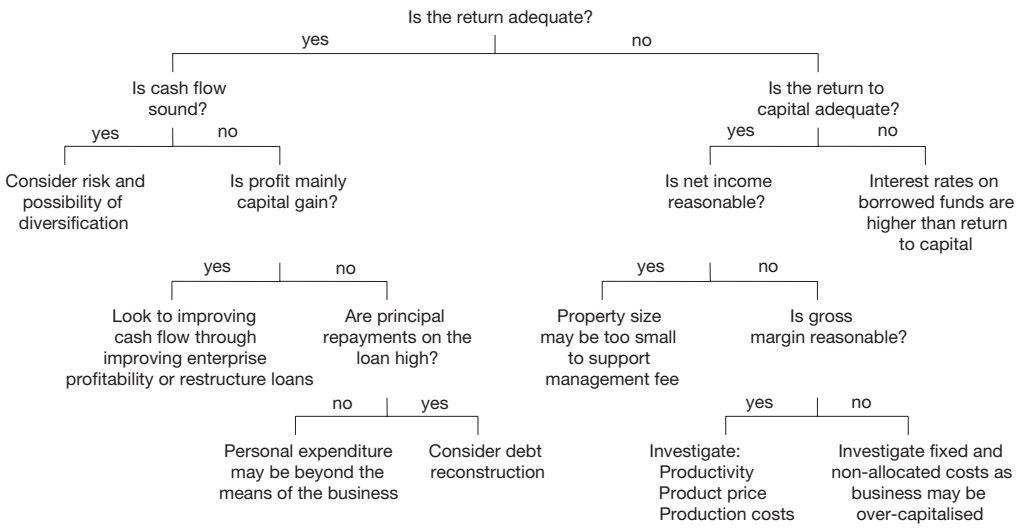


Figure 9.1 Management analysis chart

shown in Figure 9.1. The analysis process shown in Figure 9.1 helps to identify the areas of financial and management performance that require attention.

It is important to realise that information prepared for the preparation of income tax returns is not entirely suitable for this analysis, as this information is prepared to comply with the *Income Tax Assessment Act* and not for managerial purposes. Tax information differs in a number of ways to managerial information, for example, livestock and other trading stock valuations may differ, asset valuation may differ and the timing of expenses and income may also vary. Another important difference between taxation accounts and managerial accounts is the treatment of interest expenses for taxation purposes. For income tax purposes interest paid on borrowed funds is deducted from income, whereas in management accounting it is treated as a cost of ownership. The distinction made for managerial analysis is that business performance should not be influenced by the level of borrowing. The aim of business performance analysis is to be able to compare the efficiency of resource use against other businesses or alternative investments. Ability to service debt is important but it is considered separately to the profitability of the business.

The financial and managerial analysis process is conducted at four levels:

- the financial performance of business as a whole (business profitability)
- the financial performance of each enterprise making up the business (gross margin analysis)
- analysis of the cost of production
- SWOT analysis.

Business profitability

To assist with the explanation of the procedures used to analyse business profitability, a case study is employed to illustrate each of the steps in the process. As explained previously the analysis of business profitability is based on the information contained in the statement of assets and liabilities and the statement of income and expenditure for the business. These statements for the case study business are shown in Tables 9.3 and 9.4 respectively along with the cash flow statement (Table 9.2). Although this example relates to a livestock and cropping enterprise the principles discussed are relevant to all agribusiness enterprises.

Rival Downs case study

Rival Downs is an 840 ha property that currently runs a self-replacing flock of Merino sheep producing 21 micron wool (see Table 9.1). The wool enterprise is run in conjunction with a cropping enterprise that is conducted to generate profits as well as supply the sheep flock with a supplementary feed supply and assist in pasture renovation. The property is located in a 600 mm rainfall area and has soils ranging from rocky barrier country (70 ha) to open basalt plains (770 ha). The rainfall pattern

is predominantly winter dominated with approximately 410 mm falling in the crop-growing season.

Sheep enterprise

All sheep are shorn in December and crutched in June. Lambing takes place in August, with lambs marked in September and weaned in November. The average weaning percentage for the last 10 years has been 84% (lambs weaned to ewes mated). Two summer drenches are given to all sheep (November and February) and at least one other drench, usually in June or July (pre-lambing for ewes). The sheep are given a 6:1 vaccination in June, and lambs receive a vaccination at marking and again at weaning.

Rams are mated at the rate of 1.5% (3 rams for every 200 ewes) and are culled for age after four matings. Replacement rams are purchased in September for an average price of $600 each.

Surplus sheep are sold on the property six to eight weeks after shearing usually to mutton meat buyers or to the live-sheep trade. Wool is sold at auction in February, March or April depending on market trends, with crutchings and oddments sold privately. Wool production for the last year was 17,400 kg for all wool sold excluding crutchings.

The sheep graze approximately 470 ha of the farm with some paddocks rotating in and out of the cropping phase. Supplementary feed is provided through the cropping program when it is required, on average about 40 tonnes of oats are fed each year to the sheep flock.

The livestock trading income is calculated as follows assuming that opening and closing values are equal.

Trading income = (sales – purchases) + (closing value – opening value)

$41,835 = 44,835 – 3,000 + (213,763 – 213,762)

Cropping enterprise

The cropping operation is currently based on an area of approximately 350 ha and includes oats, wheat and canola. Oats are considered a simple crop to grow and fit in well with the sheep enterprise. The cropping program is based on a rotation of canola, two wheat crops followed by oats and then back to pasture for a number of years.

- Oats are grown for use on farm and for sale to feed merchants and grain millers. The oats are stored on farm in silos and released for sale progressively over time to command a higher price than would be achieved at harvest.
- Wheat (milling quality) is grown and delivered to the general marketing authority direct from harvesting to provide cash flow and reduce the need for on farm storage.
- Canola is grown for cash flow reasons but also as part of the crop rotation for disease and weed control. Canola pricing is based on forward contacts and silo cash price at delivery. The forward contracts are usually based on 27-tonne parcels and are negotiated progressively throughout the year.

The average area sown, yield and price for each crop is a follows:

Oats 100 ha @ 3.8 tonne/ha average net sale price	$125
Wheat 200 ha @ 3.6 t/ha average net sale price	$160
Canola 50 ha @ 2.1 t/ha average net sale price	$320

Table 9.1 Rival Downs livestock schedule for Year 1

Class	Opening no.	Nat. increase	Purchases	Transfer out	Transfer in	Sales	Deaths	Rations	Closing no.
Ewes	1,331				374	(339)	(35)		1,331
Wethers	1,395				445	(430)	(15)		1,395
Weaners	1,095			(819)	1,095	(246)	(30)		1,095
Lambs	0	1,118		(1,095)		0	(23)		0
Rams	20		5			(4)	(1)		20
Total	3,841	1,118	5	(1,914)	1,914	(1,019)	(104)	0	3,841

Table 9.2 Cash flow summary for Year 1

Opening bank balance			**$10,000**
Receipts			
Wool		$95,000	
Sheep sales		$44,835	
Wheat		$114,480	
Canola		$37,275	
Oats		$42,500	
Total receipts excluding GST			**$334,090**
GST collected			$33,409
Total receipts			**$377,499**
Payments			
Sheep enterprise			
Pasture costs	19,415		
Sheep purchases	3,000		
Animal health	5,531		
Shearing and crutching	12,330		
Contractors	300		
Casual labour	1,306		
Sheep sundries	1,805		
Freight (wool)	998		
Sheep total		**$44,685**	
Crop enterprise			
Seed	6,400		
Fertiliser	25,350		
Weed control	13,800		
Contractors	18,550		
R&M crop plant	2,850		
Crop fuel and lubricants	6,050		
Crop sundries	3,350		
Crop total		**$76,350**	
Overhead			
Water supply costs	1,373		
R&M fences and facilities	6,930		
R&M farm vehicles	1,636		
Vehicle expenses	1,197		
Fuel (non-crop)	6,959		
Casual labour	892		
Insurance	6,175		
Telephone	1,598		
Accountant	1,950		

Table 9.2 Cash flow summary for Year 1 (*cont.*)

Rates	7,976		
Administration	4,954		
Electricity (farm)	1,527		
Total overheads		**$43,167**	
Finance costs			
Bank fees and interest	25,230		
Loan repayments	23,200		
Total finance costs		**$48,430**	
Tax payments			
GST paid on expenses	16,420		
GST paid to ATO	16,989		
PAYG	23,000		
Total tax payments		**$56,409**	
Personal expenses		**$35,000**	
Total payments			**$304,041**
Net cash flow			**$73,458**

Equipment: (Opening depreciated value)	
Tractors 1	$64,000
Tractors 2	$24,000
Tractors 3	$80,000
Disc plough	$3,500
Harrowbar	$2,500
Combine harvester	$27,500
Boomspray	$26,500
Truck and bulk bin	$47,500
Field bins	$12,500
Grain storage shed and silos	$25,000
Grain auger	$12,700
Total	*$325,700

* Average annual depreciation rate is 10%.

Crops are sown after burning the stubble or heavily grazing pastures, which is then followed by ploughing once and harrowing twice or direct drilling. Spraying for weeds is only done as a last resort with some weeds tolerated in the crop. Crops are usually sown in April or May and harvested in January. Sheep are grazed on the stubble after harvest for as long as practical, which aids cropping (reduces stubble) and is a valuable source of fodder for the sheep. The crops are sown with a high analysis fertiliser and urea. New pasture is established by burning stubbles and then direct drilling the seed into the soil.

Financial performance indicators

The first step in the analysis of financial performance is to apply a series of financial performance indicators to the business data. These indicators are then used to identify the strengths and weaknesses in the financial performance of the business (see Figure 9.1). However, it is important to remember that these performance indicators are only a guide and should not be treated as the only measure of performance as personal and business objectives may not always be adequately measured by these indicators.

Before commencing the financial analysis it is important to understand the circumstances in which the business is conducted. Making major adjustments or decisions about a business based on financial performance in a year of adverse seasonal conditions may result in a bad outcome. Similarly, using only one year's data could also lead to a false impression of performance, and it is better to review the trends in performance over a number of years to provide a sounder basis for analysis.

When assessing the performance of the business it is first necessary to understand the type of reward the business owner expects from the business. In agriculture this is often two-fold as the owner commonly provides both labour and investment capital and as such needs to be rewarded for both.

Reward for owner/operator input

In circumstances where the owner provides little or no labour input the business incurs greater costs in the form of paid labour and this would reduce the profit accordingly. Therefore where the owner/operator provides some labour input an opportunity cost arises as the owner/operator could have worked elsewhere to earn income. The reward for owners' labour input is often referred to as an *owner/operator allowance* and such allowances are commonly used in business benchmarking (see later in this chapter). Owner/operator allowances should not be confused with owner drawings, as drawings are the actual dollar amount withdrawn by the owner from the business for private purposes.

The monetary amount applied to the owner/operator allowance can be determined using a number of methods such as an estimate of the time put into the business multiplied by an hourly pay rate, or a floating scale based on the turnover of the business. Regardless of the method employed, it is important that it is consistent from year to year or business to business. For illustrative purposes an arbitrary figure of $40,000 has been selected for this case study.

Asset valuation

In all aspects of financial analysis the figures used are derived from the actual accounts for income and expenditure of the business. The most variable factor in the analysis is asset valuation and this can have a significant influence on the outcome of ratio analysis, and land is usually the single most important and largest farm asset. For this reason land valuations used in the statement of assets and liabilities are very important and must be considered carefully. Land may be valued at:

- purchase price plus improvements
- market value

- productive value.

Additional guidance as to what constitutes a reasonable valuation can be obtained from:

- recent shire valuations (last two years)
- comparable property sales in the district (not asking price)
- average price over three years.

Table 9.3 Statement of income and expenditure (Year 1)

Income**	**$**	**$**
Sheep gross margin		89,150
Wheat gross margin		74,480
Oat gross margin		27,700
Canola gross margin		21,725
Total income		**213,055**
Overhead costs		
Water supply costs	1,373	
R&M fences and facilities	6,930	
R&M farm vehicles	1,636	
Vehicle expenses	1,197	
Fuel (non-crop)	6,959	
Casual labour	892	
Insurance	6,175	
Telephone	1,598	
Accountant	1,950	
Rates	7,976	
Administration	4,954	
Electricity (farm)	1,527	
Depreciation	32,570	
Total overhead costs		**75,737**
NET PROFIT before interest and tax		137,318
Less: Owner/operator allowance		40,000
Operating return		**97,318**
Less: Interest and lease costs		25,230
NET PROFIT before tax		**72,088**

** See later in this chapter for calculation of gross margins

Table 9.4 Statement of assets and liabilities (end Year 1)

ASSETS	**Current assets**			
	Cash	$73,458		
	Fodder on hand	$6,250		
	Total current assets		$79,708	
	Working assets			
	Stock – livestock	$213,762		
	Machinery and equipment	$293,130		
	Total working assets		$506,892	
	Fixed assets			
	Land and improvements		$2,580,000	
	Total assets			**$3,166,600**
LIABILITIES AND EQUITY	**Current liabilities**			
	Trade creditors	$1,750		
	Total current liabilities		$1,750	
	Non-current liabilities			
	Farm development loan	$348,000		
	Total non-current liabilities		$348,000	
	Total liabilities		**$349,750**	
	Owner's equity			
	Equity at start of year	$2,762,762		
	Plus: net profit less interest	$112,088		
	Less: drawings + PAYG	$58,000		
	Equity at end of year		**$2,816,850**	
	Total liabilities and equity			**$3,166,600**

Return to total assets

The business owner/operator should also expect a fair return on the capital invested in the business, but it may not always be reasonable to compare this return to the returns from fixed interest bank deposits, shares, bonds or even alternative business ventures. Return to investments in agribusiness also need to take into account other factors such as the relative risks facing the business, potential capital appreciation of the business assets, taxation advantages or concessions, lifestyle issues and employment issues.

Return to total assets measures the return to the total capital invested in the business and provides an indication of how efficiently the resources of the business are utilised. When expressed as a percentage of total assets, this indicator can be compared with industry averages and returns from alternative businesses.

$$\text{Return to total assets \%} = \frac{\text{Net profit before interest and tax less owner/operator allowance (Table 9.3)}}{\text{Total assets at start of year (Table 9.4)}} \times \frac{100}{1}$$

$$\text{Return to total assets \%} = \frac{137{,}318 - 40{,}000}{3{,}166{,}600} \times \frac{100}{1} = 3.07\%$$

Using this performance indicator for the case study, we find that a return to total assets of 3.07% has been earned for the year. To obtain some indication as to whether this is a satisfactory return it could be compared to the district average. District averages may be sourced from survey data and research conducted by accountants, consultants, government agencies or farm discussion groups, but comparative data is not readily available in some areas and industries.

Before undertaking a comparative analysis it is important to ascertain whether the figures being compared are calculated on the same basis. This is particularly important if comparisons are made between an individual business's results and industry averages, because if industry averages are based on different methods of calculation the comparison will be meaningless.

In the case study the district average is 2.7% showing that the return to capital employed in Rival Downs is similar to the district average. However, it is also noted that the top 20% in the district are returning an average 5.9%, which means that there is room for improvement. To gain additional indication of whether the business resources are being used effectively, the rate of return to total assets could also be compared with other comparable businesses.

Return to equity

Return to equity is a measure of how efficiently the owner's investment in the business is performing. This indicator is comparable with alternative investments that the owner might be willing to consider, but it is important to remember that the return to equity percentage does not include any allowance for capital gains.

$$\text{Return to equity \%} = \frac{\begin{array}{c}\text{Net profit before tax less} \\ \text{owner allowance (Table 9.3)}\end{array}}{\text{Equity at start of year (Table 9.4)}} \times \frac{100}{1}$$

$$\text{Return to equity \%} = \frac{72{,}088}{2{,}762{,}762} \times \frac{100}{1} = 2.61\%$$

In the case study the return to equity of 2.61% appears low compared to fixed interest investments, but for a more comprehensive analysis, the return should also be compared to the industry average. The fact that the return to equity is lower than the return to total assets indicates that the interest on debt is greater than the return to capital for the business. This is often the case, but if the difference is significant it may indicate that the return to capital is not sufficient to support the cost of interest on any additional borrowed funds.

Operating expenditure to income ratio

The operating expenditure to income ratio is an indication of the level of total expenditure (fixed and variable) in relation to total income. This ratio is also referred to as 'farm operating costs as a percentage of farm income', and does not include

depreciation, financing costs or any owner/operator allowance. The data used for calculating this ratio can be taken direct from the cash flow: receipts, total enterprise costs and overheads. A common rule of thumb applied in agribusiness is that this ratio should be no more than 50%, that is, total operating expenditure should be less than 50% of total income. However, such general guidelines are only a crude indicator and the most valuable use for this ratio is through comparisons with other similar agribusinesses. These comparisons are more appropriate because they compare the business's performance with similar activities. Care should be taken when using ratios from one year only as seasonal factors such as droughts can influence this figure significantly.

$$\text{Operating expenditure to income ratio} = \frac{\text{Enterprise costs (Tables 9.5 and 9.7) + overhead expenses (Table 9.3)}}{\text{Total income (Tables 9.5 and 9.7)}} \times \frac{100}{1}$$

$$\text{Operating expenditure to income ratio} = \frac{(47{,}685 + 76{,}350 + 75{,}737)}{331{,}090} \times \frac{100}{1} = 60.3\%$$

An operating expenditure to income ratio for the case study of 60.3% is very close to the normal rule of thumb. As explained previously, a rule of thumb is only a guide but in this case further investigation may be warranted, as it appears that the level of total expenditure is high compared to the level of income.

Debt servicing to income ratio

The level and type of business debt has a significant bearing on business costs and cash flow. Debt servicing includes both interest and loan repayments which gives an indication of the impact of total debt-servicing costs on the viability of the business. As a general rule, debt-servicing costs above 25% of total income may cause cash flow difficulties. However, this is only a general rule and a more accurate measure can be obtained using a detailed analysis of business cash flow.

$$\text{Debt servicing to income ratio} = \frac{\text{Interest + repayments (Table 9.2)}}{\text{Total income (Tables 9.5 and 9.7)}} \times \frac{100}{1}$$

$$\text{Debt servicing to income ratio} = \frac{25{,}230 + 23{,}200}{331{,}090} \times \frac{100}{1} = 14.6\%$$

A debt servicing to income ratio of 14.6% calculated for Rival Downs is well below the 25% rule of thumb. This indicates that debt servicing is not a major drain on cash flow and therefore should not be limiting expenditure in other areas. High debt-servicing costs make it more difficult to effectively manage a business because they increase the demand on limited cash resources. The type of loans, structure of debt and repayment schedule can therefore have a significant bearing on business viability (see Chapter 12).

Owner's equity

Determination of owner's equity is important because it is linked to the ability of the business to service its debts. For example, as owner's equity in the business declines,

debt-servicing costs increase. This can be seen by reference to Table 9.4, which shows that owner's equity is the difference between the total assets and total business liabilities (debt):

$$\text{Owner's equity} = \text{total assets} - \text{total business debt}$$

It is also useful to calculate owner's equity as a percentage of total assets as this provides information that may be compared to industry averages and previous years' performances.

$$\text{Percentage equity} = \frac{\text{Equity at end of year (Table 9.4)}}{\text{Total assets (Table 9.4)}} \times \frac{100}{1}$$

$$\text{Percentage equity} = \frac{2,813,850}{3,166,660} \times \frac{100}{1} = 88.9\%$$

Acceptable levels of owner's equity depends on the nature of the business. Industries with a high capital requirement and a relatively low return on capital will require higher owner's equity to remain viable, whereas industries with a higher return on capital and a sound cash flow can be considered viable at a lower level of equity such as 60–65%.

In the case of Rival Downs the percentage equity is quite high and would not appear to be a concern. However, the percentage equity should also be considered in conjunction with other debt servicing indicators, such as the debt servicing to income ratio and a cash flow analysis.

Enterprise performance

Most agricultural businesses are made up of more than one enterprise, each with its own distinct source of income and expenses that contribute to the overall profitability of the business. Analysis of the performance of these distinct enterprises is important because in most cases there is a potential to substitute one enterprise for another, or add a new enterprise to improve overall productivity and profitability of the business. For example:

- Making adjustments to changing enterprise profitability caused by changes to commodity prices, for example, wool sheep to prime lambs.
- Utilising the flexibility of alternative enterprises by changing the type of grazing animal, for example, sheep to beef cattle, sheep or beef to dairy.
- Utilising the flexibility of alternative cropping enterprises by varying the type and variety of crops.

One of the most common methods of analysing enterprise performance in an agricultural business is through gross margin analysis. Gross margin analysis provides a measure of the profitability of each enterprise, so they can be compared based on how effectively each uses the resources allocated. Gross margin analysis also makes it possible to compare enterprise performance with other businesses conducting similar enterprises. However, the validity of these comparisons depends upon the use of consistent accounting methods for the determination of the gross margins. If different

assumptions and approaches are used any comparison will be meaningless. Appendix 1 indicates some examples of cost categories used in comparative gross margins analysis.

Gross margin analysis

Enterprise gross margins are determined by deducting operating expenses, also known as variable costs (those costs which change in proportion to changes in the level of production), from the income of the enterprise. Enterprise gross margin equals:

Enterprise operating income – enterprise operating expenses

Enterprise operating income is the total value of the enterprise output for one growing season, and therefore includes the value of all production, any change in the value of enterprise inventories and transfers from other enterprises. If standard accounting procedures are employed, operating income can be taken directly from the cash flow statement (Table 9.2), but enterprise transfers will have to be determined from physical records. For example, in the case study business the physical records show that grain has been transferred from the cropping enterprise to the livestock enterprise (see case study details).

Inventories retained from one period to the next (for example, livestock, hay, grain, wool) must also be taken into account when calculating enterprise operating income (see Chapter 6). This is done using the trading accounts to show the effect of changing inventory values during the period. The trading account format is the same as that used for a gross margin (see Table 9.1), and adjusts the operating income so that it reflects the value of the production for the relevant period.

The second step in determining the enterprise gross margin is to calculate the total enterprise operating expenditure, but determination of which cost categories should be included in the gross margin calculation can be a contentious issue. The conventional approach to the determination of enterprise operating expenses is to include only variable costs that satisfy the following two rules:

- expenses are enterprise specific
- expenses vary in direct proportion to the size of the enterprise.

A simple test of variability is to determine whether a production increase of 10% will increase a particular cost by the same percentage. If the answer to this question is yes, then the cost is variable, if the answer is no then the cost is not a variable cost and may be either a fixed or capital cost. Appendix 1 of this chapter provides lists of expenses for various enterprises that are normally variable.

In the case study business, Rival Downs, the operating costs for each enterprise can be taken directly from the cash flow statement (Table 9.2). However, in practice it may be more difficult to separate some costs into their appropriate enterprise because they may be shared between more than one enterprise. Costs that are difficult to allocate to a particular enterprise should be treated as overheads and not allocated unless they form a significant percentage of the total cost, and some reasonable method of allocation can be determined.

Costs that are not enterprise specific (for example, general vehicle costs), and costs that do not vary with changes in the level of production (fixed or overhead costs) are not

included in enterprise operating costs. This is because these costs are not directly related to the enterprise and would not normally be affected by changes to the enterprise.

Transfers of produce between enterprises must also be taken into account when determining enterprise operating expenditure to reflect the true costs associated with the enterprise. In the case study additional costs of supplementary feeding are added to the livestock enterprise because of the transfer of grain from the cropping enterprise (see Tables 9.5 and 9.7).

Evaluating enterprise performance

Calculation of total enterprise gross margin, as shown in Tables 9.5 and 9.7, is of little value in analysing enterprise performance, because total gross margins cannot be compared to each other or industry averages. To make the total gross margin more useful for management purposes, it is necessary for the gross margin to be related to the factors limiting production in the business (for example, land, livestock numbers, water for irrigation or enterprise capital). When gross margins are presented as a return to the most limiting resource, the utilisation of business resources by different enterprises can then be compared. For example, a cropping and a livestock enterprise could be compared based on their respective gross margins per hectare. For example:

- GM per ha
- GM per DSE
- GM per $ invested
- GM per mg.

As land is commonly the most significant limiting resource in agribusiness, the calculation of a gross margin per hectare for land used is a valuable measure of how effectively an enterprise utilises the land available. This measure of performance can then be used to compare the performance of different enterprises in utilising the land available. Care must be taken when comparing gross margins per hectare of enterprises that use the land in different ways (for example, cropping compared to grazing enterprises), because these different enterprises may have different long-term effects on the productivity of the business. For instance, a grazing enterprise operated at sustainable stocking rates can continue indefinitely, whereas continuous cropping may not be sustainable in the long term. A more appropriate method of comparing cropping and livestock enterprises is, therefore, to look at gross margins over a number of years so that the full cropping rotation is included, which gives a more realistic average gross margin per hectare.

Livestock gross margins can also be compared using either gross margins per hectare and/or gross margins per dry sheep equivalent (DSE). DSE is a standard unit used to enable the grazing (feed) requirements of different types and classes of livestock to be expressed in comparable terms. One DSE is defined as the grazing resources needed to maintain the body weight of a 45 kg live weight wether. The grazing requirements of other animals can then be expressed in DSE so that different livestock enterprises can be compared. For example, yearling steers may be rated at approximately 10 DSE per head

because research has shown that it takes approximately 10 times the feed to maintain a yearling steer when compared to a wether. DSE rates may also vary over the life of an animal, as is the case for pregnant or lactating females. The comparison of gross margins per DSE is a useful guide when animals are grazed at similar stocking rates but becomes less useful when stocking rates are different. This is because different stocking rates will have different long-term effects on the productivity of the property. Appendix 2 to this chapter contains a table that gives approximate dry sheep equivalents for various types of livestock.

In irrigation districts, water is a major limiting factor, and therefore the calculation of the gross margin per megalitre of water used may be a useful measure of how effectively water is utilised. Selecting enterprises that maximise the return per megalitre will increase returns in the long term provided the method of production and management is sustainable.

A gross margin per unit of enterprise capital can also be very useful where expansion is being considered with limited funds. Where capital is limiting, the enterprises that produce the highest return for the capital invested should be considered. Enterprise capital is considered to be the capital that can be transferred from one enterprise to another as a result of the proposed change, and is usually expressed in $100 lots. For example, if a grazing business was considering replacing all of the sheep enterprise with cattle, then the livestock value of the sheep represents the enterprise capital, as this capital would be released from sheep to purchase cattle.

Gross margin analysis is a very useful business analytical tool because it provides valuable comparative information to assist management with the following.

- Relative profitability of various business enterprises can be analysed. Gross margin analysis assists managers to identify the important factors influencing profitability as each individual cost can be analysed and compared.
- Industry comparisons can be made that enable the identification of industry best practices.
- The strengths and weaknesses of an enterprise can be identified so strategies can be developed that improve performance.
- A profitable enterprise combination can be planned within the technical limits of each enterprise, and which maximises the effective use of limited business resources.

Case study gross margin analysis

The previous discussion has shown the method of calculating a total enterprise gross margin, and explained how it can be used in the analysis of enterprise performance by expressing the gross margin as a return to limiting resources. Tables 9.5 and 9.7 show the total gross margins for the case study business Rival Downs.

