Farming the Business

Sowing for your future

GRDC
GRAINS RESEARCH & DEVELOPMENT CORPORATION

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Mike Krause

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Sowing for your future

A GRDC initiative

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GRAINS RESEARCH & DEVELOPMENT CORPORATION

P2P Agri

Author
Manual & eBook

Mike Krause,
CEO, Plan2Profit Agri P/L
Plant2Profit Agri Pty Ltd

Editing & Photography

Lucy Krause,
Media & Communication

P2P Agri
www.p2pagri.com.au
Phone: 08 8396 7122
Mobile: 0408 967 122
Email: mike@P2PAgri.com.au

winter wonderland productions

Publishing & Multimedia Components

Mark-John Winter,
Director, Winter Wonderland

Winter Wonderland
www.winterwonderland.com.au

SIMONE BERRY DESIGN

Design
Manual & eBook

Simone Berry,
Senior Graphic Designer

Simone Berry Design
www.simoneberry.com

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Caption: Barley sown in early May at Cunderdin, WA and about 3 weeks prior to harvest. **Photo:** Evan Collis Photography

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Or

Ms Maureen Cribb
Manager, Visual Communication and Publications
Grains Research and Development Corporation
PO Box 5367
KINGSTON ACT 2604
Phone: 02 6166 4500 | **Email:** Maureen.Cribb@grdc.com.au

GRDC

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FOREWORD

It is my pleasure to welcome you to the GRDC's 'Farming the Business'. A new and exciting GRDC resource providing you with farmer case studies demonstrating techniques used to improve your farm businesses, the impact it is having and interviews with experts on various farm business topics. A good example of your levy at work!

In the past, the GRDC has placed a lot of attention on agronomic factors and plant breeding with a concentration on varieties, rates, seeding dates and row spacing type work. While all of this has a place, growers are now seeking greater advice on how they fit the various technologies together to best effect. That "best effect" no longer just means production as it often did in the past – **growers see profitability, better targeted inputs and management of risk as the major drivers.**

With the establishment of the Regional Grower Services business group within GRDC to actively listen, service and deliver results to growers we heard this loud and clear. Our Regional Cropping Solutions networks and Grower Solutions Groups have told us that growers now need more specific information, tailored to their environment and in a format they can access when they need it most. Having this all in one location so they don't have to go trawling through the internet is another critical feature.

Management of farming enterprises in Australia has never been more important and requires quality information, a high level of knowledge and timely decision making in order to achieve improved efficiencies and profitability. Significant improvements in production and profit can be realised if this information is packaged in easy-to-use products and services that are tailored to growers in local regions.

So what's special about 'Farming the Business'? It really comes down to the intense collaboration between our Regional Grower Services group, our project partner capably led by Mike Krause, and actively listening to growers and their advisers. All feedback that we receive from growers about our publications and products will ensure that we continue to improve and extend our products and services to meet their needs. 'Farming the Business' was tested with growers and advisers and this manual and ebook is the result of that valuable feedback.

I encourage you to provide any comments or feedback you have so we can continue to improve and extend our products and services to meet your needs. I want to thank all of those who have already provided input and feedback on the various beta versions. They've given us a lot of feedback that has allowed us to develop our new product range including "GrowNotes", "eXtension AUS" and "On Farm Trials" that I think takes things to a whole new level.

I hope you find the GRDC's 'Farming the Business' useful.

Yours sincerely

Stuart Kearns

Executive Manager, Regional Grower Services
Grains Research & Development Corporation

INTRODUCTION

Farming is a unique business, offering opportunity to work with nature, technology, the markets and people. Done well, it offers a fulfilling life and business career. However, the business of farming is becoming more challenging with greater variations in commodity prices, continual uncertainty with weather patterns and the challenges of declining terms of trade. At the same time, the demand for agricultural produce is significant and provides great opportunity to Australian agriculture. The need for improved farm business management skills has been identified as a crucial element for Australian farmers to maintain business sustainability, while taking up the opportunity currently occurring in Australian agriculture.

This farm business management manual is a significant investment by the Grains Research and Development Corporation (GRDC) to assist farmers with their business skills. This is an exciting project as there is both a traditional manual and an eBook version of the manual. You have the traditional book in your hand which covers both the thinking behind farm business management and the 'how to' for putting the various budgeting tools together. The technology of the eBook has the same text but includes short videos of six experts and ten leading case study farmers from across Australia to share their experiences in farm business. You can read or watch this information on farm business management, and use the templates provided to apply these principles to your own farm business. The eBook version of this manual can be found by going to the book section of Apple iTunes store and searching for 'Farming the Business'. This means the eBook can be accessed on iPads and Mac computers.