Comparison of the case study business with the district averages (Table 9.6) shows that the livestock enterprise gross margin of $19.78 per DSE is well above the district average of $13.00 per DSE, and is better than the average gross margin of the top 20% of producers, which is $18.14 per DSE. These figures would indicate good livestock performance and management. When taken on a gross margin per hectare basis these

Table 9.5 Rival Downs sheep enterprise gross margin

Income	**$**	**ha**	**DSE**
Trading income	41,835	89.01	9.28
Other – wool	95,000	202.13	21.08
Total income	**136,835**	291.14	30.36
Enterprise expenses			
Pasture costs	19,415	41.31	4.31
Animal health	5,531	11.77	1.23
Shearing and crutching	12,330	26.23	2.74
Contractors	300	0.64	0.07
Casual labour	1,306	2.78	0.29
Sheep sundries	1,805	3.84	0.40
Fodder (transfer from oats)	6,000	12.77	1.33
Freight (wool)	998	2.12	0.22
Total expenses	**47,685**	101.46	10.58
Sheep GROSS MARGIN	**$89,150**	$189.68	$19.78

figures change slightly; Rival Downs is a little below the district average but well below the top 20%. To determine the reasons for the case study farm's performance it would be necessary to conduct a detailed analysis of the enterprise to identify the key factors of production and costs that vary significantly from the higher performing businesses. Once these key differences have been identified alternative strategies for improving the performance of the livestock enterprise can be investigated. The method of comparing profitability of alternative strategies is discussed in Chapters 10 and 11.

The cropping enterprise gross margins are well above the district average for this year, which indicates that these enterprises are relatively efficient and well managed. However, average production can always be improved, but as the livestock enterprise appears to be underperforming there may be more immediate gains possible by looking at it first.

Table 9.6 Rival Downs sheep gross margin compared to district average

	Sheep		
	Rival Downs		**District average**
Enterprise land use (ha)	470		
Enterprise gross margin	$89,150		
Gross margin/ha		$189.68	$193.00
Dry sheep equivalents (DSE)	4,507		
Gross margin/DSE		$19.78	$13.00
Enterprise capital (Table 9.4)	$213,762		
Gross margin/$100 of enterprise capital		$41.72	

Table 9.7 Rival Downs cropping enterprise gross margins

	Total	Wheat		Oats		Canola	
Area (ha)	350	200		100		50	
Income							
Total	194,255		114,480		42,500		37,275
Transfers	6,000				6,000		
Total income	**200,255**		**114,480**		**48,500**		**37,275**
Enterprise expenses		**Cost/ha**		**Cost/ha**		**Cost/ha**	
Seed	6,400	16	3,200	20	2,000	24	1,200
Fertiliser	25,350	66	13,200	74	7,400	95	4,750
Weed control	13,800	36	7,200	33	3,300	66	3,300
Contractors	18,550	47	9,400	46	4,600	91	4,550
R&M crop plant	2,850	9	1,800	10	1,000	1	50
Crop fuel & lubricants	6,050	16	3,200	17	1,700	23	1,150
Crop sundries	3,350	10	2,000	8	800	11	550
Total expenses	**76,350**		**40,000**		**20,800**		**15,550**
GROSS MARGIN	**$123,905**		**$74,480**		**$27,700**		**$21,725**

In this analysis it is not possible to make a meaningful comparison of the livestock and cropping enterprise on a per hectare basis because the two gross margins per hectare are not comparable. These gross margins are not comparable because the cropping gross margin per hectare is based on only one year's production over 350 hectares rather than over the normal three-year crop rotation. In the transition from crop to pasture there is a phase where neither crops are grown or the pasture grazed to enable the new pasture to establish effectively. The only way to compare different enterprises such as crops and livestock is to look at the average gross margin over a production phase that includes the full rotation of all the different crops grown together with the pasture re-establishment period.

Table 9.8 Rival Downs cropping gross margin compared to district average

	Cropping					
	Wheat	District avg	Oats	District avg	Canola	District avg
Enterprise land use (ha)	200		100		50	
Enterprise gross margin	$74,480		$27,700		$21,725	
Gross margin/ha	$372	$285	$277	$119	$434	$300
Gross margin/ha per mm EGSR*	$1.24	$0.95	$0.92	0.39	1.45	$1.08
Enterprise capital (Table 9.4)**	$167,502		$83,752		$41,876	
Gross margin/$100 of enterprise capital	$44.47		$33.09		$51.97	

* EGSR (Effective growing season rainfall), Rival Downs EGSR = 300
** Machinery capital allocated to each crop on an area cropped basis

Deficiencies in gross margin analysis

Gross margin analysis can be valuable for the type of assessment conducted above but there are some points of caution that must be made. Gross margin analysis is subject to an ability to distinguish the variable cost of each separate enterprise, but this may not always be able to be done accurately. For instance, the cost of fertiliser allocated to the cropping enterprise in this example is the total cost of fertiliser applied to the crops. This assumption ignores the fact that the build-up of fertility may benefit pasture production indirectly, which will also benefit the livestock enterprise. The interaction of enterprises is very important to the overall production efficiency but it is not very well accounted for through gross margin analysis.

Another area of concern is the tendency to reach a conclusion about the relative profitability of different enterprises from the gross margin per hectare figures. Even though the cropping activity in the case study shows a higher return per hectare, it must be appreciated that this enterprise may make use of the more fertile land. In addition, it may not be possible to increase the area under crop without causing the return per hectare to fall.

Reliance on the return per hectare when comparing enterprises also overlooks the question of which farm resource is the most critical. For example, if land is the limiting factor to production then the return per hectare will be the crucial measure of efficiency. However, if some other factor such as capital or labour is limiting production, then each enterprise should be compared on a basis that reflects the use of this limiting resource. In the case where expansion of a cropping enterprise is restricted by the amount of capital available, then a gross margin per dollar invested would give a better indication of the investment that would improve the overall return to capital.

The relative gross margins per hectare for Rival Downs does indicate that the cropping enterprise could be a more efficient use of land than the livestock enterprise. However, this does not necessarily mean that increasing the level of cropping will increase overall farm productivity.

To ascertain whether total farm profit will be increased by raising the area of oat cropping and reducing the number of livestock carried, it is necessary to consider the interactions of the two enterprises, the effect of market prices and effects on other business costs. For example, increasing the area planted to oats may cause increased difficulties in grazing management resulting in a greater than expected decrease in the number of livestock carried. Such a change may also require investment in larger equipment, which would also make the direct comparison of the current gross margins per hectare misleading. Chapter 11 provides detailed discussion on the techniques of comparing the profitability of alternative strategies under investigation.

An additional criticism of the use of gross margin analysis as a method of comparing enterprise performance is that gross margins are based on only the variable costs of production, and do not include any allowance for fixed or overhead costs. The use of variable costs only assumes that fixed costs remain unchanged regardless of level of enterprise activity. While this may generally be true, some fixed costs do vary as a result of changes in enterprise activity but not necessarily in direct proportion to changes in the level of production. For example, general machinery costs that are not allocated to

any one enterprise may increase if the enterprise that makes more use of this equipment is increased in size. Also, for single enterprise businesses (for example, dairying or egg production), all costs can be directly related to the single enterprise, therefore the separation of fixed and variable costs is less meaningful.

Benchmarking

Gross margin analysis forms part of a broader business performance analysis known as benchmarking. Benchmarking is a process of comparing an individual business to established standards (benchmarks) for physical and financial performance. The benchmarks are usually established after detailed analysis of a range of individual businesses within an industry or district. Benchmarks are then graded into different levels such as strong, average and weak. Benchmarks are also usually divided into different areas of the business structure and performance such as:

- business resources – capital invested and its allocation to enterprises
- land management – crop and pasture productivity, erosion control, water management
- financial performance – profitability, solvency, viability
- physical performance – crop and livestock performance.

Benchmarking aims to identify for analysis the most important or key variables within each of these areas. These key performance indicators are then used to test how the business is performing and identify areas for improvement.

The process of benchmarking is commonly carried out through the services of an accounting firm or farm business consultant, acting either for an individual or a group of businesses within a district. Each group may establish their own set of key performance indicators based on their needs. The benefit of undertaking benchmarking within a group setting is that responses to the individual's benchmarking performance can be discussed and a wider range of experiences can be used to develop an individual's response to problem areas. For an example of benchmark data see Appendix 3.

Cost of production analysis

Australian agriculture obtains a high proportion of its business from exporting commodities to overseas markets in direct competition with other suppliers. The ability to compete and succeed in these markets depends on a number of factors, one of which is the price of the commodity. Commodity price is a combination of a number of costs including direct costs of production, freight, processing and marketing margins. Although some of these costs are outside the control of the producer, knowing the cost of production at the farm gate will enable better decisions when marketing the commodity. Where price is important in a competitive market, a manager will be able to use information relating to the cost of production to set prices that are acceptable to the market, while still maintaining a reasonable profit. The following list illustrates a possible procedure for determining the cost of production (see Chapter 10).

Table 9.9 Rival Downs wool production cost analysis

Item	Source	Total cost	Allocated cost
Wool production		Greasy wool	17,400 kg
		Clean wool (70% yield)	12,180 kg
Enterprise costs (Table 9.5)	From gross margin analysis.		$47,685
Overhead costs (Table 9.3)	From statement of income and expenditure. Allocate 56% to sheep based on percentage of land devoted to sheep enterprise, i.e. 470 ha/840 ha.	$75,737	$42,412
Labour costs	The owner takes $40,000 per year in drawings and estimates about 50% of their time spent on sheep enterprise, i.e. wool income/total sheep income.	$40,000	$20,000
Total costs			$110,097
Adjustments	Wool income represents 69.4% of sheep enterprise.		$76,407
Cost of production for wool	Adjusted enterprise costs divided by total wool production.	**Greasy**	**$4.39/kg**
		Clean	**$6.27/kg**
Break-even price	Add allocated finance and taxation costs. Allocation based on the percentage contribution to business income. Wool contributes 28.4% (Table 9.2), i.e. wool income/total income.		
	Finance cost from Table 9.2.	$48,430	$13,754
	Taxation cost (PAYG) from Table 9.2.	$23,000	$6,532
	Cost of production plus allocated finance and taxation.		$96,694
Break-even price		**Greasy**	**$5.56/kg**
		Clean	**$7.94/kg**
Target price	Add a profit margin to your break-even price for risk and reward.		
	Suggest 10% margin.	**Greasy**	**$6.12/kg**
		Clean	**$8.73/kg**

1 Determine quantity of commodity being produced, for example, kilograms of beef, wool, sheep meat, tonnes of grain, hay, etc.
2 Determine enterprise costs (from gross margin calculations).
3 Allocate overhead costs. The allocation should be based on a logical approach such as enterprise land area as a proportion of total farm size.
4 Allocate labour and management costs on the proportion of time spent on the enterprise. This is probably the most difficult part to get close to an accurate figure without keeping time sheets on labour use.

5 Calculate total costs by adding the overhead and labour costs to enterprise costs.
6 Adjust the costs for enterprises with multiple income streams. In the case of a sheep enterprise, income is derived from both the sale of sheep meats and wool. If calculating the cost of production for wool the costs would be adjusted by the proportion of the sheep enterprise that wool contributes.
7 Calculate the cost per unit by dividing adjusted total cost by total production of the commodity.

These steps can be illustrated for wool production costs for the case study farm Rival Downs:

The cost of production calculated in Table 9.9 can then be compared to the current market price and if the margin is small it would indicate that this business is vulnerable to even small increases in costs or decreases in price.

By extending the calculation to the target price level, a manager will be certain that the price set will be sufficient to cover income tax, return to capital and debt servicing. Calculating a cost of production figure for commodities produced also enables detailed analysis of the cost structure to ascertain whether high costs are leading to prices that are beyond what the market is willing to pay (see Appendix 6 for an additional example of target pricing).

Risk management

Risk management is an important component of any manager's work portfolio. It embraces a range of business activities from seasonal climatic factors (floods, fires and droughts) to commodity price fluctuations, but for the purposes of this discussion we will confine it to price risk management.

In the past some agricultural industries attempted to manage the fluctuating commodity price through some form of Statutory Marketing Authority (SMA). Examples include Australian Wheat Board, Australian Wool Innovations and the Australian Dairy Corporation. These SMAs were operated under an act of parliament and were able to manage the price to growers by a variety of means, for example, purchasing the commodity when prices were low to force the market price up to a minimum (floor) price or levying growers for funds to manage export prices. Through a process of deregulation these government backed industry organisations have mostly been restructured and price risk management has been devested back to the individual grower to manage for themselves.

The commodity producers now decide on the risk management strategies they will employ. The range of options available will vary with the industry but could include one or more of the following:

- forward contracts
- use of the futures market
- taking options on futures
- managing currency exchange rates
- converting the commodity into a marketable product
- using commodity pools

- managing delivery of the commodity to average market price over a period of time
- using target pricing as a price risk management tool for assessing price risk management strategies (see Table 9.9)
- doing nothing and taking market price on sale day.

SWOT analysis

This chapter has described a number of indicators that assist with the analysis of business performance. However, these indicators are not an end in themselves; they merely enable the identification of possible areas of strength and weakness that require further investigation and the identification of possible future strategies for the business. One way a manager can respond to the signs of business performance is to undertake a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis (see also Chapter 10).

As a result of conducting the SWOT analysis, a number of strategies should be identified for management to evaluate. For example, if management find that financial returns are less than budgeted and low stocking rates are identified as the prime cause, it is then possible to focus on the factors that impact on stocking rate such as:

- soil fertility and fertiliser applications
- pasture quality
- grazing management
- supplementary fodder program
- herd or flock structure.

Having identified the primary cause of the low returns, alternative strategies can then be selected that can redress this problem. Comparison of these alternative strategies is the next step in the management process and is discussed in detail in Chapters 10 and 11.

Conclusion

The statement of assets and liabilities and the statement of income and expenditure are important economic tools that can be used to establish managerial priorities. Further analysis can be carried out with the use of enterprise gross margins, benchmarking, production cost analysis and SWOT analysis. However, before any contemplated change in farm organisation is made, a full financial comparison should be conducted to investigate the effect of the change on farm profit, and the financial structure of the farm as a whole.

Appendix 1 Variable costs

Examples of variable costs associated with selected agribusiness enterprises

Livestock variable costs

- **Feed costs**: purchased feeds, fodder crops, pasture maintenance, fodder conservation, grain produced on the farm, agistment
- **Animal health costs**: veterinary services, drench and other medicines
- **Production supplies**: materials used in enterprise such as wool packs, dairy cleaning supplies and identification tags
- **Labour**: shearing, casual and other contract labour used
- **Freight and cartage**: transporting livestock to and from market
- **Selling costs**: agent fees, commissions, levies

Cropping variable costs

- **Production costs**: seed, fertiliser, fuel and other variable machinery costs, sprays
- **Harvesting costs**: variable machinery and cartage costs
- **Storage and selling costs**: agent fees, commissions, levies
- **Labour**: contract and casual labour

Appendix 2 Dry sheep equivalent

Dry sheep equivalent (DSE) ratings

Class of livestock	DSE rating
Dry sheep	1.0
Pregnant ewes	1.4
Lactating ewes	2.7
Ewes (average annual)	1.5
Weaned lambs (Merino)	0.8
Weaned lambs (crossbred)	1.2
Heifers	9.5
Cows over 2 years old	13.0
1–2 year old steers	9.5
Steers over 2 years	12.0
Calves	6.0
Bulls	20.0

Source: Beattie and Patterson, 1997. Note: These figures are averages and will vary according to growth rate, stage of pregnancy or lactation and body weight

Appendix 3 Benchmarks

Examples of benchmarks

Resource use

1. Net worth
   a) Strong – > $1,000,000
   b) Medium – $500,000–1,000,000
   c) Weak – < $500,000
2. Machinery investment to farm income ratio
   a) Strong – < 0.8
   b) Medium – 0.8–1.2
   c) Weak – > 1.2

Financial performance

1. Profitability – return on capital
   a) Strong – > 6%
   b) Medium – 2–6%
   c) Weak – < 2%
2. Cost structure (costs as percentage of income)
   a) Strong – < 50%
   b) Medium – 50–60%
   c) Weak – > 60%
3. Debt servicing (cost as a percentage of income)
   a) Strong – > 15%
   b) Medium – 7–15%
   c) Weak – > 15%

Physical performance

1. Stocking rate: Benchmark – 1 DSE/ha/25 mm over 250 mm
2. Crop production (water use): Benchmark, for example, wheat – 20 kg/ha/mm of EGSR

Appendix 4 Horticulture case study

Cash flow statement

Category name	Totals	Sub total	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
INFLOWS														
Flowers	34,854		2,565	2,345	2,500	2,615	2,675	2,856	2,900	3,450	3,250	3,207	3,350	3,141
Artichokes	36,319		6,150	6,130	2,450						4,650	5,145	5,560	6,234
Lettuce	45,839					4,675	6,500	6,650	5,875	6,990	6,359	5,340	3,450	
Broccoli	43,498		2,960	3,780	3,790	3,950	3,890	4,250	3,450	3,670	3,756	3,245	3,512	3,245
Cabbage	39,374		2,650	2,950	7,569	2,340	2,150	4,520	3,350	2,945	2,930	2,546	2,679	2,745
GST collected	3,488		257	235	250	262	268	286	290	345	325	321	335	314
BAS remittance	8,098				2,195			2,077			2,393			1,433
Transfers from investments														
Total Inflows	$211,470		14,582	15,440	18,754	13,842	15,483	20,639	15,865	17,400	23,663	19,804	18,886	17,112
OUTFLOWS														
Administration	4,569		295	315	325	514	495	235	435	286	314	425	417	513
Bank charges	720		60	60	60	60	60	60	60	60	60	60	60	60
Packaging														
Flowers	2,145				500			400			500		745	
Artichokes	6,756			1,300			1,575			1,456			2,425	
Broccoli	6,505		980				1,785			1,590			2,150	
Cabbage	6,702		1,095			2,459			1,723					1,425
Lettuce	9,898	32,006			3,459		3,529		1,560			1,350		

Category name	Totals	Sub total	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Poisons (rabbits)	65													65
Chemicals														
Artichokes	2,284						2,284							
Broccoli	2,688						2,688							
Flowers	1,100												1,100	
Cabbage	2,009												2,009	
Lettuce	2,703	10,784											2,703	
Donations	200				200									
Electricity	9,096		1,956			2,150			2,645			2,345		
Fertiliser														
Artichokes	730			730										
Broccoli	720			720										
Flowers	900			900										
Cabbage	5,980										5,980			
Lettuce	4,000	12,330									4,000			
Fuel														
Diesel	3,411		320	265	315	285	275	286	320	265	295	310	475	
Petrol	4,228		375	378	365	410	460	395	355	365	345	395	385	
Insurances	3,890			1,650			650			1,590				
Levies	480					480								
Phone	3,315			675			735			890			1,015	
Registrations	4,281		1,845			935			645	164		692		
Repairs	8,150		1,850	1,650		350	450	500	450	450	450	450	1,550	

Category name	Totals	Sub total	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Seeds and seedlings														
Artichokes	2,125			975						1,150				
Broccoli	4,985		1,345			1,150			1,195			1,295		
Flowers	1,905		475				475			475			480	
Cabbage	5,050					2,650					2,400			
Lettuce	5,750	19,815			2,450			1,250		2,050				
GST paid	11,586		1,219	957	762	1,045	1,540	307	868	1,057	1,429	657	1,545	200
PAYG (business tax instalment)	5,596				1,283			1,318			1,500			1,495
BAS payment														
Wages	20,160		1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,680
Drawings	28,200		2,350	2,350	2,350	2,350	2,350	2,350	2,350	2,350	2,350	2,350	2,350	2,350
Rates	8,364											8,364		
Loan interest payments	3,294				890			855			804			745
Loan payments	12,430				3,021			3,136			3,107			3,166
Capital improvements														
Transfer to investment														
Asset purchases – slasher	3,500		3,500											
Total outflows	$210,470		19,345	14,605	17,660	16,518	21,031	12,772	14,286	15,878	25,214	20,373	21,089	11,699
Surplus/deficit	$1,000		(4,763)	835	1,094	(2,676)	(5,548)	7,867	1,579	1,522	(1,551)	(569)	(2,203)	5,413
Opening balance	$6,500													
Running balance	$7,500		1,737	2,572	3,666	990	(4,558)	3,309	4,888	6,410	4,859	4,290	2,087	7,500

Details of assets and liabilities at start of the year					
	Opening WDV		**Depreciation rate**	**Depreciation expense**	**Closing WDV**
Machinery	$75,000	(10% deprec.)	10%	$7,500	$67,500
Vehicles	$38,000	(15% deprec.)	15%	$5,700	$32,300
Irrigation equipment	$75,000	(10% deprec.)	10%	$7,500	$67,500
Slasher bought start of year	$3,500		10%	$350	$3,150
	$191,500		**TOTAL**	**$21,050**	**$170,450**

Loan schedule	**Date**	**Balance at start of year**	**Interest**	**Principal repayments**	**Balance at end of year**
Hire purchase loan	This year	35,000	3,294	12,430	22,570
	Next year	22,570	2124	13,600	8,970
	Year after	8,970	844	8,970	Nil
Interest rate	9.41%				

Balance sheet as at start of year			
Current assets		**Current liabilities**	
Bank	6,500	Hire purchase loan	12,430
Non-current assets		**Non-current liabilities**	
Machinery	75,000	Hire purchase loan	22,570
Vehicles	38,000		
Irrigation equipment	75,000	Equity	784,500
Land	625,000		
Total	**$819,500**	**Total**	**$819,500**
Percentage equity	95.7%		
Balance sheet as at end of year			
Current assets		**Current liabilities**	
Bank	7,500	Hire purchase loan	13,600
Non-current assets		**Non-current liabilities**	
Machinery	70,650	Hire purchase loan	8,970
Vehicles	32,300		
Irrigation equipment	67,500	**Equity**	805,380
Land	650,000		
Total	**827,950**	**Total**	**$827,950**
Percentage equity	97.3%		

Equity change check	
Equity start of year	784,500
Add profit	29,676
	814,176
Less drawings**	33,796
	780,380
GST adjustment	0
Land revaluation (closing – opening)	25,000
Equity at end of year	805,380

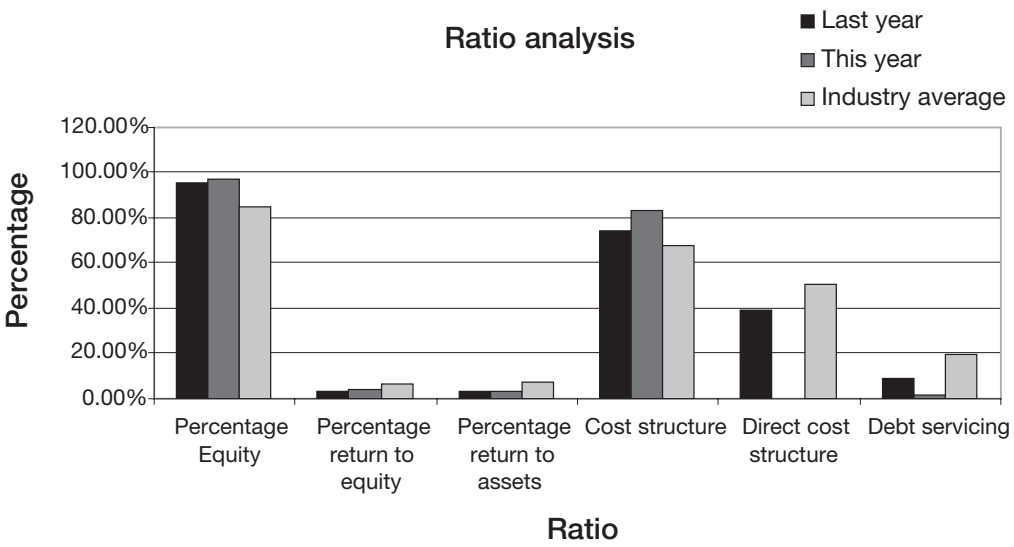
** Drawings plus tax instalments

Statement of income and expenditure				
Variable costs		**%**	**Income**	
Cartons	32,006	16.0%	Flowers	34,854
Chemicals	10,784	5.4%	Artichokes	36,319
Electricity	9,096	4.6%	Lettuce	45,839
Fertiliser	12,330	6.2%	Broccoli	43,498
Fuel – diesel	3,411	1.7%	Cabbage	39,374
Repairs	8,150	4.1%		
Seeds	19,815	9.9%		
Wages	20,160	10.1%		
TOTAL variables	**115,752**	57.9%		
Overheads				
Administration	4,569	2.3%		
Levies	480	0.2%		
Bank charges	720	0.4%		
Poison (rabbit)	65	0.0%		
Donations	200	0.1%		
Insurance	3,890	1.9%		
Phone	3,315	1.7%		
Rates – land & water	8,364	4.2%		
Fuel – petrol	4,228	2.1%		
Depreciation	21,050	10.5%		
Registrations	4,281	2.1%		
TOTAL overheads	**$51,162**	25.6%		
Total costs	**$166,914**	83.5%	**Total income**	**$199,884**
			Less operating costs	166,914
			NET INCOME before interest & tax	**$32,970**
			Less interest and lease costs	3,294
			Profit before tax	**$29,676**

Enterprise gross margin	Flowers	Artichokes	Lettuce	Broccoli	Cabbage	TOTAL
Sales	34,854	36,319	45,839	43,498	39,374	$199,884
Percentage of total income	17%	18%	23%	22%	20%	100%
Total income	**$34,854**	**$36,319**	**$45,839**	**$43,498**	**$39,374**	**$199,884**
Less variable costs						
Packaging	2,145	6,756	9,898	6,505	6,702	$32,006
Chemicals	1,100	2,284	2,703	2,688	2,009	$10,784
Seeds and seedlings	1,905	2,125	5,750	4,985	5,050	$19,815
Fertiliser	900	730	4,000	720	5,980	$12,330
Electricity*	1,586	1,653	2,086	1,979	1,792	$9,096
Wages*	3,515	3,663	4,623	4,387	3,971	$20,160
Fuel – diesel*	595	620	782	742	672	$3,411
Repairs*	1,421	1,481	1,869	1,774	1,605	$8,150
Total variable costs	**$13,167**	**$19,311**	**$31,711**	**$23,780**	**$27,781**	**$115,752**
Enterprise contribution	**$21,687**	**$17,008**	**$14,128**	**$19,718**	**$11,593**	**$84,132**
Percentage gross profit margin	62.22%	46.83%	30.82%	45.33%	29.44%	42.09%
Costs as a % of income	37.78%	53.17%	69.18%	54.67%	70.56%	57.91%
Less overhead costs						
Administration						$4,569
Levies						$480
Bank charges						$720
Poison (rabbit)						$65
Donations						$200
Insurance						$3,890
Phone						$3,315
Interest						$3,294
Rates – land and water						$8,364
Depreciation						$21,050
Registrations						$4,281
Fuel – petrol						$4,228
Total overheads						$54,456
NET PROFIT						$29,677

* Calculated as enterprise costs as a percentage of total income

Analysis table				
Ratio	**Last year**	**This year**	**Industry average**	**Comments**
Percentage equity	95.73%	97.27%	85.00%	
Percentage return to equity	3.00%	3.78%	6.50%	
Percentage return to assets	3.20%	3.58%	7.00%	
Cost structure	74.00%	83.51%	68.00%	
Direct cost structure	39.50%	57.91%	51.00%	
Debt servicing	8.60%	2.01%	19.50%	



Appendix 5 Equine case study

Livestock schedule																		
Sources										Uses								
	Opening			Purchases						Sales					Closing			
Class	No.	Per hd	Value	No.	Per hd	Value	Births	Trans. in	Total sources	No.	Per hd	Value	Deaths	Trans. out	No.	Per hd	Value	Total Uses
Mares	10	$8,000	$80,000	1	$8,500	$8,500			11	1	$5,000	$5,000			10	$8,000	$80,000	11
Competition	6	$10,000	$60,000					2	8	4	$12,000	$48,000			4	$10,000	$40,000	8
In training	8	$4,000	$32,000	2	$1,600	$3,200			10	6	$4,500	$27,000		2	2	$4,000	$8,000	10
Broken	2	$2,750	$5,500					7	9	1	$3,200	$3,200			8	$2,750	$22,000	9
Yearlings	7	$2,000	$14,000					7	14	3	$2,100	$6,300		7	4	$2,000	$8,000	14
Foals							7		7					7				7
Totals	33		$191,500	3		$11,700	7	16	59	15		$89,500		16	28		$158,000	59

June 30	TOTALS	Cash flow statement											
Opening balance	**$1,250**	**July**	**August**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**March**	**April**	**May**	**June**
Cash inflows													
Mare sales	**$5,000**							5,000					
Competition sales	**$48,000**		12,500		11,500				10,000			14,000	
Agistment	**$27,000**	2,750	1,950	1,120	3,270	2,150	2,950	2,350	2,390	3,250	2,790	1,050	980
In training sales	**$27,000**			10,000		3,550	3,250				10,200		
Broken sales	**$3,200**									3,200			
Yearling	**$6,300**					6,300							
Instruction & lessons	**$21,270**	4,500		3,250		2,200	1,450	3,580	2,790	1,650	1,850		
Commissions	**$760**		200	80	120			240	120				
Breaking & training	**$23,000**		3,500	400	4,850	1,350		450	500	2,350	3,100	3,350	3,150
GST collected	**$16,153**			4,025			4,294			3,787			4,047
GST refund													
Total cash available	**$177,683**	$7,250	$18,150	$18,875	$19,740	$15,550	$11,944	$11,620	$15,800	$14,237	$17,940	$18,400	$8,177
Cash outflows													
Promotion	**$1,800**	300	200			200	200	60	20	220	250	150	200
Breeding fees	**$2,800**	280			1,250	1,270							
Contract services	**$3,500**						2,550				500		450
Fees and subs	**$1,800**	400				650				350		400	
Tack repairs	**$855**	325						530					
Fence repairs	**$1,350**									950			400
Horse health	**$1,250**		250		300		80	90		400		130	
Vehicle repairs	**$3,200**			250		650	136		180	350	250	775	609
Horse purchases	**$11,700**	3,200						8,500					
Electricity	**$1,050**		290			210			245			305	

June 30	TOTALS	Cash flow statement											
Opening balance	**$1,250**	**July**	**August**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**March**	**April**	**May**	**June**
Phone	**$1,850**	265		289		293		300		325		378	
Seed and fertiliser	**$1,370**	650								200	520		
Fuel	**$4,500**		800		700		950		750		650		650
Farrier	**$2,350**	450				650	300			450	500		
Feeds & supplements	**$3,785**			950		780	650		650	555	200		
Insurance	**$8,200**			4,600		750				2,550			300
Rates	**$1,065**										1,065		
Business vehicle rego.	**$830**				830								
Building repairs	**$975**						300					675	
Accommodation	**$1,200**			220		180			200	240	160		200
Capital purch. – tack	**$1,600**								1,600				
Wages	**$8,995**	770	880	795	1,255	370	395	625	1,275	465	785	975	405
Interest on loan	**$14,151**	1,223	1,215	1,207	1,199	1,192	1,184	1,176	1,167	1,159	1,151	1,143	1,135
GST paid	**$5,703**			1,372			1,388			1,972			972
GST remittance	**$10,450**			2,653			2,906			1,815			3,075
PAYG instalments	**$6,461**			1,610			1,717			1,515			1,619
Tax payable	**$935**				935								
Bank fees and charges	**$485**	45	40	39	43	37	39	37	34	45	41	43	42
Drawings	**$36,000**	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Principal payments	**$14,513**	1,165	1,173	1,181	1,189	1,199	1,205	1,215	1,221	1,229	1,237	1,245	1,254
Total cash required	**$154,723**	$12,073	$7,848	$18,166	$10,701	$11,431	$17,000	$15,533	$10,342	$17,790	$10,309	$9,219	$14,311
Surplus/deficit	$22,960	($4,823)	$10,302	$709	$9,039	$4,119	($5,056)	($3,913)	$5,458	($3,553)	$7,631	$9,181	($6,134)
Running balance	**$24,210**	**($3,573)**	**$6,729**	**$7,438**	**$16,477**	**$20,596**	**$15,540**	**$11,627**	**$17,085**	**$13,532**	**$21,163**	**$30,344**	**$24,210**

Statement of assets and liabilities June Year 1					
Current assets	**$**	**$**	**Current liabilities**	**$**	**$**
Bank	1,250		Mortgage loan	14,513	
Stock of grain	5,000	6,250	Provision for tax	935	
			GST owing		15,448
Working assets			**Non-current liabilities**		
Livestock	191,500		Mortgage loan		169,002
Plant and machinery	76,700	268,200			
			Owner's equity		
Non-current assets			Equity from last year	1,082,000	
Land & improvements		980,000	Plus profit before tax	21,000	
			Less drawings	33,000	
			Equity at end of year		1,070,000
Total assets		**$1,254,450**	**Total liabilities**		**$1,254,450**
Statement of assets and liabilities June Year 2					
Current assets	**$**	**$**	**Current liabilities**	**$**	**$**
Bank	24,210		Mortgage loan	15,144	
Stock of grain	5,000	29,210	Provision for tax		
			GST owing		15,144
Working assets			**Non-current liabilities**		
Livestock	158,000		Mortgage loan		153,858
Plant and machinery	65,905	223,905			
			Owner's equity		
Non-current assets			Equity from last year	1,070,000	
Land & improvements		980,000	Plus profit before tax	36,574	
			Less drawings	42,461	
			Equity at end of year		1,064,113
Total assets		**$1,233,115**	**Total liabilities**		**$1,233,115**

Depreciation schedule							
Date	**Description**	**Purchases**	**Sales**	**Opening WDV**	**Depre-ciation rate**	**Depre-ciation expense**	**Closing WDV**
30 June	Tractor			10,000	15%	1,500	8,500
30 June	Float			6,400	15%	960	5,440
30 June	Grain mill			1,200	15%	180	1,020
30 June	4 × 4 vehicle			23,000	15%	3,450	19,550
30 June	Slasher			1,600	15%	240	1,360
30 June	Mower			900	15%	135	765
30 June	Horse truck			29,000	15%	4,350	24,650
30 June	Saddles			3,500	30%	1,050	2,450
30 June	Tack			1,100	30%	330	770
1 February	Tack	1,600			30%	200	1,400
TOTALS				$76,700		$12,395	$65,905

Note: The newly acquired tack has been depreciated pro rata from the date of purchase.

Loans schedule							
Date	**Description**	**Lender**	**Date issued**	**Amount opening**	**Interest**	**Principal payments**	**Amount closing**
Yr 1	Mortgage	ABC	Year 1	$250,000	$19,560	$8,995	$241,005
Yr 2				$241,005	$18,720	$9,741	$231,264
Yr 3				$231,264	$18,000	$10,550	$220,714
Yr 4				$220,714	$17,160	$11,425	$209,289
Yr 5				$209,289	$16,176	$12,374	$196,915
Yr 6				$196,915	$15,263	$13,400	$183,515
Yr 7				$183,515	$14,151	$14,513	$169,002
Yr 8				$169,002	$13,520	$15,144	$153,858
Yr 9				$153,858	$12,309	$16,356	$137,502
Yr 10				$137,502	$11,000	$17,664	$119,838

Loan details:

Loan amount	$250,000
Interest rate	8% fixed for 7 years, variable after that
Duration	15 years
Repayments	12 per annum, compounding monthly

Statement of income and expenditure for year ending 30 June				
Variable expenses	**$**	**Income**	**$**	**$**
Promotion	1,800	**Horse trading:**		
Breeding fees	2,800	Sales	89,500	
Contract services (hay and crop)	3,500	Less purchases	11,700	
Feeds and supplements	3,785	Stock change	(33,500)	44,300
Tack repairs	855	**Other income:**		
Horse health	1,250	Commission from sale of horses	760	
Wages	8,995	Agistment and training	27,000	
Farrier	2,350	Instruction and lessons	21,270	
Seed and fertiliser	1,370	Breaking, training and schooling	23,000	72,030
Overhead expenses				
Vehicle repairs	3,200			
Electricity	1,050			
Phone	1,850			
Insurances	8,200			
Fuel	4,500			
Fees and subscriptions	1,800			
Fence repairs	1,350			
Rates	1,065			
Business vehicle registration	830			
Building repairs	975			
Accommodation at sales	1,200			
Bank fees and charges	485			
Depreciation	12,395			
Total expenses	**$65,605**	**Total income**		**$116,330**
		Less total expenses		**$65,605**
		Operating profit before tax and interest		**$50,725**
		Less interest		**$14,151**
		Operating profit before tax		**$36,574**

Enterprise contributions and gross margins					
Income and expenses	**Sales**	**Agistment & training**	**Breaking**	**Lessons**	**TOTAL**
Income	**$44,300**	**$27,000**	**$23,000**	**$21,270**	**$115,570**
Less variable expenses					
Promotion	270	450	450	630	1,800
Breeding fees	2,800				2,800
Contract services	1,750	1,750			3,500
Tack repairs	85	213	342	214	854
Horse health	875	375			1,250
Seed and fertiliser	685	685			1,370
Farrier	1,410		940		2,350
Feed and supplements	1,893	1,514	378		3,785
Wages	900	900	900	6,295	8,995
Insurance	820	1,640	1,640	4,100	8,200
Total variable expenses	**$11,488**	**$7,527**	**$4,650**	**$11,239**	**$34,904**
GROSS MARGIN (GM)	**$32,812**	**$19,473**	**$18,350**	**$10,031**	**$80,666**
GM as a percentage of income	**74%**	**72%**	**80%**	**47%**	**70%**

Appendix 6 Grain target pricing

Grain gross margin								
Type of grain:	WHEAT							
AVERAGE YIELD (tonnes/ha)			3	tonne				
GROSS RETURN (per tonne on farm)				ASW 10		$191.00		
	Less freight					$17.00		
	Less VICGRAIN charges					$20.00		
Net price per tonne						$154.00		
INCOME								
	Wheat		3	t/ha	@	$154.00		**$462.00**
COSTS								
Seed bed preparation	Chisel plough	2	5.6	ha/hr	@	20.31		$7.25
Seed	Wheat		75	kg/ha	@	0.19	per kg	$14.25
Fertiliser	Urea		80	kg/ha	@	0.353	per kg	$28.24
	Double super 2.5% Zn		81	kg/ha	@	0.369	per kg	$29.89
	Urea pre-drill (air seeder)		6.1	ha/hr	@	20.31	per hr	$3.33
PRE-SOWING SPRAYING								
	Grass and broadleaf		0.75	L/ha	@	6	/L	$4.50
	Application		10.7	ha/hr	@	20.31	per hr	$1.90
SOWING	Air seeder		6.1	ha per hr	@	20.31	per hr	$3.33

POST-SOWING SPRAYING								
	Broadleaf		0.15	L/ha	@	$120.00	/L	$18.00
	Capeweed, etc.		0.6	L/ha	@	$8.00	/L	$4.80
	Application	1	15.6	ha/hr	@	10	ha/hr	$0.64
HARVESTING	SP harvester		6.8	ha/hr	@	49.03	ha/hr	$7.21
INSURANCE	$11 per $1,000		$462	$/ha	@	11	per $1,000	$5.08
CARTAGE	To silo		3	tonnes	@	2	tonne	$6.00
Total variable costs								**$134.42**
GROSS MARGIN PER HECTARE								**$327.58**
TOTAL VARIABLE COSTS/TONNE								$44.81
TOTAL OVERHEAD COSTS/TONNE								$40.42
PROFIT MARGIN /TONNE								$48.94
ON-FARM TARGET PRICE								**$134.16**

Target price calculator (based on 800 ha farm with 60% cropped generating $160,000)								
Type of grain:	ASW Wheat							
	A	**Average yield: 3**		**t/ha**				
VARIABLE COSTS								**$/ha**
Seed			75	kg/ha	@	$0.19	/kg	14.25
Fertiliser	Double super 2.5% Zn		80	kg/ha	@	$0.37	/t	29.52
	Urea		80	kg/ha	@	$0.35	/kg	28.24
Chemicals								
Pre-sowing	Grass & broadleaf weeds		0.75	L/ha	@	$6.00	/L	4.50
Post-sowing	Broadleaf		0.15	L/ha	@	$120.00	/L	18.00
			0.6	L/ha	@	$8.00	/L	4.80
Machinery								
Cultivation	Chisel plough	2	5.6	ha/hr	@	$20.31	/hr	7.25
Pre-drill urea	Air seeder		6.1	ha/hr	@	$20.31	/hr	3.33
Sowing	Air seeder		6.1	ha/hr	@	$20.31	/hr	3.33
Spraying	Pre-sowing herb.		10.7	ha/hr	@	$20.31	/hr	1.90
	Post-sowing herb.		15.6	ha/hr	@	$10.00	/hr	0.64
Harvesting	SP harvester		6.8	ha/hr	@	$39.77	/hr	5.85
Other	Insurance		480	ha	@	1,920	$12/$1000	4.00
	B	**TOTAL VARIABLE COSTS/HA**						**$125.61**
	C	**VARIABLE COSTS/TONNE**					**(B/A)**	**$41.87**

SCALE OF BUSINESS	**D**	Total grain production (tonnes all crops)						960
	E	Cropping as a proportion of farm business						60%
OVERHEAD COSTS								
Machinery replacement allowance (MRA)								
	F	Clearing sale value of cropping machinery						160,000
	G	Annual MRA per tonne of grain					**F/(D*10)**	16.67
		(life 10 years)						
Business overheads	**H**	Total business overheads						38,000
	I	Cropping business overheads/t					**(H*E)/D**	23.75
	J	TOTAL OVERHEADS/TONNE					**(G +I)**	**$40.42**
PROFIT MARGIN INCLUDING ANNUAL FINANCE AND LIVING COSTS								
	Debt at start of year:		180,000	Interest		8.50%		
	Principal repayments (over 15 years)			Term:		15		12,000
	Interest							15,300
	Income tax							11,000
	Owner's allowance							30,000
	Extra for investment							10,000
	K	**TOTAL PROFIT MARGIN NEEDED PER YEAR**						**$78,300**
	L	**PROFIT MARGIN/TONNE**					**(K*E)/D**	**$48.94**
ON-FARM TARGET PRICE PER TONNE							**(C+J+L)**	**$131.22**

Effect of yield and price on gross margin per ha								
		Net price $/t						
		$161	**$171**	**$181**	**$191**	**$201**	**$211**	**$221**
Yield t/ha	**1.5**	$52	$67	$82	$97	$112	$127	$142
	2.0	$114	$134	$154	$174	$194	$214	$234
	2.5	$176	$201	$226	$251	$276	$301	$326
	3.0	$238	$268	$298	$328	$358	$388	$418
	3.5	$300	$335	$370	$405	$440	$475	$510
	4.0	$362	$402	$442	$482	$522	$562	$602
	4.5	$424	$469	$514	$559	$604	$649	$694

Source: Wimmera Gross Margins DPI/FarmSmart

10

Business and marketing planning

It has been said that 'businesses don't plan to fail, they fail to plan', which emphasises the importance of business planning and the increased chance of failure if planning is ignored. Development of a business plan is an important tool in business management as it encourages the setting of goals and the testing of the feasibility of alternative strategies. The main purposes of the business plan are to:

- review business performance and explore future ideas
- allow owners to step back from the business and take a wider view of the business environment and personal goals
- challenge current business direction and procedures
- avoid experimentation – 'It seemed like a good idea at the time'
- present well-structured finance applications.

A business plan has three main components: the financial plan, the production plan and the marketing plan (see Figure 10.1). The process of preparing these plans for agribusiness is similar to that used for any commercial business, for example, those involved in producing and selling computers or tractors, or firms offering services, such as banks and insurance firms.

Financial planning techniques are covered throughout this book, but this chapter focuses on the basic elements of the marketing plan and bringing together all these elements into the business plan. Physical production methods in agribusiness vary widely depending on the nature and location of the business, and therefore it is beyond the scope of this book to include details of the production plan.

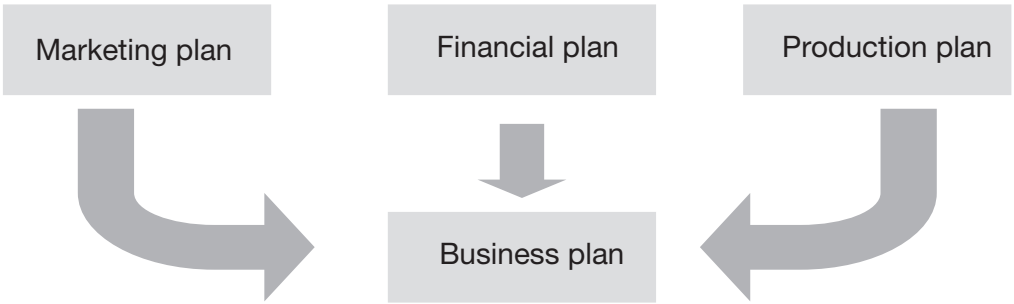


Figure 10.1 Components of the business plan

The marketing plan

Marketing is a key component of business management. Managers need to understand consumer needs and wants, as it is the consumer that will ultimately determine outcomes such as:

- what product variations are in demand
- at what prices these outputs will be purchased
- when these products will be required
- where the products are likely to be purchased from
- what promotion strategy will maximise results.

Failure to recognise the importance of the consumer has been the reason for many business failures. This is because marketing centres on the consumer and business decisions must therefore recognise consumer requirements. For example, production decisions will be based on consumers' current and future demands, and pricing strategies will be developed with the expected spending patterns of consumers in mind. Without linking changed consumer preferences to production decisions the business may be producing a product without any sustainable demand.

It is important to develop a marketing strategy for any new product before production commences. Marketing problems can then be identified and addressed before production commences. A marketing plan should be prepared or reviewed when:

- introducing new products
- entering new markets
- making changes in the business, such as an expansion
- responding to dramatic changes in the market, for example, cheap competitive imports.

The elements of market planning

Personal and business objectives

As part of the first stage of market planning it is essential to understand the current operation of the business and to know the personal and business objectives of the owners

(discussed later in this chapter). This establishes both a direction and a reason for the planning.

Consumer needs

Market planning requires a clear understanding of consumer needs. Without this information, a producer is unable to supply products to meet these needs. This may be reflected in the marketplace by low demand and low prices. Profits may also be influenced because of inferior distribution and promotion strategies that are inconsistent with current shopping patterns.

Substitute products

It is important to identify the existence of substitute products when preparing a market plan for new products. For example, the demand for individual varieties of apples is always relative to the other varieties currently available. If there is a glut in the market for a particular variety, and the price is low, then this will affect the demand for most other apple varieties. A market planner should assess the industry attractiveness, level of competition, availability of substitute products (and varieties) and fluctuations in prices.

Unattractive mature industries with strong competition are generally best avoided. At the risk of stifling the enthusiasm for the new enterprise, the manager must determine why this product or service is not currently available. Other businesses may have tried and failed because of the strong competition from substitutes.

Industry review

Market planning must take into account a review of the wider industry and the part played by individual producers. It is vital that there is a clear understanding of the position of individual producers in relation to others in the market, as it may be possible for an individual business to seek out a small specialised or niche market. For example, a property that is capable of producing early or late season fruit is usually able to receive a premium price for produce. If this business has high production costs and relies on premium prices to survive, it may be vulnerable to competition from producers who have lower costs. Technological advances extending the storage life of fruit and vegetables will also increase competition in this niche market.

Market information

Marketing decisions, along with other business decisions, rely on information. However, unlike some other business information, market information often has to be sourced externally. This is because the final marketplace for the product is usually geographically and culturally distant from the business. The cultural difference between producers and consumers is a critical factor in marketing and there is often no substitute for the systematic gathering of information from consumers in domestic and export markets.

A large percentage of market information is generated through formal market research studies. These studies are typically developed by specialist market research agencies who undertake projects for a wide range of clients. For example, chemical suppliers often survey farmers and orchardists to develop a better understanding of their

consumers. Equally, machinery manufacturers often survey farmers to assess preferences for their products. Specialist market research agencies also conduct general studies on various sectors or consumer trends. These reports are then made available to interested parties at a relatively nominal cost and these reports can provide valuable insight into current trends without the cost of commissioning a dedicated research project.

In addition to specialised market research, marketing information is also available from other more general sources. While these general sources may lack the specificity of more formal market research, they can still provide an excellent overview of key market trends. Other sources of marketing information include:

- press articles and daily papers
- Australian Bureau of Statistics (ABS)
- published reports from the Australian Bureau of Agricultural Resource Economics (ABARE)
- industry associations
- marketing organisations, for example, HAL (Horticulture Research)
- Austrade (export marketing)
- trade publications.

The Internet is an excellent source of market information as it gives access to a wide variety of resources not previously available. Internet sites can provide immediate access to up-to-date information and industry contacts, and reduce the need to wait for this information to be published in hard copy (see Appendix 1). Another valuable method of gathering market information is to visit outlets such as supermarkets and other retail locations, talk to potential distributors and wholesalers, assess competitors' products and observe consumers. These visits often provide a worthwhile adjunct to the overall assessment of market opportunities and trends. The following points are a useful guide when seeking market information:

- be open to new opportunities and information
- fully utilise the telephone/fax/Internet to cut down on travel
- make personal visits to collect information if possible as there is no substitute for person-to-person contact
- cross reference and verify information.

Assessing the marketing environment

When assessing the marketing environment it is essential to only concentrate on the trends and events which impact on the enterprise in question, as only relevant and objective information should be collected. The marketing environment includes, where appropriate, details on technology, government, demographics, culture and economics.

Technology

Changes in technology and emerging new technologies can have a major impact on the environment in which an enterprise operates. Developments such as hydroponics in the tomato industry, dairy shed design using automation, long-term eating apple storage and

breeding improvements in the pig/poultry industry are reshaping management practices in these industries. As a consequence, production costs and consumers' expectations are often irreversibly changed.

It is important to consider what new technologies are forecast for the industry or substitute industries; for example, early-season tomatoes may have to compete with hydroponic tomatoes and consumers may refuse to accept the green-tinged, semi-ripe product when given a choice.

Government

Government decisions often influence business activities and to what degree this affects the new enterprise deserves consideration. In some cases changes may be evident before they occur because extensive public debate precedes the enactment of legislation. However, unexpected changes to taxation laws, political decisions affecting trade, removal of subsidies, chemical usage for production and the like, can have significant effects on some enterprises. Pressure groups may also influence public opinion on such issues as intensive animal production resulting in action to regulate these industries. A detailed analysis of government policy, if it is available, is a necessary part of market environment analysis.

Demographics

Demographic trends can be a powerful underlying force in many markets and include factors such as age, income, gender, education, size of businesses and geographic location. These trends are commonly categorised as macro or micro trends. A macro trend would be a rise in the average age of the population, while a micro trend could be the declining average age in an inner-city suburb due to older residents being replaced by younger families. Demographics are an important consideration when deciding on the distribution of products and location of service industries, as products can be transported to the target market while this is often more difficult for services. If the new enterprise provides a service for the higher income sector, and the business is located in the country, then demographics suggest that the local market is unsuitable if there is a decline in population in country towns, especially in the higher income groups.

There is a danger of collecting demographic information and not spending sufficient effort in interpreting the data. Unfortunately, this is a common shortcoming in many market research studies. For example, with a higher concentration of older, lower income groups in an area, it may mean that the market for traditional foods actually increases in some areas. Rather than concentrate on areas with rising populations, it may be a sound strategy to concentrate on those areas where population is stagnating or even in decline, if these areas are occupied by the target market.

Culture

Cultural changes can represent both opportunities and threats, but these changes tend to be gradual and may not always be recognised. An example of cultural change is the emerging trend in family lifestyle where both partners work. This leads to irregular meal times, an increased proportion of food eaten and prepared away from home, a demand for convenience and, at the same time, an expressed need for healthy food.

Economics
Changes in the national or industry economies may affect various markets differently. For example, enterprises supplying luxury items may suffer with a downturn in the economy, whereas modestly priced items may increase turnover and actually enjoy boom conditions during a recession. Measures of economic activity include statistics on economic growth, inflation, unemployment and cross-currency valuations.

Analysing the industry

There are two main reasons for an industry analysis. First, it is necessary to determine the current and potential financial attractiveness of the industry. It is important to know whether the current participants are profitable and if not, try to determine the reason. Also, past participants may have attempted similar ventures and have now left the industry. Second, it is necessary to fully understand the dynamics of the industry so that threats and opportunities can be identified, therefore allowing appropriate strategies to be developed. Details about sales, industry structure, distribution and competitors are usually included when assessing the industry.

Current and potential sales

Statistics on current sales can often be obtained from a variety of sources. A starting point for agribusiness statistics is the Australian Bureau of Agricultural and Resource Economics (ABARE). Estimates of market information may also be available, but determining the potential market size can often prove more difficult. There are several methods available but all can be grouped into two basic approaches: extending past behaviour and predicting future behaviour.

When extending past behaviour the reasons for previous fluctuations in demand should be understood. Predicting market size can be estimated by gathering opinions from industry sources. For example, information indicating that on-farm milk prices will rise by 15% could lead to a 10% increase in demand for fertiliser. Other forecasting methods include using opinions of industry experts or more systematic gathering of data from surveys of users. For example, estimates of intended fertiliser usage next season could be obtained from a survey of dairy farmers. It is advisable to use more than one method to check estimates and if they vary widely, further investigation is warranted.

Industry structure

Barriers to industry entry will influence the level of competition in an industry, which will also affect the potential returns. For example, an important barrier to entry may be a contract to supply a supermarket. Other industry factors include the number of competitors and the economic and political power of customers and suppliers.

Distribution systems

Access to an effective and efficient distribution channel can be a key factor for success. Knowing the alternative channels for distribution, the trends in the marketplace and who

controls the distribution are also important strategic questions. For example, producers may have decreasing control as the length of the distribution channel increases.

Information on competitors

To assess industry competitiveness it is necessary to identify current and potential competitors. In circumstances where there are a large number of competitors analysis will be easier if they are grouped according to size, locality, product attribute or aggressiveness. It is important to understand a competitor's past performance, strengths and weaknesses, and their objectives in the industry. While it is beneficial in the industry to have healthy competition to promote the product-market and expand the industry, it can also be difficult for a new entrant to compete with a well-established firm that is committed to continued growth. However, agribusinesses that are in diverse markets and are geographically spread may be able to lessen the threat from competitors.

Information on customers

Market planning is based on understanding consumer needs and wants, and therefore it is necessary to gather information on potential customers and consumer behaviour. For example, it is worth considering some recent trends in the food market. The ethnic diversity among the Australian population has created a change in food demand patterns, and the trend for couples to delay having children has given rise to a relatively affluent sector of the market with an associated demand for eating out and high quality food. Extended retail shopping hours also has implications for product demand and product delivery, for example, supermarkets now require a regular and consistent supply of fresh produce. It is essential for producers to understand these significant trends, and a competitive advantage may be obtained by identifying these trends at an early stage. Similarly, failure to accept these changes could lead to the demise of the business.

Consumer preferences and purchase patterns are shaped by a range of influences. It is relatively easy to identify basic consumer needs such as the need for shelter, food, mobility and security. However, gaining information on the more personal needs and requirements of consumers is more complex. A particular motor vehicle may meet the basic requirement of mobility, but the final purchase decision may also include physical, emotional and psychological factors. For example, a consumer may need to be satisfied that the selected motor vehicle fits their self image, and feel assured that it will be approved by their reference group.

It can therefore be seen that the purchase decision extends well beyond meeting basic needs and can therefore be very complex. For example, a decision on which motor vehicle to purchase can involve an identification of the purchase needs and other information necessary to compare alternatives. In contrast, the regular purchase process for fruit and vegetables normally follows past purchasing patterns, and is only varied according to special occasion needs such as a large family gathering. The decision making involved in regular purchases is relatively simple compared to items that are purchased infrequently.

When examining the decision-making process involved in a purchase decision, it is also important to draw the distinction between initial purchases and repeat purchases. This is because it is one thing to stimulate an initial purchase, and another to generate repeat purchases and consumer loyalty. It is relatively expensive to generate an initial sale and it is therefore important to generate repeat purchases so that the marketing effort and the expense are spread over a greater volume of sales. Understanding buyer behaviour is therefore an important aspect of all marketing plans.

Use of agents and wholesalers

Even though the direct consumers of the product are agents and wholesalers it is still necessary to have an awareness of the overall market process. The decision making of the buying agent or wholesaler will be influenced by factors further along the marketing chain. These buyers are buying in order to resell to the ultimate consumers, which can be in the retail and/or wholesale area. Increased knowledge of the overall process will allow a better understanding as to why certain products are not demanded or purchased at discounted prices.

Intermediaries are generally employees of large organisations and typically operate within well-defined parameters such as price, quality and volume. As a result an understanding of the requirements of the respective intermediaries can aid the overall marketing process. For many products, the exact requirements of particular consumer groups have been precisely defined and these requirements are reflected in the quality assurance programs adopted for the industry. With these standards in place, many firms have found that it improves buyer confidence and often reduces the need for frequent product inspections thereby reducing distribution costs.

Intermediary marketing offers the opportunity for the agent or buyer to be used as a source of market information, providing information on developments further along the marketing chain such as feedback on earlier purchases and information on competitors. However, there is a need to be certain that the information supplied by such intermediaries is reliable. Misinformation may be supplied unknowingly and may result in subsequent incorrect decisions being made. In this regard it is important to consider the information supplied by such intermediaries as only one source in a wider information gathering process. Of equal importance is developing close relationships with these intermediaries as this facilitates information flow.

Having obtained the market information and developed an understanding of the potential consumer, including intermediaries, it is now possible to decide on the market segmentation and target.

Market segmentation

While recognising that it is possible to make a product or service available to everyone, for both practical and commercial reasons it is often better to define which market segments the business will focus on. Specialisation can yield benefits both in production and marketing aspects of the business. Economy of scale benefits may arise as a result of a more focused production system, and target marketing allows limited marketing resources to be better utilised. For example, with a limited promotion budget, promoting

Table 10.1 Segmentation categories used for agribusiness firms

Categories	Variables	Examples
Demographic	Industry Company size	Dairy, grain cropping, wool, viticulture Turnover, farm size, tonnes grown
Geographic	Location Proximity	State, city, region, postcode, country Within 10 km, 11–20, over 20 km
Consumer behaviour	Benefits sought Information required Usage rate Loyalty status	Specific (for example, risk-free) or general needs None, some, detailed advice Heavy, medium, light, non-user Loyal, switcher, other firm loyal
Purchasing approach	Quality Service Price Decision making	Specific, not considered, high Low, medium, high; delivered, not required Cheap, average, high; price sensitive, not vital Contract, tender, on specification, demonstration

a product across several segments is unlikely to generate any real benefit, but the same budget, when used across only one or two segments, is likely to have a significant impact. Many firms choose to target a relatively small number of segments for this reason. Equally, very few firms will target only one well-defined market segment as serving more than one market segment is a well-used diversification strategy.

Choosing segmentation method

There are a multitude of variables which can be used to segment a market, but the four main categories are: demographics, geographics, consumer behaviour and purchasing approach. However, as the majority of product-markets in agribusiness involve an organisation or a network of individuals in an organisation, it is recommended that the business-to-business marketing variables are also considered. The four categories and some of the variables recommended for agribusiness are shown in Table 10.1.
Table 10.1 should not be regarded as including the only variables to use. If alternative variables are more appropriate these should be used because this could lead to an advantage in the market by identifying unmet needs and new market opportunity. The variables for each segment are then combined to profile the segments to target. For example, the business may choose to target customers that are classified as *high users*, are *within ten kilometres*, require *regular deliveries* and are *not price sensitive*. Without a clear market segmentation strategy it is unlikely that an effective and efficient marketing mix of price, product, place and promotion could be developed. The 4 Ps, as they are referred to, should reflect these segmentation and targeting outcomes.

The marketing mix (the 4 Ps)

Marketing mix refers to the strategic decisions relating to product, place, promotion and price. The blend of these key marketing variables will be based on the market segments

targeted by the business. The marketing mix requires careful consideration and planning as it is an essential component of the marketing plan. Decisions regarding each variable must complement the other variables and remain true to the overall segmentation objectives.

Product

Products tend to go through a *product life cycle*. When products are first introduced onto the market it is the *introductory* stage. Developmental and promotion costs are usually high during this stage. The following stage is the *growth* stage when there are relatively few competitive products on the market and sales are rapidly increasing. This is followed by the *maturity* stage, where there are several competitors in the market and there is fierce price competition. The final stage is the *decline* stage when many producers are leaving the industry or switching production to other areas.

Marketing strategies will also have to be altered to take account of the stage of the product life cycle. For example, if a product is entering the mature stage in the product life cycle it may be necessary to redevelop the product. This may involve introducing new qualities to the product or redesigned packaging and presentation, thereby further stimulating interest in the product.

Place (distribution)

There are a range of intermediaries involved in the broader marketing process. Aside from those involved in processing agricultural and horticultural products, there are also wholesalers, agents, distributors and retailers. Within these sectors there may be several potential participants. In the case of food products, it is likely that a product will be sold through several retailers and maybe across several types of retail outlets including supermarkets. For example, some wholesalers distribute to both the food service sector, such as restaurants and hotels, and to the retail sector, including small stores, greengrocers and a limited number of supermarkets.

The decision of where, and through what channels, a product is to be marketed will depend on a wide range of factors including:

- overall sales volume
- type of product, for example, perishability and convenience
- product positioning, for example, niche or mass market
- pricing strategy
- ease of supply
- payment terms of purchaser.

Retailing and distribution patterns are also important and constantly changing. Improved transport systems and inventory control systems have allowed for reduced levels of stock as produce can be supplied on a *just-in-time* basis. The emergence of specialty distributors has enabled producers to first, avoid dealing with high volume operators and second, not be involved in physical distribution.

Changes including extended shopping hours, the growth of regional suburban shopping centres and the further development of shopping as a recreation activity all have implications for distribution decisions. The supply channel to supermarkets must

ensure that produce is delivered regularly to meet the customers' expectation of a high quality product. It is important for the business to know the service expectations required by customers as it is likely to become the preferred supplier if it can meet the customers' service expectations.

Promotion

The aim of promotion is to communicate information about the product to the target market. Promotion is used to both stimulate initial interest in the product and develop loyalty from existing consumers. This reduces the possibility of the consumer shifting to a competing brand or product. This communication, or promotion strategy, can include:

- advertising using television, radio and print media
- publicity through feature articles
- sales promotion involving bonus offers with a purchase
- direct selling such as in-store demonstrations.

Promotion strategies are typically classified as *pull* or *push*. A pull strategy is where most of the promotion focus is on the consumer, thereby stimulating demand from the consumer and pulling a product through the marketing system. Consumer demand is then expressed as retailer demand, wholesale demand and so on through each stage of the marketing process. Many fruit juice promotion strategies are aimed at developing a consumer preference for the brand, thereby prompting retailers to provide such products. A push strategy focuses on intermediaries in the marketing chain and is usually designed to encourage retailers and wholesalers to stock a product, thereby pushing the product through the marketing chain. Push strategies involve sales promotion and direct selling to intermediaries rather than the final consumer. In most instances a promotion strategy will incorporate both pull and push tactics.

For many agribusinesses, traditional advertising such as television and daily newspapers is too expensive, so general publicity may be better suited to smaller scale operations. Publicity is often overlooked as a method of promotion, but it involves gaining favourable attention in the media without having to pay advertising costs. A well-developed and targeted publicity program can yield significant results. For example, small-scale boutique food suppliers may get publicity through key mass media forms such as features in food or lifestyle magazines, features on lifestyle television programs and contact with opinion leaders in the food industry. Thus, effective promotion in consumer and business-to-business marketing doesn't always require a large budget for mass media advertisements.

Price

Although the actual price itself is used by customers as a relative measure to compare between similar products, price can also communicate *value* and *quality* information to the buyer. For example, if a price is seen to be well above a potential competitor, a consumer may perceive that the product is of higher quality and has a prestige image.

Price is a measure of value, and when marketing a range of products it is necessary to be aware of the reasons price differs for the various competing products on offer. If the

business is a price-taker, rather than a price-setter, then it is also important to understand the reasons for product price fluctuations. Branding a product may stabilise prices because consumers often purchase on more than price alone. For example, it may become known that a particular brand of apple is always expensive, but still represent good value to the consumer.

Price is a very responsive part of a marketing strategy as lower price is a well-recognised means of getting an increase in sales. However, if the revised price is too low consumers may consider the product to be inferior in quality. A further consideration is that once prices have been lowered, marketers generally find it difficult to increase prices at a later date. Therefore, pricing decisions need careful consideration as a short-term benefit may yield longer-term disadvantages. Pricing is also a means of attracting attention to a product and it can be used to initiate a trial which may lead to repeat purchases. With this in mind some companies offer special introductory offers with direct price discounts or other bonuses.

Decisions regarding prices will typically take account of many factors, including:

- stage of product life cycle, that is, introductory or decline
- number of competitors
- legal requirements
- production costs
- product positioning
- target markets
- time of year and season
- volume of sales
- consumers' response to price.

Price should be set based on value to the customer rather than price alone, as pricing strategies are easily copied by competitors. It should also be remembered that consumers are often prepared to pay a higher price if they believe that they are getting good value in the purchase.

Marketing mix decisions

Marketing and product mix is particularly important for operators dealing in the retail area, but the same approach is valuable to agribusiness managers who are mainly dealing with business-to-business marketing. Information about product, distribution, promotion and price should be used in the assessment of potential consumers.

Product mix should concentrate on the requirements of the target market emphasising quality and fitness for purpose. Consumers demand quality and this can mean different things to the various market sectors. In addition, distribution is a major cost that has to be absorbed by consumers, and any opportunities to add value should be exploited. Promotion should not be considered as only advertising, as other methods such as regular contact with buyers is a most effective method of promotion.

Relationship marketing, or getting closer to the customer, provides an opportunity for two-way communication between the business and its customers. However,

relationship marketing is more than just close contact, as a successful relationship marketing program requires the business to provide consistently high standards of product quality to the customer. In this way customers promote the product by word-of-mouth, which is one of the most effective promotion methods.

Although primary producers are less likely to be directly involved in setting prices, those that are should try to remove the emphasis on price alone and shift the emphasis towards value for the customer. A market planning checklist is provided in Appendix 2.

The business planning process

A business plan is a report that sets out the goals and objectives of the business and its owners, examines past business performance and current resources available, and evaluates future business opportunities. The planning process is as important as the plan itself, and therefore the people that will implement the plan should be involved in making the plan. The process of developing a business plan is discussed in the steps shown in Figure 10.2.

From Figure 10.2 it can be seen that business planning is a cyclical process that involves the constant task of setting goals, reviewing options, implementing plans, reviewing performance and adjusting management strategies. A business plan can also be a statement at a point in time that sets out each of the steps shown in Figure 10.2, and describes the current position of the business, its goals, and how these goals are to be achieved. The first four steps in the planning process are discussed in detail in this chapter, and the remaining two steps are covered in Chapter 13.

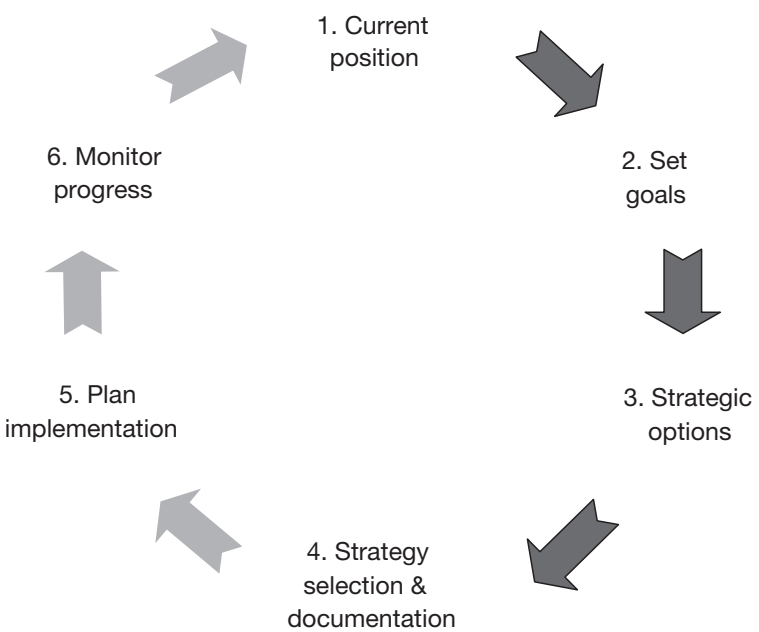


Figure 10.2 Business planning cycle

Step 1 Current position

The starting point for all business plans is to prepare a detailed statement setting out the resources of the business. These resources may be categorised under the following headings.

- People in the business
- Financial performance
- Business resources
- SWOT analysis.

People in the business

When a business plan is being developed for an outside organisation such as a bank, it is useful to set out the backgrounds and experience of the owners and/or managers. This part of the business plan could include a list of qualifications, previous work experience and other general interests of the main people involved in the decision-making process. Although this information would normally only be included when the plan is developed for outside organisations, it is still beneficial for an internal review of the business because it reinforces the collaborative nature of business planning.

Financial performance

Evaluation of past performance is an essential step in planning future strategies. While the main focus of a business plan is to look forward, it is vital that this is done with full knowledge of how the business is currently performing. This typically involves measuring the financial performance of the business as outlined in Chapter 9 and includes assessment of:

- profitability over the last three years
- cash flow for the same period
- asset growth
- change in owner's equity.

Business resources

Assessment of the current position of the business requires a detailed analysis of both the financial and physical resources of the business. For convenience, business resources can be summarised in a position statement which will include statements summarising the assets and liabilities, financial performance, human resources, natural resources and market position of the business.

Statement of assets and liabilities and financial performance

Potential for future development is significantly affected by the structure of assets and liabilities and the past financial performance of the business. For instance, if a business is already carrying a high level of debt and is not generating sufficient cash flow, new projects may be precluded because the business is not a sound credit risk and cannot obtain additional finance. The analysis may also indicate that planning should concentrate on improving the profitability of the existing enterprises rather than

introducing new undertakings. The financial statements of the business are necessary to ascertain:

- the level of owner's equity
- the level and structure of debt, that is, short- to long-term debt
- the liquidity of assets
- the net profit
- measures of financial performance
- the enterprise gross margin
- the cost structure.

Human resources
Human resources are a major asset even though they do not appear on the statement of assets and liabilities. It is just as important that these are fully utilised as it is that physical and financial resources are employed effectively. An inventory of human resources may identify formal qualifications, industry knowledge and contacts, product and processing knowledge, marketing experience and specific trades and skills. The main resources listed should include: number of staff and specific skills, availability of labour, availability of contractors, occupational health and safety issues, absenteeism and health.

Natural resources
Agribusinesses are involved in the utilisation of natural resources, and to remain viable in the longer term these resources must be used in a sustainable manner. Natural resources listed could include: water quality and availability, soil fertility, pests and weeds, shelter, vegetation, creeks and land degradation, animal health or condition, and fencing and structures.

Market position
To assess the market position of the business it is necessary to prepare a marketing plan as discussed earlier in this chapter. Managers therefore need to ascertain whether or not the existing or new enterprises have a sustainable competitive advantage. Successful strategies fall into two main areas: differentiation or low-cost. For example, the commodity producer may need to pursue a low-cost strategy where the level of competition is high and the product cannot be distinguished from the others available in the market. Marketing information can be included in the business plan, or prepared as a separate document.

Position statement
The position statement provides a general overview of the business summarising all resources available so that the business can be compared to industry averages and benchmarks. Comparing actual performance with industry benchmarks provides a useful measure of current performance, and may provide an indication of where improvements can be made. Benchmark information is available for most industries and can be compared with business performance as shown in Table 10.2.

Table 10.2 Position statement comparing industry benchmarks with actual performance

Resources	Industry benchmarks			This organisation
	Weak	Average	Strong	
Owner's equity	Below 60%	60–80%	Above 80%	60% average
Return to equity	Below 8%	8–12 %	Above 12%	7% weak
Cost structure	Above 60%	50–60%	Below 50%	65% weak
Water supply	Constant problem	Problem only in droughts	No problems even in dry years	Average
Weeds and pests	Rabbits and ragwort always a problem	Take steps when rabbit and ragwort problem gets out of hand	Both rabbit and ragwort problem controlled	Average
Staff skills	Always difficult getting skilled help	Some skills could be improved but we get by	The skills of the employees are a major asset to this organisation	Strong

Once the current position has been documented it is necessary to review the worksheet, and note the various strengths and weaknesses of the business. A statement that sums up the position of the business at this point in time can then be developed.

Current position statement (refer to Table 10.2)

This business has an above average return to owner's equity due to a strong profit and a strong owner's equity position; this could be further built on with better control of enterprise costs, which are presently a little above average. The physical assets are in average condition but the property does face a water supply problem that is restricting its current carrying capacity. At present the staff are a major contributor to the success of this business; however, there is scope for further training and development.

The SWOT analysis

A SWOT analysis is a means of analysing the business and its environment in order to identify Strengths, Weaknesses, Opportunities and Threats. The main source of information for the SWOT comes from the current position details.

Strengths and weaknesses are usually found within the business and should be investigated in relation to all aspects but particularly, people, products or services, and operations and performance. The opportunities and threats are usually external to the business and include such areas as customers, competitors, environment and regulations. The SWOT analysis will play a major role in assisting the formulation of both business and private goals; therefore care should be taken to ensure it is conducted in a structured manner. Suggested guidelines for conducting a SWOT analysis include the following.

- A SWOT analysis works well if a number of people are involved and encouraged to give their opinion.

- Aim to be both critical and objective; the aim is not to defend management ability but rather to identify opportunities for improvement.
- List all points first, then discuss them in detail and prioritise them.

The SWOT analysis is conducted by listing under the appropriate headings the features about the business and its environment that have been identified. These could be listed in the following manner:

Strengths: for example, skilled staff, good water supplies, strong market position

Weaknesses: for example, high cost structure, below average profits, finance limitations due to low equity

Opportunities: for example, new markets, new enterprises

Threats: for example, interest rate increases, economic downturn

The strengths identified indicate the features of the business to be capitalised on, and the weaknesses show the aspects of the business that should be improved. The opportunities identified are those features of the external environment that should be utilised, and the threats are the features that should be nullified or eliminated.

Through the SWOT analysis a number of factors that need attention will be identified and this will form the basis for the business plan for the future. These factors could relate to any aspect of the business or external environment, for example:

Factors considered from SWOT analysis

- High return on capital allowing for funds to be invested in further development.
- Low return to capital requires a detailed analysis of physical and financial performance.
- Identification of new market opportunities.
- The threat of increasing interest rates on borrowed funds causes a need to 'lock in' on low interest rate.

Step 2 Set goals

Completing the first stage of the planning cycle (current position) means management will have a clear understanding of the current position of the business, and can move to the next stage of reviewing and setting business goals. Before doing this it may be useful to identify the personal values and visions of the people involved in the business, because if they differ significantly it can be difficult to set common goals. Succession planning issues could also be raised at this time (see Chapter 8).

Obtaining an appreciation of the personal values and visions of the participants in the business will give an indication of their long-term objectives. For instance, it can be enlightening to ask, '*Where do you want to be in 10 years' time?*'. However, identifying a long-term vision can be difficult as most people do not normally document a vision for their future. Even so, many successful business people and leaders have attributed their success, in part, to having a clear vision and in turn focusing their energies on achieving it.

Identifying participant values will also assist the planning process as individuals' beliefs and values affect the way they conduct themselves and their business. For example, ascertaining participants' values can identify attitudes towards work, independence, lifestyle, family and the rural environment. It is helpful to summarise the outcome of this inquiry into a single statement.

Example 1 Personal value statement

'We are in the business of producing high quality milk produce while protecting and maintaining our assets to provide all family members with a good lifestyle.'

Setting business goals is the means by which managers develop a sense of direction and measure progress. Without a sense of direction management decision making can be ad hoc and not meet the expectations of the owners. In many situations business goals are never formalised, merely kept within the owners' heads, but the business plan provides an opportunity to commit to paper what previously was an idea. Conducting a SWOT analysis also provides the opportunity to evaluate the current business performance and direction and represents a good time to set the goals and direction for the future.

In developing goals for the business care must be taken not to confuse goals with strategies. Strategies are the means by which goals are achieved. For goals to be of value to a business they should be specific, achievable and measurable.

Example 2 Goal statement

'In five years' time my wife and I intend to retire from active farming and pass management and control of the farm business over to our two children.'

General goal setting for the whole business can lead to rather vague and meaningless statements. To encourage a more focused approach to goal setting it is suggested that individual goals be set for each of the major components of the business such as land, water, personal, family, employees, profit and finances.

Step 3 Strategic options

Ideally the establishment of the business's goals will provide the foundation for preparing strategies that become the short- to medium-term targets directing the way the organisation will be managed.

Strategy identification

Developing goals means the business manager can step back from the day-to-day operation of the business and consider the business and its environment as a whole. Comprehensive business planning will facilitate the identification of goals for each of the major components of the business. Alternative strategies can then be employed to work towards achieving these goals.

Example 3 Goals for a dairying business

1 **Financial:** 'To increase the gross margin per ha to that of the top 10% of producers in two years'.
2 **People:** 'To remain in dairy farming until retirement and to provide the opportunity for one or both of the children to enter the business'.
3 **Resources:** 'To maintain and preserve physical resources to enable long-term sustainable farming'.

Each of these goals raises a number of alternative strategies. The financial goal may, for example, involve increasing stocking rates, improving genetics, reducing feed costs or better pasture management. Each of these strategies would need to be investigated and costed under Step 4 using techniques discussed in Chapter 11.

The technique used to generate strategies can be likened to the SWOT analysis, and those involved should be encouraged to be creative so that all suggestions are considered regardless of how outlandish they first appear. Generating appropriate strategies involves three stages:

1 The goal should be clearly presented and each goal should be dealt with individually.
2 The current position of the business should be reviewed; the results of the SWOT analysis are useful at this stage.
3 The strategies that enable the business to capitalise on its strengths and eliminate its weaknesses should be listed.

Step 4 Strategy selection and documentation

In Step 3 of the planning process various strategies were identified that management must now evaluate to determine which are the most effective for achieving business goals. The strategies selected must be consistent with business goals and the business must have the necessary resources available for successful implementation. Therefore, strategies that are not consistent with business goals, or that cannot be resourced, should be eliminated from the possible options.

Detailed financial analysis and comparison of the strategies remaining must now be undertaken. This may require additional research and time but this step is important to provide the best information available for the final decision. Throughout this book a system of recording, presenting and analysing business information has been presented and these tools should be utilised to assess the alternative strategies.

Partial budgets are used to identify and document the advantages and disadvantages of a proposed change. Partial budgets are useful as they can be prepared relatively quickly and provide information needed to decide which option is the most profitable. Where strategies involve alternatives that have different time frames it may be necessary to produce a longer-term budget that includes net present value calculations to account for changes to the value of money over time (see Chapter 11).

Cash flow projection is also an important part of comparing alternative strategies as this will assist in determining which strategies can be funded. Spreadsheet software enables cash flow projections of this nature to be produced with relative ease. In addition, spreadsheets can be used to assess the impact of potential risks and test whether the strategy selected is sound even under unfavourable circumstances.

As a final step in the analysis of alternative strategies it is necessary to prepare a budgeted statement of assets and liabilities, and a budgeted statement of income and expenditure. This is particularly useful where the strategy involves additional machinery and plant acquisition or financing from external sources.

Goal achievement is a gradual process. Initially the strategies selected should offer the business the opportunity to eliminate weaknesses and build on its strengths. As a result of this the business should be better positioned to take advantage of the opportunities available. It should also be noted that strategy evaluation and selection can be time consuming and doesn't guarantee that the most appropriate action has been taken. As such the decisions taken should be flexible enough to adapt and change with the business climate.

For any plan to be useful to those involved in an organisation it must be well documented in a format that is complete, clear and concise. (Appendix 3 provides an abbreviated example of one method of documenting a business plan.)

Complete: All those involved in the business should be familiar with the goals of the business and proposed selected strategies so they understand where their contribution ties in with the direction of the organisation.

Clear: The business plan needs to be written in clear unambiguous language so that there is no doubt when the task should be carried out, who should be responsible, what resources are to be used and when the task should be completed.

Concise: The business plan must be easy to use, and it is suggested that it should be restricted to three or four pages. Supporting evidence such as resources statements, strategy evaluation worksheets, position worksheets and market research should be attached to the main document merely in case someone wishes to investigate an issue more thoroughly at a later stage.

Appendix 1 Internet resources

- www.abs.gov.au – Australian Bureau of Statistics
- www.abareconomics.com – Australian Bureau of Agricultural Resource Economics
- www.austrade.gov.au – Austrade

Appendix 2 Market planning checklist

Internal influences

- What are the current performance levels?
- What are the skills, strengths and weaknesses of the business?
- Past financial performance – costs, assets, profit, ROI, etc.

External influences

Marketing environment

Technology
- What new technologies are being developed?
- What is the likely effect?
- Are these likely to meet unmet needs in the market?

Government
- What changes are being proposed? Any trends emerging?
- Likelihood of changes to regulations in this sub-market?
- Taxation changes or production incentives being devised?
- Are exports being encouraged? Imports allowed in?

Demographics
- Which demographics will impact on this market?
- What trends are likely and will they present opportunities and threats?
- Will changes increase market size?

Culture
- What are the emerging trends?
- How will changes affect the business?

Economics
- How will the future economic cycle affect the business?
- What is the economic health of importing countries?
- What are the likely outcomes for inflation, exchange rate and other economic indicators?

Assessing the industry

Current and potential sales
- What are the current sales in this and related markets?
- What is a reliable estimate of potential sales?

Industry structure
- How attractive is this industry?
- What are the barriers to entry?
- Who holds the major influence – competitors, customers or suppliers?

Distribution system
- Can a new producer gain access to the distribution system?
- Are the new methods of distribution likely to give a strategic advantage?

Assessing competitors
- Who are the current and potential competitors in this and related markets?
- What is the best method of analysing competitors?
- How are the market leaders likely to react to a new producer in this area?

Information on customers
- What consumer behaviour influences this market?
- Are there unmet needs in this market?
- Is it a repeat sale business?
- How is information gathered by consumers prior and during the purchase?
- How important is service quality to these consumers?

Market segmentation
- Is it a consumer or business-to-business market?
- How is the market segmented at present?
- Strategically, what is the best method of segmenting?
- What further research is needed to gather details for segmentation?
- How many segments should be served?

The marketing mix
- What is the most appropriate marketing mix for this new enterprise?
- How can the marketing mix be employed to give us a strategic advantage in this product-market?

Appendix 3 Business plan format

Position statement: Meadow View has an above average return to owner's equity due to a strong profit and a strong owner's equity position; this could be further built on through better control of enterprise costs, which are presently a little above average. The physical assets are in average condition, but the property does face a water supply problem that is restricting its current carrying capacity. At present the staff are a major contributor to the success of this business; however, there is scope for further training and development.					
Vision: To be milking off 250 ha, employing two full-time staff and free some time up for a regular holiday and weekend off per month.					
Values: Hard work, good employees, lifestyle and the rural environment.					
Mission: We are in the business of producing high quality milk produce while protecting and maintaining our assets to provide a good lifestyle.					
		Implementation			
Goals	**Strategies**	**Who**	**When**	**Action**	**Review**
Financial					
Lift GM/ha to top 10% of producers by 200X	To improve farm record system to enable cost problems to be identified	James	July Aug	Investigate computerised systems Commence course to set up records	Appropriate hardware and software purchased. Training and backup arranged
Natural resource					
Improve pasture utilisation by 10% Improve the reliability of the water supply over the next three years.	Subdivide two large paddocks Sink a new bore and renovate two others	Helen Helen & David James	Sept–Oct. Nov. Sept Oct–Nov	Draw up whole farm plan, cost out proposal and order materials Complete subdivision by 20 Dec. Investigate renovation options, costs and site for new bore Engage contractor	
Human resource					
Organise to have one clear weekend per month	Employ a casual labour unit	James David & Helen	July Aug Sept	Advertise for casual milker Trial under supervision Take a weekend off	Advertisement prepared and listed in district papers

11

Budgeting for change

Previous chapters discussed the process of identifying alternative business strategies by exploring the market opportunities available to the business. To make the final decision on whether any of these alternatives are viable, or will help achieve business and personal goals, it is necessary to analyse what effect they will have on the financial position of the business. Although financial performance will not be the only criteria on which future plans are based, it is important to be aware of the financial impact of the alternatives, as this will influence the viability of the business. In this chapter, two techniques of analysis are used to ascertain the financial impact of the proposals. **Partial budgeting** is used to assess the expected return from short-term projects, and the return expected from longer-term projects once they have reached a stable state. **Discounted cash flow analysis** is used to compare the return of longer-term projects with different cash flow characteristics.

These budgeting techniques assist in answering the following questions.

- Is the change profitable?
- What is the return to capital over the life of the projected change?
- What is the impact on cash flow, including the influence of borrowed funds?

Any change to the structure of a business or its enterprise mix will be tested by either partial budgets or discounted cash flows. A proposed change in enterprises or a new enterprise would normally only proceed when it is able to satisfy investment performance criteria set by the owners of the business. For example, a business owner may only look at new enterprises or investments that provide a 15% return on funds invested.

Partial budgeting

Partial budgeting is a technique used to measure the profitability of changes to business practices that can be implemented in a relatively short period. Where the development

phase of the plan is more than two to three years, it is important to take into account the effect of the delayed returns using a Net Present Value (NPV) analysis (discussed later in this chapter). The technique of partial budgeting examines only the effect of the proposed management change, assuming all other aspects of the business remain unchanged. This is done by considering the physical changes associated with the proposal, and then determining the effects of these changes on the financial position of the business. Changes to a business may result in one or more of the following four financial outcomes, and the purpose of a partial budget is to determine the net effect of these changes.

- **Added costs:** Some costs may be increased, for example, if stock numbers are increased then running costs associated with the enterprise will also increase.
- **Added income:** Additional income may result from increased levels of production or from the introduction of a new enterprise.
- **Costs saved:** Cost savings may be realised because of more efficient management practices or from the reduction of levels of production.
- **Income lost:** Where the proposed change causes the reduction of one enterprise in favour of another, it is likely that the enterprise that is being reduced in size will suffer a reduction in income. This is accounted for in the partial budget by recording the reduced income expected.

The technique of partial budgeting, and its use in assisting with the financial evaluation of alternative management decisions, is illustrated using examples involving a change in management practice, and a change in management practices involving capital expenditure.

Change in management practices

Changes to management practices can provide opportunities for increasing overall business profit. For example, grazing and feed management practices may be altered at little or no cost, yet result in improved levels of production. Alterations to management practices may also involve the reorganisation of resources to utilise spare production capacity. This may occur by altering management practices to increase stocking rates without increasing machinery, labour or other inputs. Changing management practices may also occur due to the substitution of one set of business resources for another, for example, where one enterprise is increased at the expense of another.

Analysing the effect on profit resulting from a reorganisation of business resources is the simplest application of partial budgeting techniques. The following example illustrates the use of partial budgeting to show the effect on profit of supplementary feeding of maiden ewes. Improved feeding of maiden ewes should increase conception rates and may also make additional grazing available to other stock, thereby increasing overall lambing percentages and lamb sale weights. The net financial effect of this proposal is summarised in the partial budget presented in Table 11.1.

From Table 11.1 it is possible to see how the partial budget is prepared and used to show the financial effect of the changes only. In this example, each of the categories of change are explained separately.

Table 11.1 Partial budget for a change in farm practice

	Loss	Gain
Added costs		
Grain	800	
Animal husbandry	100	
Income lost	0	
Added income		
Lamb sales		1,500
Wool sales		500
Costs saved		0
TOTAL	**$900**	**$2,000**
Less LOSS		$900
NET GAIN		**$1,100**

Added costs: The partial budget brings together all the changes resulting from the project under consideration. In this case, the added costs associated with the supplementary feeding of maiden ewes are the additional feed costs and additional animal husbandry costs.

Income lost: In this example, there is not expected to be any reduction in income.

Added income: Additional income is generated from increased stock and wool sales.

Costs saved: There are no costs saved in this example.

The example of a partial budget illustrated in Table 11.1 shows how the four areas of change – added costs, income lost, added income and costs saved – are accounted for in the partial budget to show the effect the change in management practice will have on the net profit of the business. Provided the estimates of added costs and returns are reasonable, it appears in this case that the proposal will increase profitability through the improved use of resources. However, the final decision on whether this proposal is implemented will also be influenced by other considerations. The financial information produced by the partial budget is only one factor to consider. Some of the other factors to be taken into account are discussed later in this chapter.

Deciding whether resources should be moved from one enterprise to another is a common issue in agribusinesses that operate two or more enterprises. For example, horticulturists continually make decisions about which crops to grow, and mixed grazing businesses are faced with decisions relating to the stocking capacity to be allocated to each enterprise. The main difficulty arising when attempting to compare the effect on net profit of moving resources from one enterprise to another, is the estimation of running costs associated with each enterprise. If a change in the mix of existing enterprises is contemplated, then the gross margin analysis for previous years (see Chapter 9) will provide the best source of information for this analysis. However, before any changes are made, it is important to understand the interaction between enterprises and determine which farm resource is limiting production.

Where the introduction of a new enterprise is being considered, the decision must be approached with an even greater degree of caution. Information regarding the proposed activity will be less reliable because it can only be gathered from other agribusinesses and experimental research. The introduction of a new enterprise will also require the acquisition of new management skills, and in the initial stages of operation production may not be as high as expected. All these aspects must be taken into account and presented in the form of a partial budget to demonstrate the ultimate effect the change will have on net profit.

It is important to note that with existing capital resources there is always a limit to the extent to which one enterprise can be substituted for another. If the contemplated expansion in one enterprise will necessitate additional capital expenditure, then this must be anticipated and allowed for in the partial budget.

Changes involving capital expenditure

Capital expenditure normally involves the purchase of items that last for more than one year, and includes items such as buildings, fencing, plant and machinery or pasture improvement. A partial budget can be used to assess the annual effect on net profit of a proposal requiring additional capital investment by taking account of the annual costs associated with the additional capital employed. These costs may include an allowance for depreciation and replacement costs (see Chapter 6), and a measure of the return to the additional capital.

For example, a dairy farmer who also runs some beef cattle wishes to investigate the effect on net profit of replacing the beef enterprise with an additional 20 milking cows. If the beef production was continued, then the estimated income from this enterprise would be approximately $4,300, while the production costs would be around $700. The additional 20 milking cows could be purchased for $900 each but this capital cost would be partly offset by the $10,000 expected from the sale of the beef animals.

In the event that the size of the dairy enterprise is increased, additional animal husbandry costs are expected to be around $100 per cow. Additional feed concentrates will cost $600 per cow. Increased income (from milk sales, culls and calf sales) is expected to be approximately $1,500 per cow. The increased herd size will necessitate alterations to the dairy that are expected to cost approximately $8,000. These alterations are expected to have an effective life of 20 years (with no scrap value at the end of that period). The annual depreciation of the additions to the dairy will therefore be:

$$\text{Annual depreciation} = \frac{8{,}000}{20} = \$400$$

The net financial effect of this proposal is summarised in the partial budget shown in Table 11.2. In practice, a decision to increase herd size is likely to be much more involved than is indicated in this example because of the effects it will have on the whole business such as different grazing requirements, different labour requirements and different feed conservation needs. Despite this, the example used demonstrates how a partial budget can be used to analyse the financial effect of a proposed change that requires additional capital.

Table 11.2 Partial budget for a change in farm practice involving capital expenditure

	Loss	Gain
Added costs		
Animal husbandry 20 × $100	2,000	
Feed costs 20 × $600	12,000	
Depreciation	400	
Income lost		
Beef sales	4,300	
Added income		
Milk sales and livestock 20 × $1,500		30,000
Costs saved		
Beef production costs		700
TOTAL	**$18,700**	**$30,700**
Less LOSS		$18,700
NET GAIN		**$12,000**

Before preparing a partial budget it is necessary to estimate the physical changes to production that will occur as a result of the proposed change. The accuracy of the partial budget will therefore depend largely on the accuracy of these predictions. In order to foresee the likely changes, the manager must have a detailed understanding of the operation of the business and be able to answer the many technical questions that will arise. As a result of a decision to increase herd size, some of the following questions may need to be considered.

- Will overall cow productivity decline as a result of feed stress conditions at critical periods of the year? If so, what are the alternative methods of overcoming this problem?
- How will grazing management programs have to be altered to cope with the greater number of stock? Should winter block grazing be used? Is there a need for better pasture management through better subdivision and fertiliser management?
- Can the existing capital and labour resources cope with the extra workload? What are the implications of employing additional labour?

Having considered the relevant physical effects, it is necessary to estimate expected costs and returns associated with these changes. All estimates are subject to some degree of error and it is therefore important to be conservative with both cost and income estimates. It is also advisable to select key variables from the budget, such as butterfat price, and rework the budget using a range of prices. In this way, the sensitivity of the budget to changes to these variables can be assessed, thereby providing information on the degree of risk associated with the plan. Electronic spreadsheets are ideal for this type of 'what if' analysis, as they provide an opportunity to alter key variables and recalculate the net effect on profit without the need to repeat all the original calculations.

Another factor that needs to be taken into account is the extent to which the plan imposes increased labour demands on the operator. Owner/operators are often reluctant to include a cost for their own labour in a partial budget. In effect, they are assigning no value to their own labour input, and ignoring the fact that the business must provide them with a reasonable return for their labour and management skills. A labour value of at least the rate necessary to attract casual workers should always be used to value the operator's labour contribution towards the project. If the changes proposed do not provide sufficient return to warrant the additional labour input then other alternatives should be considered.

Finally, having completed the partial budget, management is confronted with the problem of deciding whether the net gain resulting from the change is sufficient to warrant going ahead with the project. This decision must take into account the return to the additional capital and any alternative investment opportunities that may be available.

One effective means of assessing alternative investments is by comparing their respective return to the additional capital invested. This is accomplished by comparing the *percentage return to added capital* for each investment. That is, the net gain from the partial budget expressed as a percentage of the additional capital requirement (see Table 11.3).

In the previous example (Table 11.2), it was estimated that an additional 20 cows would earn an extra $12,000, giving a return to investment of 75% (Table 11.3, alternative 1). An alternative investment under consideration is the development of an area of irrigation with the aim of increasing the overall stocking rate. This proposal would earn an extra $4,000 each year for an additional investment of $20,000, which represents a return to added capital of 20% (Table 11.3, alternative 2).

Table 11.3 Return to additional capital for two alternative investments

Alternative 1 (replace beef enterprise)		
Net gain		12,000
Added capital: Shed improvements	8,000	
Additional livestock	18,000	
Total added capital	26,000	
Capital recovered: Sale of beef livestock	10,000	
Net added capital	16,000	
Percentage return to added capital (12,000/16,000) × 100		75%
Alternative 2 (irrigation)		
Net gain		4,000
Added capital: Irrigation plant and stock	20,000	
Percentage return to added capital (4,000/20,000) × 100		20%

Clearly, alternative one represents a more efficient use of capital. However, return to capital is not the only criteria to be taken into account for the final decision. Other considerations such as labour requirements and the level of risk are also important in the final choice. For example, the funds to be invested in the project may be invested in a low risk alternative (for example, bank deposits) to earn 5% per year. If this is the case, a margin for risk should be included before selecting an alternative investment in the farm business. The level of this margin will depend on the nature of the project and the attitude of management to risk. For example, a margin of 5%–10% above the low risk return may be allowed for to compensate for partial budgeting errors or omissions, and for the greater risk involved. Some general rules of thumb are used in different agribusiness industries to account for the risk involved, but these rules should always be viewed with some caution as they are affected greatly by the individual circumstances of the business. In the case of these two alternatives there is a considerable difference in total capital requirements. Alternative two requires an additional $4,000 in capital compared to alternative one, which may increase risks associated with debt-servicing costs if alternative two is chosen.

Another factor that must be taken into account is the time before the full earning capacity is reached. A project providing an earning rate of 20% immediately is obviously more profitable than a project that involves capital expenditure now, and an earning rate of 20% beginning in three years' time. Where investment projects require some time to produce positive cash flows the analysis should be based on the discounted cash flow technique.

Discounted cash flow analysis

Business proposals that take more than two years to reach full production, or which have different cash flow characteristics, cannot be fairly compared using partial budgeting techniques alone. Plans that require significant investment and debt also cannot be adequately compared using only partial budgeting techniques. Analysis of these projects needs to be undertaken in two steps requiring assessment of the project's profitability and its feasibility.

Assessment of profitability

Partial budgeting techniques can be used as a preliminary investigation of the likely profitability of an investment by estimating the returns expected when the project has reached its full return. However, partial budgeting techniques do not account for the difference in timing of the cash flows of alternative proposals. To enable a comparison of different cash flow characteristics of each alternative it is necessary to use a technique of discounted cash flows. This enables each investment to be compared based on their net present value (NPV).

Discounted cash flow techniques aim to place a present value (today's value) on receipts or expenditure incurred in the future. For example, rational investors will prefer a receipt of $1 today rather than $1 in 12 months' time. The reasons for this preference are two-fold:

1 An amount received today can be invested to generate income for 12 months, whereas the $1 received in 12 months' time has lost that opportunity. This lost income is termed the *opportunity cost.*
2 One dollar received today has a greater purchasing power in times of inflation than the same amount received 12 months later. The effect of inflation is termed the *inflation effect.*

Discounted cash flow techniques aim to account for the opportunity cost of capital and are not intended to account for the inflation effects. As a general rule, all budgets should be prepared using current dollar values and the effects of inflation should be ignored until the final analysis stage. This is because inflation affects income and expenditure differently, and may also affect individual items of expenditure differently. Discounted cash flow techniques are used to take account of the opportunity cost of capital over time by bringing each annual cash flow to a net present value (NPV) so that the NPVs of different projects can be compared.

Present value (PV) is calculated on the basis that a receipt of $1 now is more valuable than a receipt of $1 in the future, the difference being the return that the $1 received today could earn over time. For example, if the opportunity cost of capital is 10% per year, then the $1 received today would be worth $1.10 ($1 + ($1 × 10%)) in 12 months' time, thereby making it more valuable than the $1 received in 12 months' time. To determine the PV of a future amount the reverse calculation is performed, that is, the amount needed to be invested today to have $1 in 12 months' time. For example, at an opportunity cost of 10% per year, the amount of $1 received in 12 months' time has a PV of $0.91. This calculation can be checked by working in reverse; if $0.91 is received today and invested at 10% for 12 months it will be worth approximately $1.00 (0.91 + (0.91 × 10%)) at the end of the period.

The conversion of a present value to a future value is the means used to determined the growth of an investment over time assuming that the interest earned is reinvested and not withdrawn. This type of investment is known as compound interest and is calculated using the following formula:

$$FV = PV(1 + i)^n$$

Where: FV = future value
PV = present value
i = interest rate per year
n = number of years

Example: An amount of $1,000 is invested for 10 years at 5% interest per year and the interest is to be reinvested each year. The FV of this investment at the end of 10 years is calculated as follows.

$$FV = 1{,}000(1 + 0.05)^{10}$$

$$FV = 1{,}000(1.05)^{10}$$

$$FV = 1{,}000(1.6289)$$

$$FV = 1{,}628.9$$

The determination of FV from the previous example shows that $1,000 invested today at 5% per annum interest will be worth $1,628.9 in 10 years provided the annual interest is reinvested with the original $1,000.

The reverse calculation of converting a future value to a present value is performed using the following formula:

$$PV = \frac{FV}{(1+i)^n}$$

Where: FV = future value
PV = present value
i = interest rate per year
n = number of years

Example: A life assurance policy of $200,000 that matures in 20 years' time will have a present value of $91,277 if the opportunity cost of capital is 4%.

$$PV = \frac{FV}{(1+i)^n}$$

$$PV = \frac{200,000}{(1+0.04)^{20}}$$

$$PV = 91,277$$

It is important to understand the concept of PV and FV to use the discounted cash flow method of analysis, but it is not necessary to understand the calculations shown above because the amounts can be determined using the factors presented in Table 11.4. Table 11.4 is used to select the discount factor to be applied to convert a future amount to a PV. Repeating the previous example, to determine the PV of $200,000 received in 20 years' time at an opportunity rate of 4% per year, the factor of 0.4564 (Table 11.4, period 20 and opportunity cost of 4%) is multiplied by $200,000 giving a PV of $91,280 (there is a small rounding error).

The following example is used to demonstrate the application of discounted cash flow techniques for the assessment of a longer-term project. This example relates to the establishment of a new horticultural crop over a seven-year period. To begin this analysis, it is necessary to gather the information needed to determine capital requirements, level of production and the amount and timing of expenditure. The information used in this example is as follows:

	per ha
• Production: 12.5 tonne/ha at $1,000 per tonne.	• $12,500
• Operation costs (see Table 11.7 for detail.)	• $1,980
• Land preparation including ripping, fertiliser application, cultivation, row marking, herbicide application and rock picking.	• $1,100
• Equipment purchase includes a share of all dedicated horticultural equipment such as tractors, sprayers, slashers, etc.	• $3,000
• Rootlings for planting 2,600 plants per ha @ $0.70 each.	• $1,820
• Planting including nursery costs.	• $700
• Irrigation costs, including system design, buildings, pumps and filters, pipes and drippers and installation.	• $6,500
• Trellis costs, including all posts, wire, consumables and installation.	• $7,000

Table 11.4 Discount factors

Opportunity cost (rate per period)																
Period	**2.00%**	**3.00%**	**4.00%**	**5.00%**	**6.00%**	**7.00%**	**8.00%**	**9.00%**	**10.00%**	**11.00%**	**12.00%**	**13.00%**	**14.00%**	**15.00%**	**16.00%**	**17.00%**
1	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8547
2	0.9612	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.8116	0.7972	0.7831	0.7695	0.7561	0.7432	0.7305
3	0.9423	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7312	0.7118	0.6931	0.6750	0.6575	0.6407	0.6244
4	0.9238	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6587	0.6355	0.6133	0.5921	0.5718	0.5523	0.5337
5	0.9057	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5935	0.5674	0.5428	0.5194	0.4972	0.4761	0.4561
6	0.8880	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5346	0.5066	0.4803	0.4556	0.4323	0.4104	0.3898
7	0.8706	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4817	0.4523	0.4251	0.3996	0.3759	0.3538	0.3332
8	0.8535	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4339	0.4039	0.3762	0.3506	0.3269	0.3050	0.2848
9	0.8368	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3909	0.3606	0.3329	0.3075	0.2843	0.2630	0.2434
10	0.8203	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3522	0.3220	0.2946	0.2697	0.2472	0.2267	0.2080
11	0.8043	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.3173	0.2875	0.2607	0.2366	0.2149	0.1954	0.1778
12	0.7885	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2858	0.2567	0.2307	0.2076	0.1869	0.1685	0.1520
13	0.7730	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2575	0.2292	0.2042	0.1821	0.1625	0.1452	0.1299
14	0.7579	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2320	0.2046	0.1807	0.1597	0.1413	0.1252	0.1110
15	0.7430	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.2090	0.1827	0.1599	0.1401	0.1229	0.1079	0.0949
16	0.7284	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1883	0.1631	0.1415	0.1229	0.1069	0.0930	0.0811
17	0.7142	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1696	0.1456	0.1252	0.1078	0.0929	0.0802	0.0693
18	0.7002	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1528	0.1300	0.1108	0.0946	0.0808	0.0691	0.0592
19	0.6864	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1377	0.1161	0.0981	0.0829	0.0703	0.0596	0.0506
20	0.6730	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1240	0.1037	0.0868	0.0728	0.0611	0.0514	0.0433

Opportunity cost (rate per period)																
Period	**2.00%**	**3.00%**	**4.00%**	**5.00%**	**6.00%**	**7.00%**	**8.00%**	**9.00%**	**10.00%**	**11.00%**	**12.00%**	**13.00%**	**14.00%**	**15.00%**	**16.00%**	**17.00%**
21	0.6598	0.5375	0.4388	0.3589	0.2942	0.2415	0.1987	0.1637	0.1351	0.1117	0.0926	0.0768	0.0638	0.0531	0.0443	0.0370
22	0.6468	0.5219	0.4220	0.3418	0.2775	0.2257	0.1839	0.1502	0.1228	0.1007	0.0826	0.0680	0.0560	0.0462	0.0382	0.0316
23	0.6342	0.5067	0.4057	0.3256	0.2618	0.2109	0.1703	0.1378	0.1117	0.0907	0.0738	0.0601	0.0491	0.0402	0.0329	0.0270
24	0.6217	0.4919	0.3901	0.3101	0.2470	0.1971	0.1577	0.1264	0.1015	0.0817	0.0659	0.0532	0.0431	0.0349	0.0284	0.0231
25	0.6095	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0736	0.0588	0.0471	0.0378	0.0304	0.0245	0.0197
26	0.5976	0.4637	0.3607	0.2812	0.2198	0.1722	0.1352	0.1064	0.0839	0.0663	0.0525	0.0417	0.0331	0.0264	0.0211	0.0169
27	0.5859	0.4502	0.3468	0.2678	0.2074	0.1609	0.1252	0.0976	0.0763	0.0597	0.0469	0.0369	0.0291	0.0230	0.0182	0.0144
28	0.5744	0.4371	0.3335	0.2551	0.1956	0.1504	0.1159	0.0895	0.0693	0.0538	0.0419	0.0326	0.0255	0.0200	0.0157	0.0123
29	0.5631	0.4243	0.3207	0.2429	0.1846	0.1406	0.1073	0.0822	0.0630	0.0485	0.0374	0.0289	0.0224	0.0174	0.0135	0.0105
30	0.5521	0.4120	0.3083	0.2314	0.1741	0.1314	0.0994	0.0754	0.0573	0.0437	0.0334	0.0256	0.0196	0.0151	0.0116	0.0090

Table 11.5 Capital costs per ha and depreciation

Capital costs	$	Dep %	Dep $
Land preparation	1,100	5%	55
Equipment purchases	3,000	12%	360
Rootlings	1,820	5%	91
Planting	700	5%	35
Irrigation plant	6,500	12%	780
Trellising	7,000	5%	350
	20,120		1,671

Table 11.5 shows both the amount of capital required and the depreciation cost associated with the capital (depreciation is based on actual life and may not be the same as that used for tax purposes). The timing of these expenses is shown in the cash flow contained in Table 11.7.

The next step is to prepare a partial budget to ascertain the likely returns from the project when it has reached a stable level of production. This analysis relies on the information presented in the cash flow budget (Table 11.7), so in practice, both the cash flow and the partial budget can be prepared together. Stable production and cost structures are reached in year six and the partial budget at this stage is shown in Table 11.6. Costs are shown as a total for the purposes of this analysis but the detail can be seen in the cash flow budget.

The partial budget in Table 11.6 indicates a percentage return on added capital of 43.98% (8,849/20,120), which appears very profitable but it must be remembered that this return does not take into account total capital investment (for example, land), but only the extra capital required for the development. Also, no account is made for a management allowance and the fact that the full return is not realised until year six. The effect of the delay in cash flow is considered using the discounted cash flow technique as shown in Table 11.7.

Table 11.6 Partial budget for the horticultural production project at steady state (year 6+)

	Loss	Gain
Added costs		
Total operating costs	1,980	
Depreciation (see Table 11.5)	1,671	
Income lost		
Added income		
Fruit sales		12,500
Costs saved		
TOTAL	**$3,651**	**$12,500**
Less loss		$3,651
NET GAIN		**$8,849**

Table 11.7 Discounted cash flow – horticultural project

	Year							
Production	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Yield (tonne/ha)				2.5	6	10	12.5	12.5
Price ($/tonne)				1,000	1,000	1,000	1,000	1,000
Total cash inflow				2,500	6,000	10,000	12,500	12,500
Capital costs								
Land preparation	1,100							
Equipment purchases	3,000							
Rootlings		1,820						
Planting		700						
Irrigation plant	6,500							
Trellising	3,000			4,000				
Salvage value								(8,500)
Total capital costs	13,600	2,520	0	4,000	0	0	0	(8,500)
Operational costs								
Labour	450	160	200	140				
Consultant fees	20	20	20	20	20	20	20	20
Harvesting				5,200	1,100	1,100	1,100	1,100
Insect control			340	340	340	340	340	340
Weed control		60	60	60	60	60	60	60
Fertiliser	200	150	150	150	150	150	150	150
Repairs and maintenance		20	20	20	20	20	20	20
Fuel and lubricants		40	40	40	40	40	40	40
Irrigation running costs		250	250	250	250	250	250	250
Total operation costs	670	700	1,080	6,220	1,980	1,980	1,980	1,980
Total cash outflow	14,270	3,220	1,080	10,220	1,980	1,980	1,980	(6,520)
Net cash flow	(14,270)	(3,220)	(1,080)	(7,720)	4,020	8,020	10,520	19,020
Discount rate (5% – Table 11.4)	1.0000	0.9524	0.9070	0.8638	0.8227	0.7835	0.7462	0.7107
Net present values	(14,270)	(3,067)	(980)	(6,669)	3,307	6,284	7,850	13,518
Net present value	5,973							

Analysis using discounted cash flow requires that the project be complete, or that each proposal is compared over the same time period and leaves the business in the same economic circumstances. If this is not done then the analysis is not valid as all factors have not been included. In this case study, production from the investment will continue indefinitely subject to adequate maintenance and replacement of capital structures and plant. Consequently, it is necessary to include in the cash flow a capital

salvage value at the end of the project even though this cash is not realised. Including the capital salvage value enables the remaining value of improvements and plant to be taken into account as if it has been sold, thereby completing the investment. The salvage value of $8,500 used in this case is the approximate depreciated value of all improvements and plant.

A NPV of $5,973 shows that at an opportunity cost of capital of 5% this project warrants further consideration of factors such as the degree of risk and other management issues (see later in this chapter). It is important to note that the final NPV figure is not a measure of profit (profitability is measured using the partial budget), but the NPV is used to compare options with differing cash flow characteristics. For example, if two alternative projects show similar profitability but different cash flows, the one with the higher NPV would be preferred. It must also be understood that in this analysis, no allowance has been made for alternative uses of the land, the effect of income tax on the cash flow or the feasibility of servicing any debt required.

Gross margin analysis (see Chapter 9) would provide a means of comparing existing land use with the proposed horticultural enterprise. This would be achieved by comparing gross margins per hectare or determining gross margins based on other limiting resources such as capital or labour. Introducing new enterprises also raises the issue of the complementary effects of enterprises. For example, cattle and sheep grazing may enable better use of fodder. Similarly, cropping enterprises may benefit grazing activities through increased fertility and supplementary feeding. It is very difficult to place financial values on these complementary effects but they should be taken into account in the final decision.

Income tax and debt servicing are also very important as they may alter the profitability and feasibility of alternatives.

The effects of income tax

The influence of taxation on all financial decisions should be incorporated into the budgetary and decision-making process. In some cases, this may require professional advice, but the effect of tax on simple proposals may be assessed using the knowledge acquired from Chapter 7. To take account of the tax effect on the partial budget or discounted cash flow, it is necessary to incorporate a new section in the budget that accumulates the net effect of the project on taxable income. In this section, all items that alter assessable income and deductions are shown. The net change in taxable income resulting from the project is then multiplied by the marginal tax rate to determine the change in tax. This change in tax is then included in the budget as a cost or saving depending on whether tax is increased or decreased.

Marginal tax rates are used to show the effect on tax because this is the rate of income tax paid on the last dollar of taxable income as shown in the taxation scales. Taxation scales may vary from year to year and for different taxpayers, so it is important to check this information with a professional adviser. However, primary producers using income tax averaging (see Chapter 7) will not be subject to the effects of the marginal tax rate in the same way as other taxpayers. Where averaging is used, tax rates will not be

impacted by the full marginal rate; in fact, it will be closer to the average rate (total tax/total taxable income). The average rate itself will also be influenced by the change in taxable income in the first year and the next four years (while the income remains part of the average figure). As a result, the tax effect of minor projects can best be measured using the average tax rate, but projects that could have a substantial effect on taxable income should be worked through the full tax calculation to ascertain the impact on tax. Professional advice may be needed to obtain an accurate marginal tax rate for the business or its owners.

Accounting for tax in the cash flow budget is important as it may significantly alter debt-servicing capabilities. Income tax considerations are also very important because vineyard establishment and water conservation costs receive favourable treatment for income tax purposes.

Table 11.8 incorporates tax in the cash flow and NPV for the horticultural proposal. This is done by first determining which cash flow items increase tax (assessable income),

Table 11.8 Tax effect on cash flow and NPV

	Year							
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Assessable income								
Production sales				2,500	6,000	10,000	12,500	12,500
Salvage value*								4,970
Total assessable income				2,500	6,000	10,000	12,500	17,470
Deductions								
Enterprise cost write-off (13%)	1,381	1,381	1,381	1,381	1,381	1,381	1,381	956
Depreciation of plant (10%)	300	300	300	300	300	300	300	300
Depreciation of irrigation plant (5%)	325	325	325	325	325	325	325	325
Operating costs	670	700	1,080	6,220	1,980	1,980	1,980	1,980
Total deductions	2,676	2,706	3,086	8,226	3,986	3,986	3,986	3,561
Net effect on taxable income	(2,676)	(2,706)	(3,086)	(5,726)	2,014	6,014	8,514	13,909
Tax effect (marginal rate 30%)	803	812	926	1,718	(604)	(1,804)	(2,554)	(4,173)
Cash flow before tax (Table 11.7)	(14,270)	(3,220)	(1,080)	(7,720)	4,020	8,020	10,520	19,020
Tax effect	803	812	926	1,718	(604)	(1,804)	(2,554)	(4,173)
Net cash flow after tax	(13,467)	(2,408)	(154)	(6,002)	3,416	6,216	7,966	14,847
Discount rate 5% (Table 11.4)	1.0000	0.9524	0.9070	0.8638	0.8227	0.7835	0.7462	0.7107
Present values	(13,467)	(2,294)	(140)	(5,185)	2,810	4,870	5,944	10,552
Net present value	3,090							

* Only the excess salvage value is assessable (salvage value – tax depreciation value)

and which decrease it (deductions). In this case, assessable income is increased through the sales of fruit and the salvage value at the end of the period. Determining the assessable amount resulting from the sale of the capital invested is difficult and would require professional advice, but to simplify this example it is taken to be the full salvage value because all items have been fully depreciated for tax purposes.

All operating costs will be deductible and depreciation deductions are available on all capital costs. These depreciation rates are higher than the rates used in the partial budget as tax concessions are given for investment in horticultural crop establishment and water conservation.

Tax changes caused by the additional assessable income and deductions are calculated by multiplying the net change to taxable income by the marginal tax rate (in this case assumed to be 30%). Although the tax effect may be delayed because of the delays in payment of tax, in most cases the tax system aims to collect tax during the year of income. As a result it is reasonable to conclude that the income tax bill will be influenced in the same year as the cash flow change.

Including tax in the cash flow shows an expected reduction in NPV because the returns in the later years will increase tax more than the tax savings in the early years. This change in NPV is not likely to alter the decision as to the profitability of this project as any profitable investment will increase tax. However, it is important to note that including tax has altered the cash flow quite significantly as this investment gives rise to quite substantial tax savings in years one to four. These changes in cash flow caused by income tax are important when determining whether the proposal is feasible in terms of its debt servicing ability.

Feasibility

As the horticultural proposal appears to be profitable, the next stage in the assessment is to consider whether the new enterprise can provide sufficient funds to service any borrowing required. Financing difficulties commonly prevent the successful implementation of new projects and therefore it is very important to investigate debt servicing capabilities. This is normally done using the cash flow budget (after tax) and is considered in conjunction with the normal cash flow from the whole business and any cash reserves held. However, for this example it is assumed that the development project will have to meet all debt servicing from its own cash flow. Chapter 12 gives a detailed discussion of the considerations necessary when selecting loans to meet the particular cash flow needs of the business.

Table 11.8 shows the expected cash flow (after tax) during the development and stable stages of the project. The borrowed funds must therefore provide all of the development finance, and in the early stages, the interest and possibly principal repayments as a consistent cash surplus is not generated until year four. To determine the amount of funds required, and the debt-servicing costs, it is first necessary to estimate the peak debt requirement. Peak debt can be determined by calculating the accumulated cash flow as shown in Table 11.9. Before any allowance for interest and debt repayment is made, the accumulated cash flow shows a peak debt of $22,031 at the end of year three.

Table 11.9 Peak debt estimation

	Year							
	0	1	2	3	4	5	6	7
Opening cash balance	0	(13,467)	(15,875)	(16,029)	(22,031)	(18,615)	(12,399)	(4,433)
Borrowings	0							
Net cash flow after tax	(13,467)	(2,408)	(154)	(6,002)	3,416	6,216	7,966	14,847
Accumulated cash flow	(13,467)	(15,875)	(16,029)	(22,031)	(18,615)	(12,399)	(4,433)	10,414

Using an electronic spreadsheet it is possible to estimate the total debt required using different interest rates and repayments schedules. Table 11.10 shows that a loan of $28,000 can be serviced at 8.5% interest and almost repaid over the length of the project. However, allowing for some margin of error, no principal could be repaid until after year five.

Depending on the availability of the type of funds required to finance this proposal, it still appears that it is acceptable. This conclusion has been reached after detailed consideration of its likely return to capital, its cash flow characteristics and its feasibility. The final step is to consider risk and other non-financial matters that will also affect this decision.

Table 11.10 Borrowing and debt servicing requirements

	Year							
	0	1	2	3	4	5	6	7
Opening cash balance	0	14,533	10,459	8,639	971	2,721	7,271	13,571
Borrowings	28,000	0						
Net cash flow after tax	(13,467)	(2,408)	(154)	(6,002)	3,416	6,216	7,966	14,847
Interest	0	(2,380)	(2,380)	(2,380)	(2,380)	(2,380)	(2,380)	(2,380)
Tax effect of interest charge		714	714	714	714	714	714	714
Repayments								
Accumulated cash flow	14,533	10,459	8,639	971	2,721	7,271	13,571	26,752

Allowing for risk and uncertainty

The final stage in the planning process is to take into account non-financial considerations. Values cannot normally be put on these considerations but they can be assessed in light of the financial analysis that has been prepared. This approach means that allowances for risk and other non-financial factors will influence the final decision.

Levels of uncertainty in planning are important considerations in the analysis of alternative management plans. Agribusiness is subject to the normal business risks of national and international economic trends, but also has to deal with biological and

climatic variables. There are a number of different techniques that can be used to allow for uncertainty and to reduce the chance of financial loss. These include budgeting techniques, marketing strategies, enterprise selection and enterprise flexibility.

Planning and budgeting techniques

One of the major elements of sound decision making is the availability of accurate and relevant information. Uncertainty can be reduced, or at least recognised, if farm management is supported by a reliable set of physical and financial records, and decisions are analysed using a comprehensive budgeting and analysis process.

Planning for uncertainty is in part a function of being aware of the possible events that could affect the outcome of a proposal. Such an awareness makes it possible to develop contingency plans, and means a final decision can be reached with an appreciation of the effects and likelihood of failure.

Conservative estimates

Levels of risk can be reduced if conservative, but reasonable, price and yield estimates are used in the budgeting process. Overly optimistic market and cost estimates will only lead to false and unrealistic budgetary comparisons.

One approach is to prepare the initial budget using the most realistic price and yield estimates possible, and if the proposal appears profitable, rework the budget allowing for a 10%–15% reduction in one or two key variables. If the proposal still appears to be profitable, then it has been shown that it can withstand a certain degree of fluctuation in key factors such as price and yield. Electronic spreadsheets are ideal for performing this kind of 'what if' analysis, and many factors can be altered to gauge the effect of their change.

Break-even analysis

Break-even analysis is a technique that is used to show the product price or level of production at which a project becomes unprofitable. For example, the partial budget gain of $8,849 shown in Table 11.6 was based on average estimates of production of 12.5 tonne per hectare and a price of $1,000 per tonne. This gain drops to $2,349 if the price is reduced to $600 and production to 10 tonne. Using this type of analysis it is possible to show the minimum price and yield that is required before the return is no longer satisfactory.

The following example illustrates a simple method of determining the minimum level of production or price required for the production of a 10 kg bag of a special horse feed mixture.

Variable cost to produce 10 kg bag of special horse feed	$
Mixed oats	0.65
Maze	0.15
Linseed meal	0.10
Bag	0.18
Labour	0.62
TOTAL variable cost:	$1.70

Production requires $20,000 of fixed costs per year and the objective is to make a yearly profit of $50,000. A price of $4.50 per bag has been offered by a customer, and with this information it is possible to determine how many bags need to be sold to cover overheads and earn the required profit.

Contribution margin per bag:
= expected selling price – variable cost
= $4.50 – $1.70
= $2.80

Break-even sales:
= (Fixed costs plus profit)/Contribution margin per unit
= ($20,000 + $50,000)/$2.80
= 25,000 bags

If production was limited to 20,000 bags per year then it is possible to determine the price required to cover overhead costs and meet the required profit objective.

Contribution margin required:
= (Fixed costs plus profit)/Sales
= $70,000/20,000
= $3.50

Required sales price
= Variable costs + contribution margin
= $1.70 + $3.50
= $5.20 per bag

Break-even analysis is a particularly useful means of studying the effects of uncertainty because it provides vital information on the sensitivity of key variables in the budget. Electronic spreadsheets can be used effectively to alter product price and production levels to determine the break-even point. Using this information the decision maker can judge the risk involved by considering the likelihood of lower prices and production levels occurring.

Marketing strategies

Chapter 9 considers the process of identifying viable business opportunities. However, once a plan has been implemented it is also possible to implement market strategies that can reduce the impact of fluctuating commodity prices.

Timing of sales

As many seasonal agricultural and horticultural products are marketed over a relatively short period, there is a risk of severe loss should the wrong time for sale be selected. This risk can be lessened if the production cycle can be planned so that marketing can be spread over a longer period.

Forward contracts

A contract to sell a certain quantity of a commodity at an agreed price means that part of the effect of price uncertainty has been transferred from the seller to the buyer. However, forward contracts sometimes provide for adjustment in sympathy with market price

movements, and not all forward contracts specify prices, but merely define other conditions such as quality, quantity, time and place of delivery.

Vertical integration

Vertical integration exists when a business carrying on one activity in the production/marketing chain moves to control or cooperate with one or more other businesses above or below it in the chain. These arrangements may be complete or they may be partial. For example, in parts of the poultry meat industry there is complete integration into a single business that controls all the operations from the production to the wholesaling of the product. Partial integration occurs where a product processing company is interested in the control of only one or two of the activities carried out by the primary producer. This practice is quite widespread in the vegetable canning and processing industry.

The principle advantages of vertical integration are that there can be greater stability and security of income, lower production costs and improved access to services and finance. These advantages normally come at a cost of the surrender of management control and independence.

Commodity futures

The use of commodity futures contracts is another marketing strategy available to some growers that helps them reduce the effects of income variability and uncertainty. A futures contract is a contract to deliver an agreed amount and grade of the commodity at a particular time and place. If a futures contract is purchased, then the purchaser is under an obligation to receive the commodity. Similarly, the seller has an obligation to deliver the commodity.

Using commodity futures to reduce the level of price fluctuations also contains its own separate risks and should only be considered after obtaining professional advice and a careful study of the futures markets.

Enterprise selection

Choosing reliable enterprises

Industry information about yield and price variability of enterprises can be a valuable tool to assist with decision making. Comparing alternatives on financial information alone overlooks the degree of variability that may occur. By combining variability information with break-even analysis and using electronic spreadsheets, a range of likely returns can be produced. Selecting less profitable, but more reliable, alternatives may meet the objectives of some businesses better.

Enterprise diversification

Businesses that rely on only one source of income are normally exposed to greater risk than those that incorporate more than one enterprise. The old adage ‘don’t put all your eggs in one basket’ is important in any business decision. Enterprise diversification is not only a technique for reducing economic uncertainty, it can also promote a more efficient use of farm resources. For example, where labour resources are limiting the expansion of one enterprise due to peak labour requirements, alternative enterprises may be considered that have different labour requirements and which complement the existing enterprise.

Table 11.11 Example of profit sensitivity table for nectarine production

Yield (cartons)	Price ($/carton)				
	$11.00	**$13.00**	**$15.00**	**$17.00**	**$19.00**
2,000	($2,415)	$985	$4,385	$7,785	$11,185
2,250	($103)	$3,722	$7,547	$11,372	$15,197
2,500	$2,210	$6,460	$10,710	$14,960	$19,210
2,750	$4,522	$9,197	$13,872	$18,547	$23,222
3,000	$6,835	$11,935	$17,035	$22,135	$27,235

On the other hand, there are several arguments against diversification. It can be argued that diversified agribusinesses never achieve the economies of scale associated with larger-scale specialised units. Diversification can actually place the business in a vulnerable financial position by increasing capital, overhead costs and running costs. It can also be argued that in certain situations diversification will not reduce income variability.

The argument for diversification is based on the premise that if the price of one commodity falls another will remain constant or increase in price, or that a poor crop yield from one enterprise will be balanced by a good yield from another. However, supply and demand characteristics may affect all agricultural product prices, thus prices tend to be positively, rather than inversely, associated with one another. The same argument applies to crop yields, where limiting factors such as moisture, weeds, pests and diseases will often act to reduce all yields. It follows that diversification is likely to be most effective in offering protection against income variability if the enterprises selected are not in similar market or production areas.

Finally, it should be noted that the principle of diversification is not limited solely to farm enterprises. Capital and labour resources can be diversified quite simply if cash is available for off-farm investment, or specialist skills make non-farm activities possible. Investments in non-rural property, shares or a small business could provide a means of diversification that would not be affected by the economic trends in agriculture. Labour resources may also be diversified to take advantage of particular skills or trades. In such circumstances, a slight reorganisation of farming activities may allow these skills to be used to increase earning potential.

Conclusion

This chapter has provided a comprehensive set of tools that can be used to analyse alternative investment options. The steps used for this analysis were as follows:

1 Investigate all the physical and practical aspects of the alternatives including the changes to production processes and effects on existing enterprises.
2 Estimate the amount and timing of all capital costs.
3 Estimate annual costs and returns for each year of the development stage and for the stable production stage.

4 Use partial budgeting techniques (including allowance for income tax) to estimate the likely returns from the project at the post-development equilibrium stage. At this stage the first *accept* or *reject* decision is made and the analysis procedure would only be continued if it meets management objectives.
5 Prepare a cash flow budget (including the effect of income tax) for the development stage.
6 Use discounted cash flow techniques to take into account the different cash flow characteristics of the alternatives. A project may be rejected at this stage because of its low NPV.
7 Use the cash flow budget to test the feasibility of financing the development. If adequate funds are not generated to meet debt servicing, the project will be rejected.
8 Ensure that finance appropriate to that particular project can be arranged.

Most agribusinesses are presented with many different opportunities for investment, so it is necessary to establish development priorities. The evaluation procedure above is a useful technique for comparing projects and establishing priorities. However, it is important that a full business plan be used to show the effect of any change on business and personal objectives. A full business plan is described in Chapter 10.

The final decision to implement any change to management practices or to invest in a new enterprise should not be made solely on financial considerations. Many other non-financial aspects will also influence the decision, such as the level of risk that is acceptable, business goals and personal preferences.

12

Finance management

Most businesses rely to a greater or lesser extent on borrowed funds. The selection and the management of debt is a crucial aspect of the management of an agribusiness. This chapter provides the tools necessary to assess the cost and suitability of alternative sources of funds, and the economic criteria on which they can be compared. The effect of different types of loans on the cash flow situation is also considered.

Cost of borrowing

Accounting for the cost of borrowing capital for the operation or development of any business is a crucial factor in determining whether the business is viable, or the project feasible. The first step in selecting appropriate finance is to compare the cost of alternative sources of funds.

Interest charges are normally the most significant cost of borrowed funds, but other costs may be important. Lending institutions may also charge one-off fees such as establishment costs and legal fees, as well as regular administrative fees. It is also important to understand that interest can be calculated in different ways and this affects the true cost of the loan. A clear understanding of these methods is required to enable comparisons between loans and lenders. In the first part of the chapter the different types of interest are explained, and a method is provided for the comparison of loans with different types of interest and different charges. This is done by comparing all loans using an *effective rate of interest*.

Effective rate of interest

The effective rate of interest is the rate that should be used to compare all loans so that they are compared on the same basis. This rate is the amount of simple interest (see later

in this chapter) that would be charged if only one payment of interest was made at the end of each year of the loan. Other costs such as loan establishment fees, loan service fees and administration fees can also be included in this rate so loans are compared on an equal footing.

Calculation of an exact effective rate of interest is a very complex mathematical exercise. However, for the purposes of understanding the use of an effective interest rate, a simpler tool can be used to approximate the more complex calculation. The simpler method of determining an effective rate of interest (explained below) is not exact but it provides a fair comparison of the cost of different loans. However, before it is possible to estimate the effective interest rate it is necessary to obtain a quote from the various lenders being considered. Details requested should include: the standard interest rate, additional margin that may be added for risk, whether rates are variable or fixed, length of the loan, repayment requirements and all other charges. Some institutions will also provide the effective interest rate calculation thereby removing the need to estimate it.

Effective interest rate may also differ from the quoted rate of interest where payments are made more frequently than once per year. For example, an interest rate of 1% per month may be expressed as an annual rate of 12% per year (1% × 12 months), but the effective rate of interest is higher, in this case it is 12.68%. Where payments are made more frequently than once per year, the effective rate of interest is higher than the quoted annual rate because the borrower has paid earlier and therefore has lost the use of the money for that period. This concept is similar to that of NPV which was explained in Chapter 11.

Assuming one payment at the end of the year, the effective rate of interest can be estimated using the following procedure. This example is based on a 10-year loan of $100,000.

1 **Obtain a written quote of annual interest and other costs for the loan**. The quotation in this example is an annual interest rate of 8.0% plus annual fees of $250, together with a loan establishment fee of 1.5% of the loan amount ($1,500).
2 **Determine an equivalent annual amount for all charges other than interest**. This is done by first converting all one-off fees to an annual equivalent using Table 12.4 (see p. 316), and adding the result to any annual charges. In the example the $1,500 loan establishment fee is converted to an annual equivalent of $223.50 by using the factor of 0.1490 for 8% interest over 10 years from Table 12.4.

   $1,500 × 0.1490 = $223.50 per year

   To calculate the total equivalent annual charges, the annual fees of $250 are added to the amount calculated above. Total equivalent annual charges equal:

   $223.50 + 250.00 = $473.50
3 **Express the equivalent annual charges as a percentage of the loan**. In this example the $473.50 calculated in Step 2 is equal to 0.47% of the $100,000 loan.

   (473.50/100,000) × (100/1) = 0.47%
4 **Calculate the effective rate of interest**. The effective rate of interest is obtained by adding the equivalent annual fee percentage calculated in Step 3 to the annual interest rate quoted. In the example this gives an effective interest rate of 8.47% (8% + 0.47%).

As stated previously, this approach for determining the effective interest rate is only an approximation but it is accurate enough to compare most loans. Also, financial institutions belonging to the Australian Bankers' Association will quote the actual effective interest rate to prospective borrowers.

Terminology describing quoted interest rates and charges vary between lending institutions but some of the basic terms are described below.

Periodic and annual interest rates

Interest rates that are quoted for periods other than one year are often termed a *periodic rate*, and these may be converted to an *annual rate* by multiplying them by the number of payment periods in one year. For example, a monthly rate of 1% is equivalent to an annual rate of 12%. However, if the interest of 1% per month is charged to the account monthly, then the effective interest rate will be higher than an annual interest rate of 12% (discussed previously in this chapter). Annual rates that have been determined from a periodic rate may also be termed the *nominal rate*.

Standard and risk margin rates of interest

Quoted interest rates may be split into two components: the *standard rate* which is the base rate of interest, and the *risk margin* which may be added by the lender to compensate for the higher risk of the loan.

The risk margin rate is applied by lenders based on an assessment of the level of risk associated with the loan. Some lenders assess clients on a points score rating taking into account such things as equity, previous borrowing performance, current proposal and the industry they operate in. Borrowers with a low risk profile will be charged a low risk margin while others will be charged a higher amount.

Variable and fixed interest rates

Many lenders offer a range of fixed and variable interest rates. Clearly, fixed rates remain unchanged for a specified period whereas variable rates will fluctuate according to movement in lending rates. Whether the fixed or the variable rate is lower will depend on the lender's expectation of rising or falling interest rates. There is no exact method of choosing between a fixed or variable rate as there is no reliable means of predicting interest rate movements.

Charges and fees

As mentioned previously, there are a range of fixed and annual fees that may be charged by lenders. First, establishment fees may be charged for the creation of the loan and any mortgages that may be required. These costs are one-off charges and include such things as stamp duty, legal fees, title search fees and settlement cost. Annual administrative charges may also be levied by the bank.

Other than the charges for establishing and operating the loan, penalties may also be imposed for early repayment, exceeding the agreed amount of the loan, not drawing the full amount, or not drawing the loan immediately it becomes available (see Appendix 1 for Internet resources relating to rural finance).

Table 12.1 Simple interest

Quarter	Principal outstanding (P)	Interest cost (I)	Total cost (I&P)
1	12,000	360	3,360
2	9,000	270	3,270
3	6,000	180	3,180
4	3,000	90	3,090
Total		**900**	**12,900**

Note: periodic interest = ¼ of 12% = 3% per quarter

Types of interest

Financial institutions are required to quote interest rates as a simple interest rate. However, interest can be calculated in a number of different ways. To compare loans that have different methods of interest calculation it is necessary to convert these rates to a standard effective rate of simple interest. Three types of interest are described below: simple interest, flat rate interest and discount interest.

Simple interest

Simple interest is calculated by applying the interest rate to the average amount of principal outstanding over the period for which interest is being calculated. For example, if $12,000 is borrowed at a simple interest rate of 12% per year for one year, with principal ($3,000) and interest paid quarterly over the 12 months, the cost will be as shown in Table 12.1.

Flat rate interest

Flat rate interest is calculated on the original amount borrowed regardless of the amount of the loan that has been repaid. This interest is therefore significantly more costly than simple interest, in terms of the total interest paid, for the same quoted annual rate. Using the same loan as that shown in Table 12.1, but quoting the interest rate at 12% flat, will give rise to the costs shown in Table 12.2.

Although interest is stated at the same 12% per year as in Table 12.1, the total interest paid using a flat rate of interest is considerably higher than for simple interest. This is because flat rate interest is charged on the original amount of the loan and is not reduced as the loan is repaid. This means that the effective rate of interest is higher than the quoted rate. For example, the effective rate of interest for the last quarter is 12% per quarter (360/3,000) or 48% per year.

Table 12.2 Flat rate interest

Quarter	Principal outstanding (P)	Quarterly interest cost (I)	Total quarterly debt-servicing cost (I&P)
1	12,000	360	3,360
2	9,000	360	3,360
3	6,000	360	3,360
4	3,000	360	3,360
Total		**1,440**	**13,440**

The effective rate of simple interest equivalent to a flat interest rate can be calculated using the following formula:

$$i = \frac{2ft}{(t+1)}$$

Where i is the effective rate of interest, f is the flat interest rate and t is the number of equal instalments of principal to be made during the term of the loan. The simple interest rate equivalent for the example shown in Table 12.2 is calculated below.

$$i = \frac{2 \times 12 \times 4}{4+1}$$

$$i = 19.2\%$$

Discount interest

With discount interest the total interest cost is deducted before the loan funds are received. This is common with commercial bills. For example, if a loan of $10,000 is borrowed for one year at a discount rate of 9%, the amount actually received will be $9,100 (10,000 – (10,000 × 9%)). To determine the effective rate of interest for loans that have discount interest, it is first necessary to determine the flat rate of interest and then convert this to an effective simple rate.

$$\text{Flat rate} = \frac{\text{Interest cost}}{\text{Sum received}}$$

$$\text{Flat rate} = \frac{900}{9{,}100}$$

$$\text{Flat rate} = 9.9\%$$

The effective simple interest rate can then be calculated using the formula discussed previously, provided the number of equal repayments is known. In this example the effective simple interest rate will be as follows for a loan that is repaid monthly.

$$i = \frac{2 \times 9.9 \times 12}{12+1}$$

$$i = 18.27\%$$

Types of loan

Terminology used to describe loans can vary from one lender to another, but as a general rule loans are described according to the method of principal repayment. Three types of loans are generally used: interest only loans, term loans and amortised loans.

Interest only loans

Interest only loans do not require repayment of the principal borrowed during the duration of the loan. For these loans principal is generally repaid in a lump sum at the end of the loan period, and interest is paid periodically during the loan.

This type of loan is often provided by solicitors over a three or five-year term. At the end of this period it may be possible to negotiate a new loan or obtain an extension for repayment, therefore enabling these loans to be longer-term in nature. Vendor finance

Table 12.3 Term loan debt-servicing costs

Year	Average principal repayment	Average principal outstanding during the year	Interest cost at 10%	Total annual payment (I&P)
1	1,000	10,000	1,000	2,000
2	1,000	9,000	900	1,900
3	1,000	8,000	800	1,800
4	1,000	7,000	700	1,700
5	1,000	6,000	600	1,600
6	1,000	5,000	500	1,500
7	1,000	4,000	400	1,400
8	1,000	3,000	300	1,300
9	1,000	2,000	200	1,200
10	1,000	1,000	100	1,100
Total			**$5,500**	**$15,500**

(finance made available by the vendor of a property to the purchaser) may also be provided on an interest only basis.

Calculation of the cost of borrowing under these terms is quite straightforward as only interest is paid during the loan period. Any stated interest charge is therefore a simple interest rate, but there may well be additional charges such as legal costs, stamp duty and other establishment costs. These costs must be added to the total interest to determine the effective interest rate as previously described in this chapter.

Commercial bank bills are another example of interest only loans. A commercial bill facility is arranged by a bank between a lender and a borrower for a set period of time, usually ranging from 30 to 180 days. At the end of the period the bill is paid out or 'rolled over' for a further period. In some cases where longer terms are required, 'a line of bills' can be negotiated for up to five years at a fixed interest rate. Discount interest is usually applied to commercial bills.

Term loans

Term loans normally require principal to be repaid in equal periodic instalments (for example, yearly, half-yearly or quarterly), and interest is calculated on a simple interest basis. This type of loan is usually provided by trading banks on a medium-term basis (three to eight years), and is made available for property improvement purposes and the purchase of capital equipment. Table 12.3 sets out the principal and interest repayment schedule for a term loan of $10,000 repaid annually over 10 years at an interest rate of 10%.

A graphical representation of this term loan is shown in Figure 12.1. This shows that payments of principal are constant and the interest declines as the debt is paid off. Consequently, the total debt-servicing cost (interest plus principal) will decline over the life of the loan.

Amortised loans

Amortised loans require payments of equal instalments of principal plus interest. That is, a constant sum, representing different proportions of interest plus capital, is paid in

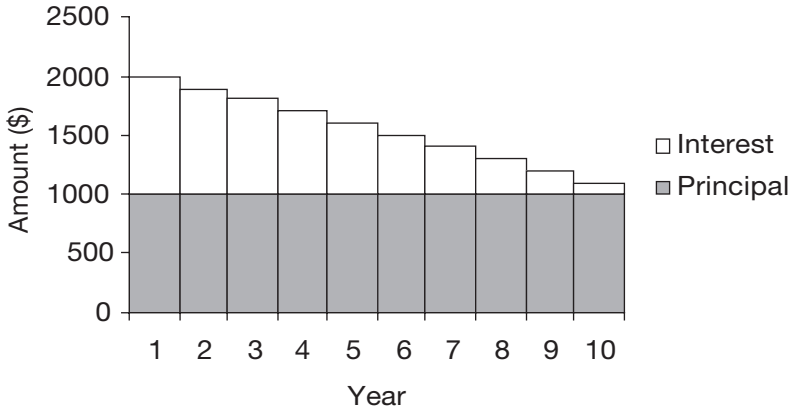


Figure 12.1 Term loan servicing costs

each repayment period. Amortised loans are the most common form of lending by the traditional lending institutions. This form of loan is often used for the provision of finance for major capital improvements and property purchase.

The periodic payment of interest plus principal can be calculated using Table 12.4. For example, a loan of $1 borrowed over a 10-year period at an interest rate of 10% per year would require an annual payment of $0.16. Similarly, an amortised loan of $10,000 for 10 years at 10% per year would have an annual payment (interest and principal) of $1,627 ($10,000 × 0.1627) which is calculated by multiplying the amount borrowed by the factor obtained from Table 12.4. In this case the factor for 10% and 10 years is 0.1627.

For an amortised loan, debt-servicing commitments remain at a constant level for the duration of the loan. However, the proportions of interest and principal that make up each instalment gradually change over the period of the loan (see Table 12.5). In the early stages, principal repayments are only a small proportion of each instalment, but as

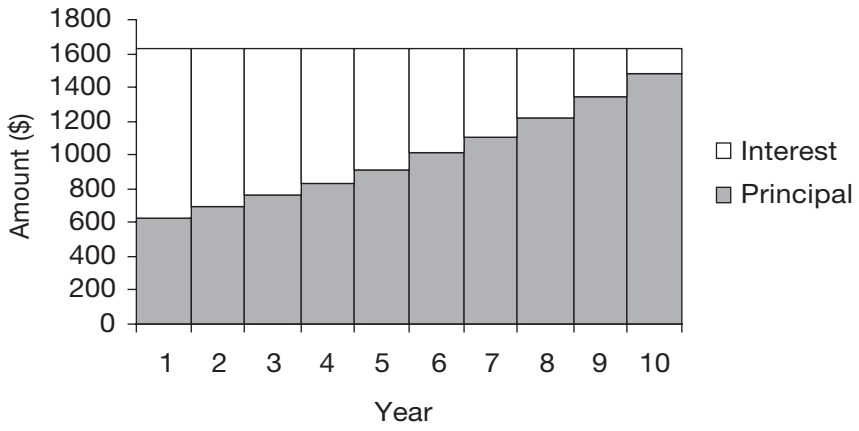


Figure 12.2 The relationship between interest and principal payments for the loan in Table 12.5 is shown in graphical form

Table 12.4 Amortisation table

	Interest rate per period										
Period	**5.0%**	**6.0%**	**7.0%**	**8.0%**	**9.0%**	**10.0%**	**11.0%**	**12.0%**	**13.0%**	**14.0%**	**15.0%**
1	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1100	1.1200	1.1300	1.1400	1.1500
2	0.5378	0.5454	0.5531	0.5608	0.5685	0.5762	0.5839	0.5917	0.5995	0.6073	0.6151
3	0.3672	0.3741	0.3811	0.3880	0.3951	0.4021	0.4092	0.4163	0.4235	0.4307	0.4380
4	0.2820	0.2886	0.2952	0.3019	0.3087	0.3155	0.3223	0.3292	0.3362	0.3432	0.3503
5	0.2310	0.2374	0.2439	0.2505	0.2571	0.2638	0.2706	0.2774	0.2843	0.2913	0.2983
6	0.1970	0.2034	0.2098	0.2163	0.2229	0.2296	0.2364	0.2432	0.2502	0.2572	0.2642
7	0.1728	0.1791	0.1856	0.1921	0.1987	0.2054	0.2122	0.2191	0.2261	0.2332	0.2404
8	0.1547	0.1610	0.1675	0.1740	0.1807	0.1874	0.1943	0.2013	0.2084	0.2156	0.2229
9	0.1407	0.1470	0.1535	0.1601	0.1668	0.1736	0.1806	0.1877	0.1949	0.2022	0.2096
10	0.1295	0.1359	0.1424	0.1490	0.1558	0.1627	0.1698	0.1770	0.1843	0.1917	0.1993
11	0.1204	0.1268	0.1334	0.1401	0.1469	0.1540	0.1611	0.1684	0.1758	0.1834	0.1911
12	0.1128	0.1193	0.1259	0.1327	0.1397	0.1468	0.1540	0.1614	0.1690	0.1767	0.1845
13	0.1065	0.1130	0.1197	0.1265	0.1336	0.1408	0.1482	0.1557	0.1634	0.1712	0.1791
14	0.1010	0.1076	0.1143	0.1213	0.1284	0.1357	0.1432	0.1509	0.1587	0.1666	0.1747
15	0.0963	0.1030	0.1098	0.1168	0.1241	0.1315	0.1391	0.1468	0.1547	0.1628	0.1710
16	0.0923	0.0990	0.1059	0.1130	0.1203	0.1278	0.1355	0.1434	0.1514	0.1596	0.1679
17	0.0887	0.0954	0.1024	0.1096	0.1170	0.1247	0.1325	0.1405	0.1486	0.1569	0.1654
18	0.0855	0.0924	0.0994	0.1067	0.1142	0.1219	0.1298	0.1379	0.1462	0.1546	0.1632
19	0.0827	0.0896	0.0968	0.1041	0.1117	0.1195	0.1276	0.1358	0.1441	0.1527	0.1613
20	0.0802	0.0872	0.0944	0.1019	0.1095	0.1175	0.1256	0.1339	0.1424	0.1510	0.1598

Table 12.5 Debt-servicing costs of a $10,000 amortised loan over 10 years at an interest rate of 10% per year

Year	Annual debt-servicing (P+I)	Average principal outstanding	Interest cost at 10%	Principal repayment
1	1,627	10,000	1,000	627
2	1,627	9,373	937	690
3	1,627	8,683	868	759
4	1,627	7,924	792	835
5	1,627	7,089	708	919
6	1,627	6,170	617	1,010
7	1,627	5,160	516	1,111
8	1,627	4,049	404	1,223
9	1,627	2,826	282	1,345
10	1,627	1,481	148	1,479
Total	**$16,270**		**$6,270**	

the term of the loan proceeds the amount of principal repaid becomes progressively greater and the interest component declines.

Methods of repayment

Loans other than interest only loans require agreement as to the timing and frequency of the repayment of principal. Agreement on how the principal is to be repaid is important because it will influence the total cost of the loan and also needs to suit the cash flow requirements of the borrower.

Frequency of principal payment

Total costs of interest will be influenced by the frequency of principal payments, because the more frequent the repayments, the lower the average debt outstanding during the loan period. For example, if the loan shown in Table 12.3 was repaid monthly, total interest would be $5,041 compared to $5,500 with annual repayment. The lower total interest results because the loan is paid off more quickly with more frequent payments of principal. However, more frequent payments require a more even cash flow and means that fewer funds are available to the business.

Principal deferment

Matching the repayments of a loan to the cash flow of the business is a very important part of selecting the most appropriate loan. For example, where cash flow is low in the early years of the loan it may be necessary to defer principal repayments and pay interest only. The effect of a principal deferment is to reduce significantly the initial debt-servicing commitment. However, there is an increase in the overall cost of the loan.

The schedule of annual debt-servicing commitments for the loan used in Table 12.3, with a two-year principal deferment, is shown in Table 12.6 and in Figure 12.3.

Table 12.6 The debt-servicing costs of a $10,000 term loan over 10 years at an interest rate of 10% per year with a principal deferment of two years

Year	Average principal repayment	Average principal outstanding during the year	Interest cost at 10%	Total annual payment (I&P)
1	0	10,000	1,000	1,000
2	0	10,000	1,000	1,000
3	1,250	8,750	1,000	2,250
4	1,250	7,500	875	2,125
5	1,250	6,250	750	2,000
6	1,250	5,000	625	1,875
7	1,250	3,750	500	1,750
8	1,250	2,500	375	1,625
9	1,250	1,250	250	1,500
10	1,250	1,000	125	1,375
Total			**$6,500**	**$16,500**

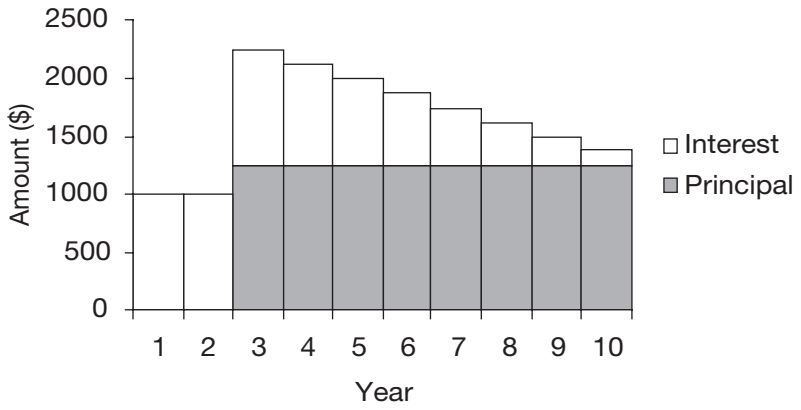


Figure 12.3 The effect of a principle deferment on the annual debt-servicing costs of a $10,000 loan over 10 years at an interest rate of 10% per year

The structure of this loan is identical to that of a two-year interest only loan followed by an eight-year term loan. The total interest cost has increased from $5,500 to $6,500 (see Table 12.6), which means that the two-year repayment holiday increased costs by $1,000.

Amortised loans can also be arranged with principal deferment, which would also mean that the loan is structured in parts: the first being an interest only loan and the second, a normal amortised loan. For example, the cost of the amortised loan in Table 12.5 with the two-year principal deferment will be equivalent to a two-year interest only loan, followed by an eight-year amortised loan. That is, $1,000 per year for the first two years and $1,874 (from Table 12.4, 0.1874 × 10,000) per year for the remaining eight years. Total debt-servicing commitments are first, two years interest only of $2,000 ($10,000 × 10% × 2 years) and second, for the remaining eight years a total principal and interest payment of $14,992 ((0.1874 × 10,000) × 8 years). The total interest cost of this loan is therefore $6,992 ($2,000 + $4,992), making it $722 more expensive than the loan shown in Table 12.5, which does not have any principal deferment.

Borrowing decisions

The selection of appropriate forms of finance is an important business decision. If inappropriate forms of finance are used, it may lead to cash flow difficulties, an inability to service debt, and in the worst case, bankruptcy.

Most significant borrowing decisions relate to business development, and in these cases managers are confronted with the problem of deciding which source of funds best meets the requirements of the project. This decision-making process is discussed below in relation to the acquisition of finance for land purchase and development.

The capital barrier

One of the chief barriers associated with the acquisition of land is the high proportion of debt that is required. For example, a prospective dairy farmer interested in acquiring an average-sized property may be faced with the following capital requirements.

Land and improvements 100 ha at $4,500 per ha	$950,000
Plant and equipment	100,000
Livestock	157,500
Fodder and supplies	25,000
Working capital for the first season	30,000
TOTAL	**$1,262,500**

Initially, a request may be made to a financial institution to help finance the purchase of land and improvements. Financial institutions will not usually lend more than 60% of their valuation of the property on first mortgage. On this basis it would only be expected that the financial institution would advance $570,000 ($950,000 × 60%) on the security of a first mortgage.

Generally, financial institutions are conservative and make every attempt to safeguard their investments. If the loan application arises during a period of prolonged rural crisis, then land values could be seriously depressed, which may make it difficult for the financial institution to recover the debt if the borrower defaults.

As well as the funds provided for the purchase of the land, the financial institution may be prepared to contribute towards the cost of livestock by providing an overdraft facility. If not, it may be necessary for the owner to take out a personal loan for this purpose. In either case, a second mortgage security would probably be required by the lender and the additional debt would further increase the debt-servicing costs.

If the financial institution agrees to provide the suggested finance, then the statement of assets and liabilities for the first production season would be as shown in Table 12.7.

In order to go ahead with this proposition, the borrower will need to make the following cash contribution:

Deposit on land and improvements	$380,000
Plant and equipment	100,000
Livestock	157,500
Fodder and supplies	25,000
Working capital for the first season	30,000
TOTAL	**$692,500**

Minimum equity ratios of 60%–70% are sometimes quoted as a guide to the level of debt that a business could carry. Even though this rule may give an indication of the ability to service a given debt level, it is more important to consider the cash flow generated by the investment and whether it is sufficient to cover the debt and provide a reasonable standard of living for the owners. In this example, the owner would have to service a debt of $570,000 which would cost in the vicinity of $54,150 per year (calculated at an interest only rate of 9.5% over 20 years). This proposition would only be feasible if

Table 12.7 Statement of assets and liabilities

Assets	$	Liabilities	$
Land and improvements	950,000	First mortgage loan	570,000
Plant and equipment	100,000	Overdraft	
Livestock	157,500	Owner's equity	
Fodder and supplies	25,000	EQUITY	692,500
Bank	30,000		
TOTALS	1,262,500		1,262,500

Percentage equity equals 55% (692,500/1,262,500 × 100/1)

$692,500 can be provided by the owner, and the cash flow from the business, and other sources, can meet a debt-servicing cost of about $54,150 per year.

This capital barrier to new entrants partially explains why change of land ownership in Australian agriculture is often through inheritance. It also helps to explain why the average age of owners is steadily increasing. This is not to say that it is impossible for new entrants to purchase an agribusiness, but it will only be possible if sufficient funds are available to maintain an equity level acceptable to the financial institutions, and cash flow is sufficient to service any debt required.

Solicitor trust funds are sometimes prepared to lend up to 50%–60% of the current market value of the land. The main advantage of a solicitor trust loan is that principal need not be repaid during the loan period, which is normally three to five years. This advantage is offset by the relatively high interest rates that are charged, and the short-term nature of the loan. Additional establishment costs will also be incurred if the loan is renewed every three years. There is also the risk that full repayment will be necessary when the loan has completed its term, which will necessitate the re-financing of the debt with another lender.

It may also be possible to acquire a business with only a small deposit by accepting vendor finance. This type of finance is often attractive to the purchaser because, by leaving the property registered in the vendor's name until the loan has been fully repaid, the purchaser can delay the payment of stamp duty on the transfer of title. This is of considerable benefit to the purchaser's cash flow because stamp duty costs can be significant. The purchaser is fully protected provided a caveat is registered against the title, as this will safeguard against the property being sold to any other person.

Vendor finance may be available with a deposit as low as 20% and interest only for periods up to 10 years. However, it is worth noting that very attractive vendor terms are often capitalised into the purchase price of the property. It is also likely that debt-servicing and repayment problems would arise if the borrower's equity falls below 60%. Nevertheless, vendor finance is still quite popular as it reduces debt-servicing costs in the early years, enabling these funds to be more usefully employed in development of the business. The success of using vendor finance will depend on the following two factors.

- Sufficient additional cash income being generated to meet the high debt-servicing costs.

- Land values increasing to such an extent that it will be possible to transfer the loan to a traditional lender when repayment falls due.

Vendor finance involves higher levels of risk and should only be taken after seeking professional advice as the losses can be considerable.

Financing business purchase and development

The following example illustrates the decision-making process that is used to select the most appropriate source and type of borrowed funds for business purchase and development. While the example chosen relates specifically to a purchase and development proposition, the principles still apply whatever the intended use of the borrowed funds may be. The example concerns a business which has $280,000 available from the sale of another property, and is interested in purchasing a run-down property on a walk-in-walk-out basis. Capital requirements are as follows:

Land and improvements	400,000
Livestock	80,000
Development	75,000
TOTAL	**$555,000**

The budget for the first year (see Table 12.8) indicates that expenses are expected to amount to $30,000 and personal costs will be approximately $15,000. Income will only be $60,000 but it is believed that the property shows considerable developmental potential. The development program involves capital expenditure on land development and pasture improvement, upgrading water supply and storage, and the purchase of additional stock. The anticipated cost is $75,000, spread over the first three years.

To assess the profitability of the total project it is necessary to consider the total return to capital at year four, after allowing for a labour and management input of $30,000. For a detailed discussion on the evaluation of property acquisition and enterprise development refer to Chapter 11.

Table 12.8 Budgeted costs and income for a land purchase and development proposition

Year	1	2	3	4	5	6
Income	60,000	90,000	120,000	150,000	150,000	150,000
Cash expenses:						
Land & improvements	400,000					
Livestock	80,000					
Development	30,000	30,000	15,000			
Operating expenses	30,000	45,000	50,000	60,000	60,000	60,000
Personal costs	15,000	15,000	15,000	15,000	15,000	15,000
Total cash expenses	555,000	90,000	80,000	75,000	75,000	75,000
Non-cash expenses:						
Depreciation	4,000	10,000	14,000	14,000	14,000	

Table 12.9 Purchase and development partial budget

	Loss	Gain
Added costs		
Cash expenses	60,000	
Depreciation	14,000	
Labour and management	30,000	
Income lost	0	
Added income		150,000
Costs saved		0
TOTAL	**$104,000**	**$150,000**
Less LOSS		104,000
NET GAIN		**$46,000**

Percentage return to additional capital (land, livestock and development costs) is 8.3% ((46,000/555,000) × (100/1)). This return appears quite reasonable by average beef/sheep property standards, but other factors need to be taken into account before a final decision can be reached. For example, finance on suitable terms and conditions may not be available, causing cash flow difficulties during the first three to four years.

To consider the feasibility of this proposal, the owner indicates that a deposit of $280,000 can be contributed, and the following sources of finance are available:

- a property purchase loan of $200,000 over 15 years at an interest rate of 11% per year available from lender A,
- lender B offers a loan of $75,000 over 10 years at 12% to cover the cost of the development project.

The annual debt-servicing commitment associated with the property purchase loan is $27,820 per year (from Table 12.4), and the development loan from lender B will be arranged as three separate loans which are detailed below.

Year	Amount $	Term (years)	P and I $	Total costs $
1	30,000	10	5,164	5,164
2	30,000	9	5,467	10,631
3	15,000	8	5,851	16,482

After debt-servicing costs are taken into account, the resulting cash flow budget for this project (Table 12.10) indicates that there will be cash flow problems in years one and two. As a result this project is not feasible under the proposed financing arrangements.

A number of options may be considered to overcome the cash flow problems encountered in the early years. These include:

- modifying the development program. Consider removing some items of expenditure or carry out the program over a longer period.
- approaching lender A for an extension of the repayment period to 20 years.

Table 12.10 Cash flow budget for the land purchase and development proposition

Year	1	2	3	4	5
Cash inflow					
Initial cash on hand	280,000				
Loans	230,000	30,000	15,000		
Income	60,000	90,000	120,000	150,000	150,000
Total cash inflow	570,000	120,000	135,000	150,000	150,000
Cash outflow					
Land and improvements	400,000				
Livestock	80,000				
Development	30,000	30,000	15,000		
Operating expenses	30,000	45,000	50,000	60,000	60,000
Personal costs	15,000	15,000	15,000	15,000	15,000
Debt-servicing	32,984	38,451	44,302	44,302	44,302
Total cash outflow	587,984	128,451	124,302	119,302	119,302
Net cash flow	(17,984)	(8,451)	10,698	30,698	30,698
Accumulated cash flow	(17,984)	(26,435)	(15,737)	14,961	45,659

- considering an initial principal deferment of two years so the deficit can remain within overdraft limitations during the first two years.

From the above cash flow analysis it would appear that the feasibility of this proposal is conditional upon lender A agreeing to a loan with an initial two-year principal deferment. Less favourable terms and conditions would mean that debt-servicing prospects would be poor, which may lead to lender B rejecting the second mortgage development loan.

The provision of this finance would not necessarily mean that the project will be feasible. At this stage, the monthly cash flow should also be prepared to show the peak debt within the year. The cash surpluses referred to in Table 12.10 relate solely to the difference between annual cash inflows and cash outflows. It is possible that the two cash streams will be out of phase because the cash expenses may be incurred before any cash inflow is received, therefore causing a cash deficit during the year. This possibility can be investigated through the preparation of a monthly cash flow budget for each year. With this final step it is possible to examine whether the project is feasible or whether alternative financing arrangements must be made.

Having completed all the budgetary analysis and shown that the project is both profitable and feasible, it cannot be assumed that the funds sought will be available, even if the project meets the terms and conditions of the lending institutions. The volume of funds available to lending institutions tends to fluctuate, so a loan request may be refused solely because of the lack of funds at that time.

If the proposed funds are not available an alternative could be to seek an interest only solicitor trust fund loan over three or five years. This avenue of finance will only be

an advantage if the difference in interest rates between lender A and the solicitor is small. A relatively small difference may put the solicitor's loan ahead in debt-serving costs but it would then be hoped that at the end of the three-year period, the value of the property would have increased sufficiently to re-finance the loan through another lender.

Once the most suitable source of finance has been determined, the owner must approach the lending institution to lodge the formal loan application. This is a very important step as many loan requests fail at this stage because the requirements of the lender are not understood by the applicant. The information that should be placed before a lender was described in Chapter 4 and this can be presented in the form of a full business plan as shown in Chapters 10 and 11. Satisfactory finance will only be approved when the lender fully understands the physical and financial details of the project to be financed.

Financing machinery acquisition and requirements

Discount cash flow techniques (see Chapter 11) are valuable tools when comparing alternative methods of financing the high cost machinery and equipment requirements of the business. For example, cropping enterprises depend heavily on investment in machinery, and the management of this investment can have considerable impact on the profitability of the business. If the machinery investment is too large for the enterprise, then profit levels will be reduced through high finance and depreciation costs. On the other hand, under-capitalisation may lead to reduced profits because of an inability to perform operations on a timely basis, leading to lower yields.

The following discussion outlines techniques that can be used to compare alternative finance methods for funding the acquisition of machinery. Several alternatives are compared in this illustration and these techniques can be used to compare any method of finance. The major forms of funding plant purchases are described briefly below.

Cash purchase: Where sufficient funds are available, cash surpluses from the business can be used to fund the acquisition. In this case the major managerial decision is whether there are better alternative uses for the funds in the business. The cost of this alternative is therefore the lost opportunity to invest these funds in an alternative investment.

Borrowed funds: Borrowing the funds will normally require the provision of a deposit and security for the debt. The cost of borrowing is reflected by the interest and other costs of the loan.

Hire purchase: A deposit may be required of about 25% of the purchase price, and security is provided by the finance company, which remains the legal owner of the machine until all instalments have been paid. The repayment period is generally short (three to five years), and consequently repayments may be high. As a general rule interest rates are higher than bank rates. Even though equipment acquired under hire purchase remains the property of the finance company, the purchaser is still permitted to claim depreciation for tax purposes.

Leasing (finance lease): A finance lease provides a means of obtaining the permanent use of plant and equipment without the cost of purchasing it. The lease charge is effectively a combination of interest and depreciation, but because it is formally a lease and not an agreement to purchase, the lease payment is not capital and is fully deductible

for tax purposes. A lease agreement must not include any right of the lessee to purchase the item during or after the lease, or the agreement would no longer be a lease agreement. At the end of the lease period the lessee may choose to renegotiate the lease for a further period, return the item to the lessor and negotiate a new lease on a new item, or purchase the item from the lessor at or about its residual value. The residual value of the lease is normally negotiated at the commencement of the lease and can range from about 5%–30% of the initial cost of the leased item. If, at the end of the lease period the item is returned to the lessor and is sold for less than the residual value, then the lessee will have to make up the difference.

Hire (operation lease): Short-term hire of equipment may be more cost effective than ownership where the need for the equipment is infrequent and/or irregular. Hire charges are normally based on a daily rate, but longer hire periods may be negotiated.

Contract services: Contract services may be used for specialised jobs that require high capital investment and skilled operators, such as grape harvesting or earthmoving. Under a contract agreement payment is for the completion of a specified job, and needs to be negotiated bearing in mind the quality and timing of the task required.

Syndication: Syndication of plant and equipment involves the joint ownership by two or more separate agribusinesses, so that the syndicated item is available to all members of the syndicate. Syndication may be a viable option for high capital cost items such as specialist harvesting equipment that is only used for short periods of the year. All members contribute capital to the syndicate for the purchase of the jointly owned item, and the rights and conditions of usage are set out in a written agreement.

Alternative machinery financing methods can be compared using discounted cash flow techniques. However, the comparison cannot always be made on this basis alone as other considerations may also be important. For example, comparison of joint ownership through a syndicate is not directly comparable to sole ownership via a lease or borrowed finance, as the syndicate option will include issues related to the timeliness of critical operations such as harvesting. Despite these limitations, the discounted cash flow analysis can provide a valuable comparison of the NPV of the various finance options under consideration. This NPV comparison can then be combined with other considerations to make the final decision.

A discounted cash flow analysis requires the preparation of an annual cash flow for each alternative taking into account the tax effect of each option. To do this it is necessary to understand which expenses affect taxation (see Chapter 7), and the likely final effect on the income tax payable estimated by applying a marginal tax rate on taxable income.

To illustrate the use of NPV techniques for comparing alternative finance options, Tables 12.11 and 12.12 compare the NPV of purchasing or leasing a major item of equipment. Both alternatives are compared over a four-year period and relate to the following item of plant:

- Purchase price $80,000
- Depreciation rate (diminishing value method) 20%
- Deposit on purchase $10,000

Table 12.11 Purchase option discounted cash flow

Tax deductions	Yr	0	1	2	3	4
Depreciation		0	16,000	12,800	10,240	8,192
Interest		0	7,000	5,250	3,500	1,750
Bank fees		200	75	75	75	75
Total deductions		200	23,075	18,125	13,815	10,017
Tax effect*	**25%**	**50**	**5,769**	**4,531**	**3,454**	**2,504**
Cash flow budget						
Deposit		(10,000)				
Bank fees		(200)	(75)	(75)	(75)	(75)
Interest			(7,000)	(5,250)	(3,500)	(1,750)
Loan repayments			(17,500)	(17,500)	(17,500)	(17,500)
Tax saving		50	5,769	4,531	3,454	2,504
Net cash flow		**(10,150)**	**(18,806)**	**(18,294)**	**(17,621)**	**(16,821)**
Discount rate	8%	1.0000	0.9259	0.8573	0.7938	0.7350
Present value		**(10,150)**	**(17,413)**	**(15,684)**	**(13,988)**	**(12,364)**
Net present value		(69,599)				

* Tax savings occur as a result of increasing the business tax deductions which will reduce the overall level of taxable income and therefore tax paid. In this example, for every dollar of additional tax deduction there will be a saving of 25c/$ in tax.

- Borrowing over four years at 10% interest $70,000
- Lease charge $20,000 per yr
- Lease residual value $19,000
- Discount rate 8%
- Marginal tax rate 25%
- Opportunity cost of capital 8%

To make a valid comparison of the purchase option with leasing the same item, it is necessary to retain the same assumptions as to the opportunity cost of capital, marginal tax rate and the length of the project. To make the two alternatives comparable at the end of the budget period, it is assumed that the residual value of the lease is paid out to acquire the leased plant. In this way the plant is fully owned at the end of the comparison under each alternative. All other costs such as stamp duty are included in the capital cost and added to the annual lease charge.

Comparison of the NPV of each alternative shows that the purchase option has a lower NPV and therefore is the better finance option in this case. However, a budget is only as reliable as the assumptions that it is based on, and in this example both the opportunity cost of capital and the marginal tax rate are critical to the final result. An understanding of the effect of changing the opportunity cost of capital and the marginal tax rate could be obtained by varying these factors. In this example, increasing the marginal tax rate favours the lease option because higher deductions are available under leasing, and the reverse applies.

Table 12.12 Lease option discounted cash flow

Tax deductions	**Yr**	**0**	**1**	**2**	**3**	**4**
Lease charge		21,000	21,000	21,000	21,000	
Total deductions			21,000	21,000	21,000	21,000
Marginal tax rate	25%	0	5,250	5,250	5,250	5,250
Cash flow budget						
Lease charge		(21,000)	(21,000)	(21,000)	(21,000)	
Residual payout						(19,000)
Tax saving		0	5,250	5,250	5,250	5,250
Net cash flow		(21,000)	(15,750)	(15,750)	(15,750)	(13,750)
Discount rate	8%	1.0000	0.9259	0.8573	0.7938	0.7350
Present value		(21,000)	(14,583)	(13,503)	(12,503)	(10,107)
Net present value		(71,696)				

This example is not intended to imply that either borrowed finance or leasing is the better option as this decision will depend on the financial circumstances of the business concerned. In all cases, it is necessary to take into account which of the financing options are a viable alternative. For example, bank finance will not be available if insufficient security can be provided, contracting may not be possible if no reliable contractor can be found, and syndication may not be feasible for plant that is required at critical times in the production cycle.

Using discounted cash flow analysis as a technique for the comparison of finance options is a valuable tool that enables options with different cash flow characteristics to be compared.

Debt reconstruction

The need for debt reconstruction usually arises where excess use is made of short-term debt, therefore leading to a situation where a large proportion of the outstanding principal must be repaid each year. In many cases the resulting cash flow crisis may mean that other expenditure must be deferred, or cuts in personal expenditure may be required. When product prices are buoyant the problem may go unnoticed, but during periods of depressed prices this type of financial crisis may jeopardise the survival of the business.

Debt reconstruction generally refers to a situation where short-term debts are replaced by loans that extend over a longer repayment period, so that constant pressures to meet debt repayment can be eased. The way in which this may be accomplished is demonstrated through the use of two examples. Example 1 illustrates how debt reconstruction can be accomplished by re-financing short-term debt with longer-term loans. Example 2 shows that the cheapest source of finance is not necessarily the most suitable. In certain situations, low cost loans may tie up the prime security and actually aggravate debt-servicing problems.

Example 1

A beef producer has in recent years rapidly developed into an intensive irrigation-based enterprise. In a technical sense the property was in an extremely sound position; land development, pasture improvement and fertiliser programs had been efficiently managed, and as a result the business appeared to have sound prospects. However, the financial management of this property had not kept pace with the physical development.

The development program had proceeded too quickly and the finance used to fund the project was not suited to the cash flow requirements. As a result, the debt structure was poor and the considerable potential of the property was not being realised. The owner was even considering selling some of the land in order to keep the creditors from proceeding with legal action. The statement of assets and liabilities as at 30 June is shown in Table 12.13.

In the most pessimistic circumstances, this business could be required to meet the following debt-servicing commitments over the next 12 months.

Solicitor trust	Principal	$80,000
	Interest	7,200
Bank	Interest and principal	18,927
Overdraft	Repayment	11,960
	Interest	758
Stock firm	Repayment	50,000
	Interest	3,309
Trade creditors	Repayment	10,000
TOTAL		**$182,154**

Table 12.13 Statement of assets and liabilities (30 June)

Assets	$	Liabilities	$
Land and improvements	500,000	First mortgage loan	80,000
Plant and equipment	30,000	Bank loan	130,000
Livestock	120,000	Trade creditors	10,000
Fodder and supplies	7,000	Overdraft (11.5%)	11,960
		Stock agent (12%)	50,000
		EQUITY	375,040
TOTALS	**657,000**		**657,000**

Percentage equity equals 57% ((375,040/657,000) × (100/1))

At the very best, the owner could hope that:

- the solicitors would renew the three-year loan
- the debts to the stock firm and the financial institution could be maintained at their present level
- trade creditors would not sue immediately.

In the most optimistic circumstances, debt-servicing commitments over the next 12 months would be as follows.

Solicitor trust	Interest	$7,200
Bank	Interest and principal	18,927
Overdraft	Interest	758
Stock firm	Interest	3,309
Trade creditors	Repayment	10,000
TOTAL		**$40,194**

Debt-servicing costs during the following year will therefore be somewhere between $40,194 and $182,154 depending on the negotiating skills of the owner.

Quite clearly, the problem is that a large proportion of debts are short-term in nature. The bank loan is the only long-term loan and represents only 26% of the land market value and only 46% of total liabilities. It appears that the best remedy would be to find a lending institution that would provide additional longer term finance on first mortgage. Approval could then be sought from the bank to allow an increase in the funds secured on first mortgage. The latter step would be necessary because the bank, by holding second mortgage security, may be reluctant to follow an increased first mortgage, unless it considered that the provision of the additional finance would improve the overall debt-servicing capacity of the business.

A proposal to provide $150,000 over 10 years at an interest rate of 9.5% would enable the short-term creditors to be paid out and it would also stabilise the annual debt-serving costs of the business. This finance would be used for the following purposes:

Repay solicitor's loan	80,000
Reduce overdraft	10,000
Repay stock firm	50,000
Repay trade creditors	10,000
TOTAL	**$150,000**

The reconstructed statement of assets and liabilities is shown in Table 12.14.

Longer term loans now represent 56% of land value and 99% of all liabilities, with the maximum annual debt-servicing commitment being as follows:

Table 12.14 Statement of assets and liabilities for Example 1 after debt reconstruction

Assets	$	Liabilities	$
Land and improvements	500,000	First mortgage loan (new)	150,000
Plant and equipment	30,000	Bank loan	130,000
Livestock	120,000		
Fodder and supplies	7,000	Overdraft (11.5%)	1,960
		EQUITY	375,040
TOTALS	**657,000**		**657,000**

Percentage equity equals 57% ((375,040/657,000) × (100/1))

New loan	Interest and principal	23,292
Bank	Interest and principal	18,927
Overdraft		1,913
TOTAL		**$44,132**

Clearly, this is a much more satisfactory situation. To complete the process, a cash budget for the coming season would need to be prepared to show that this debt-servicing could be met by the business, and to demonstrate to the creditors that their debts would be paid. With this debt-reconstruction the threat of legal action should be removed and the business may well be placed in a position where the full future value of the development may be realised. Another alternative for the owner in this instance may have been to re-finance the existing bank loan. This alternative would involve further analysis of the interest costs and any associated penalty charges that may have been included in the original loan.

Example 2

A dairy farmer originally started a business on a block allocated under the *Land Settlement Act* (loan A). Under the original agreement a purchase lease was provided for the home and farm at a concessional interest rate. The statement of assets and liabilities appeared as shown in Table 12.15.

The owner wishes to purchase a neighbouring property for $150,000, on a walk-in-walk-out basis to improve the chances of long-term viability. It was hoped to retain the *Land Settlement Act* purchase lease (loan A) because of its attractive terms, but this restricts the amount of security that can be offered to attract finance for the new property. It was decided to retain the purchase lease by using non-institutional finance to obtain the funds for the purchase.

The next step was to approach a solicitor trust fund manager who agreed to lend $80,000 for the purchase of the new property, the security being first mortgage over the new property. The remaining $50,000 was raised privately by offering second mortgage

Table 12.15 Statement of assets and liabilities (30 June)

Assets	$	Liabilities	$
Land and improvements	350,000	Loan A	90,000
Plant and equipment	40,000		
Livestock	100,000	Factory	8,000
Fodder and supplies	8,000	Overdraft (11.5%)	10,000
		EQUITY	390,000
TOTALS	**498,000**		**498,000**

security over both the home property and the new title. The resulting debt structure would be as shown in Table 12.16.

If this plan proceeds, the purchase of additional property will considerably increase the proportion of short-term and medium-term debt. This has been caused by the decision to keep interest costs as low as possible by maintaining the relatively attractive terms associated with the purchase lease; this may have been a false economy.

The debt-servicing commitment associated with this debt structure is as shown below.

Purchase lease	Interest and principal	9,500
Solicitor's loan	Interest only	6,800
Private loan	Interest only	4,250
Factory	Principal	8,000
	Interest	520
Overdraft	Principal	10,000
	Interest	634
TOTAL		**$39,704**

A better course of action might be to approach the lender of the purchase lease (loan A) for debt reconstruction. Arrangements may also need to be made with a trading bank for continued provision of working capital through overdraft accommodation.

Table 12.16 Statement of assets and liabilities (30 June) after proposed property purchase

Assets	$	Liabilities	$
Land and improvements	500,000	Loan A	90,000
Plant and equipment	40,000	Solicitor	80,000
Livestock	100,000	Factory	8,000
Fodder and supplies	8,000	Overdraft (11.5%)	10,000
		Private	50,000
		EQUITY	410,000
TOTALS	**648,000**		**648,000**

Table 12.17 Statement of assets and liabilities for Example 2 for the alternative debt structure

Assets	$	Liabilities	$
Land and improvements	500,000	Loan A	220,000
Plant and equipment	40,000		
Livestock	100,000	Factory	8,000
Fodder and supplies	8,000	Overdraft (11.5%)	10,000
		EQUITY	410,000
TOTALS	**648,000**		**648,000**

Under these circumstances the statement of assets and liabilities would be as shown in Table 12.17. Annual debt-servicing costs in this case would be $28,173.

If such an arrangement can be organised, the business would have a much more satisfactory debt structure even though the difference in annual debt-servicing costs is not large in the longer term. This revised debt-structure also removes the problem of the large amount of short-term debt falling due for repayment over the next 10 years.

The important point made by this example is that the cheapest finance is not necessarily the most suitable. The borrower should ensure that the loan will complement existing liabilities in order to create an efficient, workable and low-cost debt structure.

Conclusion

Selection of the most appropriate finance for the circumstances is a very important decision as it will affect the viability of the business. This decision should take into account the cost of the debt and its suitability for the cash flow of the business.

The cost of debt is affected by the type of interest, additional charges and the method of repayment of principal. For example, a term loan has a lower average amount of principal outstanding during the term of the loan, consequently this type of loan is less costly in terms of interest. On the other hand, a term loan has a higher peak repayment, which means a greater strain on the cash resources of the business during the early years of the loan.

Principal deferments will reduce debt-servicing costs in the early years but will increase the total cost of the loan. Annual debt-servicing costs can also be reduced by increasing the length of the loan, but this has little effect once the loan exceeds 20 years. As a general rule it is probably better to approach lending institutions that are prepared to allow a longer term even if the interest rates are slightly higher, as this represents the best possible precaution against debt-servicing problems during the loan period. This principle should not be taken to extremes as increasing the length of a loan will increase the total cost of interest. Loan repayment periods should be scheduled to suit the cash flow of the business with a reasonable margin for risk.

Buying into an agribusiness requires a large capital commitment and this can limit the opportunities available to those wishing to enter the industry. Where a high proportion of debt is needed, it is vital that the debt is suited to the cash flow of the

business, and structured in such a way as to not restrict the operation and development of the business.

Major development plans may also require increased debt. Under these circumstances it is just as important to consider the suitability of the loans sought, as poorly structured finance could limit the rate of development and restrict the achievement of maximum production.

Two crucial factors must be investigated with any proposal that requires borrowing. First, examine the profitability of the project, and second, determine whether the cash flow of the business is adequate to service the debt.

If this approach is not used it could put the business in a vulnerable financial position leading to difficulties in serving debt commitments. Debt-reconstruction may then be essential to save the business from dispersal, but it is important to realise that this may not be possible in every case. The general approach to debt-reconstruction is to re-finance short-term debt with longer term loans, thereby removing the pressure caused by high capital repayments and stabilising the annual debt-servicing costs.

Regardless of the source of the funds, the essential principle of matching the debt-servicing costs to the cash flow of the business must be the major consideration. Appendix 1 lists some useful Internet resources related to rural finance.

Appendix 1 Internet resources

http://www.anz.com/edna/dictionary.asp
http://www.bankers.asn.au
http://www.ruralfinance.com.au/
http://www.ruralfinanceonline.com/
http://moneymanager.com.au
http://www.mycreditfile.com.au/
http://www.cannex.com.au/
http://www.infochoice.com.au
http://www.worldlyinvestor.com/

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Completing the business plan

The process of developing a business plan was presented in Chapter 10. This process involved the development of a marketing plan, a financial plan and in turn a production plan. This chapter provides some guidance with the writing, implementation and monitoring of the business plan. There are many reasons why even sound business plans fail. For example, sometimes it is difficult to distinguish the business's vision from its strategies. In other cases, those involved in the development of the plan fail to develop sufficient insight into the business and its markets and are unable to create the innovative ideas needed to improve the business's performance. Other reasons for failure include:

- poor documentation or circulation of the plan
- lack of staff or family member commitment as a result of limited input opportunities
- lengthy or complex terminology that few understand or have the time to read
- out-of-date plans
- poor initial research
- staff not given, or not prepared to take, responsibility to ensure actions are carried out
- lack of, or poorly considered, time lines for completing tasks
- no formal system of monitoring the plan's progress put into place.

Writing the plan

Although it is essential the business plan be documented, it need not be a lengthy document. There is a strong case for the plan to be concise, with goals and strategies clearly spelt out at the beginning of the plan. Research, complex calculations and lengthy statements of financial performance should be added as an appendix rather than being incorporated into the plan itself. The use of point form, graphs and tables should be encouraged so that readers can see key points at a glance, and those requiring greater

insight can read the relevant details at their own leisure. Some accounting firms and financial consultants offer specialist business planning services that claim to take some of the work out of planning, but these services come at a cost and may isolate the people in the business from the planning process itself. Other dangers of placing the development of the plan into external agencies are:

- staff having less commitment to the decisions taken because they were not directly involved in the plan's development
- specialists not always understanding the unique nature of the business and the environment in which it operates.

The following points should be considered when writing the business plan.

- Consider the audience: do they have the technical expertise to understand the terminology and language used?
- The plan must be concise but comprehensive. Lack of detail may reduce the credibility of the plan, making it difficult to achieve the goals set.
- The plan – in particular the yearly strategies – must be linked with the budgets. Where employees are required to play an integral role in achieving the set strategies, the plan may also be linked to the employees reward system.
- The plan needs to be timely; it must be developed and documented well before the start of the planning period.
- A monitoring and review system must be included to provide clear time lines, responsibilities and processes.

Suggested headings for the business plan are as follows:

Business description: This should cover the starting date or years of operation, past performance, business resources, the vision or mission statement, business structure, location, etc.

Product or service sold: This section should be detailed and include issues such as customer benefits and an industry analysis: local, national and international.

Market analysis: This should outline competitors, customer profile, market size and location, etc.

Business's capabilities: This analyses the key strengths, weaknesses, opportunities and threats facing the business.

Strategy and implementation: Clearly presents the vision, goals and the strategies of the business; this needs to include roles and responsibilities, time lines and individual budgets where relevant.

The management team: This is an outline of their background, skills and details.

Financial plan: This summarises profitability, equity and debt, break-even analysis, assumptions made, reference to calculations and key business performance ratios.

Monitoring: An outline of the process with reference to dates.

Executive summary: This outlines the key points. It should be written last after all the issues have been addressed.

Appendix: This will include all the supporting documents and may include résumés of owners, legal documents, statistical information, surveys, paper clippings, plans or product specifications, past business reports and full budget details, list of inventories and assets, etc.

Once completed the business plan should be checked for accuracy. It may be useful to get an independent expert who can offer constructive comments to examine it. The plan's quality should then be evaluated against the following criteria.

- Information – relevant, accurate and current.
- Presentation – understandable, structured and consistent.
- Viability – goals are acceptable, improvement is expected.

Plan implementation

Implementation of the business plan involves managing the resources available according to the strategies selected. This process requires the listing of key resources and deadlines necessary for the implementation of the plan. Each action must be possible within the resources and operating capacity of the business and all actions must be consistent with the plan. The implementation of each strategy requires a detailed time line of the necessary tasks, and must be prepared with reference to the yearly work planner. Copies of the plan should be issued to all members of the business team so they are aware of their responsibilities and have a record of tasks and deadlines.

Natural resources

The natural resources that will be affected by the strategy need to be identified, changes noted, and some logical sequence of events arrived at. For example, the strategy to improve pasture utilisation by subdividing paddocks would involve decisions about:

- livestock feed requirements
- provision of water supply
- weather
- equipment availability
- labour availability and skills in pasture management
- time to complete.

People resources

The availability of labour and the effective use of people resources must be planned for. Consideration needs to be given to the following:

- priority of the task
- current labour supplies
- timing of busy periods
- skills of current labour
- availability and source of additional labour
- who should be given responsibility.

Finance
Most strategies involve finance considerations and it is important that cash resources are carefully considered. Projected cash flow budgets will provide the necessary information on when cash is available and when cash is needed. The implementation plan needs to address the financial constraints on the business as this will influence the timing of natural and human resource plans.

Monitor progress

The business plan is a dynamic document that must adapt to changes in the external and internal environments. It is therefore necessary to undertake a monthly progress review and an annual evaluation. The review and evaluation process can provide the additional benefit of promoting open lines of communication within the organisation. To further enhance this it is suggested that meetings should be scheduled at regular intervals; all relevant information should be provided to participants and the emphasis or direction of the meeting should be one of positive problem solving.

Monthly review

Delegated responsibilities should be reviewed to ensure strategies are being implemented according to the plan. In Chapter 10, Appendix 3, there is provision for a progress review to be noted. Follow-up action or a strategy review may result from this progress review.

Besides reviewing the implementation schedule, it is necessary to monitor monthly cash flows as discussed in Chapter 4. It may be necessary to re-schedule some planned actions due to cash shortages that were not initially planned for. During the year other unplanned events may occur, if so the implementation plan may need to be completely reviewed with a view to adapting to the changed circumstances.

Yearly evaluation

A planning meeting should be conducted at the end of the planning year. It should initially focus on the success or otherwise of implementing the planned strategies. Those responsible for implementation may be called to comment on their performance. Yearly meetings of this nature can promote a management style that encourages staff input, commitment to the organisation and responsibility of the individual. This can improve the level of commitment and motivation for those involved in the organisation. Having discussed the year's progress the planning cycle begins again. The current position is analysed, goals are reviewed, and strategies are evaluated and selected for the coming year as presented in Figure 13.1.

The life of a business plan

The rural business environment is changing constantly as a result of changes in seasonal conditions, government policies, market forces and international marketing arrangements. This means that generally a business plan has a life of about three to five years before it needs a complete review.

Some aspects of the plan such as livestock breeding strategies may remain relatively unchanged because of the relatively slow nature of genetic progress, and trying to 'pick

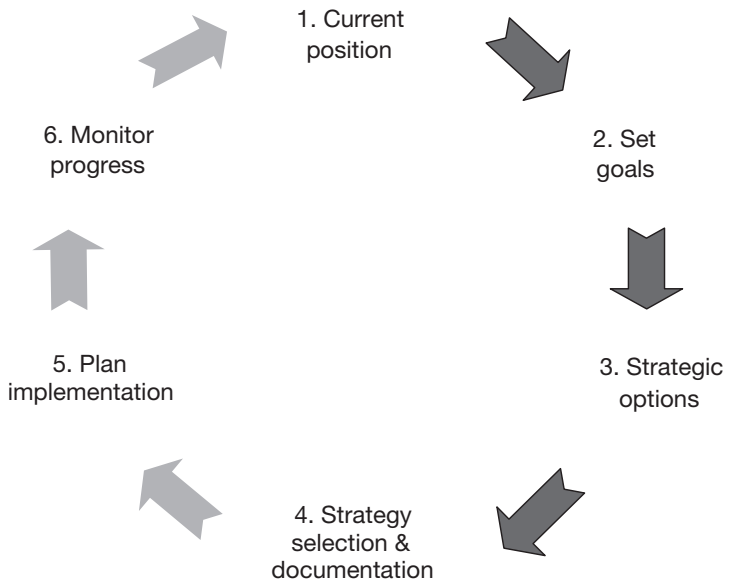

Figure 13.1 Business planning cycle

winners' through constant change may be detrimental to the business overall. The difficult aspect of developing a market-oriented livestock business and maintaining a genetic improvement program is achieving the balance between the competing components of the enterprise, that is, market focus versus genetic improvement. An example would be when a sheep producer develops long-term genetic plans to improve wool production when the market for sheep meats has improved to the point where it is as important as wool as an income stream. Does the sheep farmer shift emphasis to meat characteristics in selecting replacement stock or maintain the original plans?

Keep in mind that sheep production is a strategy to achieving overall business goals. Achieving targets with an enterprise should not be seen as the goal, but merely that the strategy has worked.

Summary

Chapters 10 and 11 emphasised that nothing will happen until a clear vision is developed. In this chapter the final stages of the business plan and implementation have been discussed to assist the business to put into operation any new strategies, and communicate the business plan to all those involved. This will have a positive effect on motivation and morale and will help ensure everyone associated with the business is working together towards the same goals. The need for careful monitoring during the year cannot be overemphasised. It is important to be adaptable as unforeseen events, such as unpredictable weather or changing international circumstances may require previous plans to be adapted to cope with the changed circumstances.

Glossary

Accounting	A process of collecting, collating and formatting financial information for business decision making.
Accumulated depreciation	The total amount of depreciation charged against an asset during its life with the business.
Assets	Items of value owned by the business.
Asset structure	The proportion of each type of asset held by the business.
Bad debt	A debt owed to the business that cannot be collected and must be written off.
Balance sheet	A report showing the financial structure of the business, which includes assets held, liabilities to external entities and the investment the owners have made in the business. Also referred to as a statement of assets and liabilities.
Bank overdraft	A short-term source of finance allowing the business to overdraw its cheques to a negotiated limit.
Benchmarks	Performance indicators calculated using industry averages. Individual firms can compare and assess their performance against these benchmarks.
Break-even point	The level of sales or services revenue at which a business's operating expenses is covered, resulting in neither a profit nor a loss.
Budgeting	The plans and goals of the business expressed in financial terms, enabling the performance of the business to be monitored so that its goals are achieved.
Capital	The monies invested in the business by its owners, sometimes referred to as owner's equity.
Capital expenditure	Expenditure that is expected to produce benefits for the business over the longer term (more than one financial year).
Cash flow budget	A report showing cash inflows and outflows for a future period, normally for a one-year period broken down to show expected cash flow on a monthly basis.

Cash flow statement	A report showing actual cash inflows and outflows. This report is normally used as the basis for developing the cash flow budget.
Collateral	Something of value pledged as security for a loan.
Comparative analysis	A process of comparing business performance indicators with past results and industry benchmarks.
Contribution margin	The difference between the business's sales revenue and its variable costs. Sometimes referred to as gross margin.
Creditors	External parties to whom a business owes money for goods or services bought on credit.
Current assets	Assets that are likely to be used up or converted into cash in the short term, normally within 12 months.
Current liabilities	Obligations that will fall due within the short term, normally within 12 months.
Debtors	Those who owe the business money for goods or services bought on credit.
Depreciation	An allowance for the wear, tear and obsolescence to an asset used by the business to earn income.
Development budget	A report showing cash inflows and outflows for a business proposal that may take a number of years to reach full productivity.
Discounted cash flows	A report showing cash inflows and outflows over a number of years, taking into account changes in the value of money over time.
Drawings	Money or goods withdrawn from the business by its owners.
Enterprise	A separate product or business function that contributes to the whole business; for instance, a separate department will have its own unique revenues and costs.
Expenses	Costs incurred in earning revenue for a particular financial period.
Financial ratios	Calculations that allow the comparison of key figures in a business's accounting reports to identify financial relationships and trends.
Financial statements	Reports that show a business's financial position and performance for a specific period.
Fixed assets	Assets that are unlikely, or not intended, to be converted into cash in the short term.
Fixed costs	Costs that remain constant.
Goals	Medium- to long-term plans directing where the business is heading.
Goodwill	The excess of price paid for a business for its established clientele, reputation, etc.

Gross margin	The difference between the revenues and variable expenses of a business enterprise. These are often expressed as a percentage of one of the enterprise's limiting factors, such as ha, megalitre of water or livestock.
Liabilities	Obligations to external parties.
Liquid assets	Assets that can be readily converted into cash.
Net present value	The current value of future cash flows that accounts for the changes to the value of money over time.
Net realisable value	The estimated selling or market price of an asset less costs associated with selling the item.
Obsolescence	A condition of a business asset no longer economical to use as a result of technological advances.
Operating profit	The surplus of revenues over expenditure which is available to meet loan commitments, replace assets, cover tax obligations and provide a return to the business owners.
Overdraft limit	A negotiated limit the bank will allow a business to overdraw on its cheque account.
Overheads	Costs not directly related to the business's level of production.
Owner's equity	Monies invested into the business by the owner. Sometimes referred to as proprietorship.
Partial budgets	A simple budget that enables proposed changes (including capital) to be compared against existing or alternative strategies.
Percentage return to equity	The owner's return to monies invested in the business expressed as a percentage. This can be compared against goals and other investment opportunities.
Performance indicators	Ratios calculated using the financial reports of a business to reveal financial relationships and performance trends.
Ratio analysis	The use of ratios calculated from the financial reports to reveal financial relationships and trends.
Return to equity	The operating profit after interest and an allowance for the owner/operator.
Risk	The uncertainty of future events, in particular seasons, international markets and other events, which the business has limited or no control over.
Sales revenues	Income earned for a financial period through the provision of goods and services.

Sensitivity analysis	A process used to assess the effect of key financial variables on the gross margin (see 'what-if analysis').
Solvency	The ability of the business to meet its obligations.
Statement of assets and liabilities	A report showing the asset and liability structure of the business at a point in time.
Statement of income and expenditure	A report that matches income earned and expenses incurred for a period of time (normally one financial year).
Strategy	A course of action aimed at achieving or moving closer to achieving a business goal.
SWOT	A communicative process used to identify key business strengths, weaknesses, opportunities and threats.
Trading income	Income earned from sales, less purchases of trading stock, plus or minus changes to stock levels from the start to the end of the year.
Trend analysis	The comparison of a business's financial ratios with past results.
Variable costs	Those costs which change directly according to the level of sales or level of production.
What-if analysis	A useful budgeting tool where a particular price, yield or cost is difficult to predict with any accuracy. An electronic spreadsheet allows the price, yield or cost to be changed to show the potential effect under worst, best or average circumstances.

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