As farmers are at different stages of their business career, this manual has been broken down into three modules to cater for a wide variety of need. The aims of the modules are:

MODULE 1

WHAT DO I NEED TO KNOW ABOUT BUSINESS TO MANAGE MY FARM BUSINESS SUCCESSFULLY?

The first module provides an overview of the business of farming, covering the economic environment, people management and the basics of sound farm business management. The aim of this section is to provide an overview to highlight areas to improve your farm business management skills.

MODULE 2

WHERE IS MY FARM BUSINESS NOW AND WHERE DO I WANT IT TO BE?

This module covers the 'how to' of sound farm business management. It goes through how to develop a business vision, the essential farm business budgets and financial and performance ratios. It provides detail on what financial reports should be generated so that you can have greater control of your farm business management and improve business sustainability.

MODULE 3

HOW DO I TAKE MY BUSINESS TO THE NEXT LEVEL?

This module covers more advanced topics to extend and refine your farm business management. Some of the topics are risk management, succession planning and what analytical tools you should use to answer those important 'what-if' questions for scenario analysis.

We hope you enjoy using this manual and find the information provided to be a valuable support for your business.

AUTHOR

Project manager and major contributor to the ‘Farming the Business’ Manual and eBook is:

Mike Krause

CEO, Plan2Profit Agri P/L

Mike has been the project manager and major contributor to the ‘Farming the Business’ Manual and eBook.

Mike has worked for over 35 years’ in helping farm businesses improve their profitability. His farm business management experience has come from consulting to over 200 farm businesses and from training many farmers, bankers, accountants and agricultural advisers in farm business and risk management.

He has a passion to help farmers become better business people, more capable and independent farm business managers. He has developed a unique farm business management training and software program called P2PAgri. This measures farm business performance and, more importantly, scenario analysis - those ‘what-if’ business questions such as the effects of land purchase, machinery up-grade, changing farming systems and succession planning. ‘Mike’s P2PAgri program has pulled farm business management into the 21st Century’, says Assoc. Prof Bill Malcolm.

Mike has a B. Ag Eco (Hon.) from UNE and a Masters of Comm. (Hon) from Lincoln University (NZ). He has held roles as a rural economist in government, an economist in rural banking, agricultural insurance and running his own consulting business in applied economics and farm business management.

www.P2Pagri.com.au

EXPERT CONTRIBUTORS

Experts who have contributed to the 'Farming the Business' Manual and eBook are:

Tony Hudson

Director, Hudson Facilitation

Tony has had 18 years involvement in the rural sector, with roles in rural banking and as senior lecturer in farm business management at Marcus Oldham College, Victoria. He now runs his own farm business management consulting company.

Tony has contributed both video and written content to Modules 1, 2 and 3, in the sections on Production economics, Cost of production, Farm business costs, Financial ratios, Benchmarks, How banks lend to farmers, and Leasing and share farming land.

Assoc. Prof. Bill Malcolm

Farm Economist, Melbourne University

Bill has worked with farmers and the rural industry over his 30-year professional career and is one of Australia's leading farm business management experts. He is involved in both farm business management research and teaching in his role at Melbourne University.

Bill has contributed to section 3, Farm Business Management in Module 1 for both the written and ebook versions of this manual. He has also professionally reviewed all three modules.

www.findanexpert.unimelb.edu.au/display/person12734

Linda Eldredge

Director, Eldredge and Associates

Linda is a farmer and farm business management consultant based in the Clare Valley, SA. Her skills include farm business management training and consulting. She recently undertook a Nuffield Scholarship, travelling the world studying computer application decision making tools to help farmers survive and thrive into the future.

Linda has contributed to section 2, Leadership and People Management, Module 1 in the this written manual. She has contributed to videos on this topic in the eBook.

www.eldredgeandassociates.com.au

Bill Long

Managing Director, Ag Consulting Co.

Bill is a SA farmer and one of Australia's leading consulting agronomists. For the last 20 years, he has provided consulting services to farmers in the Yorke Peninsula and Mid-North regions of SA and has been involved in farming systems research. He is currently on the GRDC Southern Panel. Bill's video on Boards of Management can be found in Module 3.

Bill has contributed to videos on Advisory Boards, Module 3 in the ebook.

www.agconsulting.com.au

Scott Young

Senior Director, Hood Sweeney

Scott has had 25 years assisting farmers and the rural industry with professional tax and management accounting advice. His clients are generally SA–based and his company provides leading business advice to Australian farmers.

Scott has contributed to videos on Management Accounting, Module 2 in the ebook.

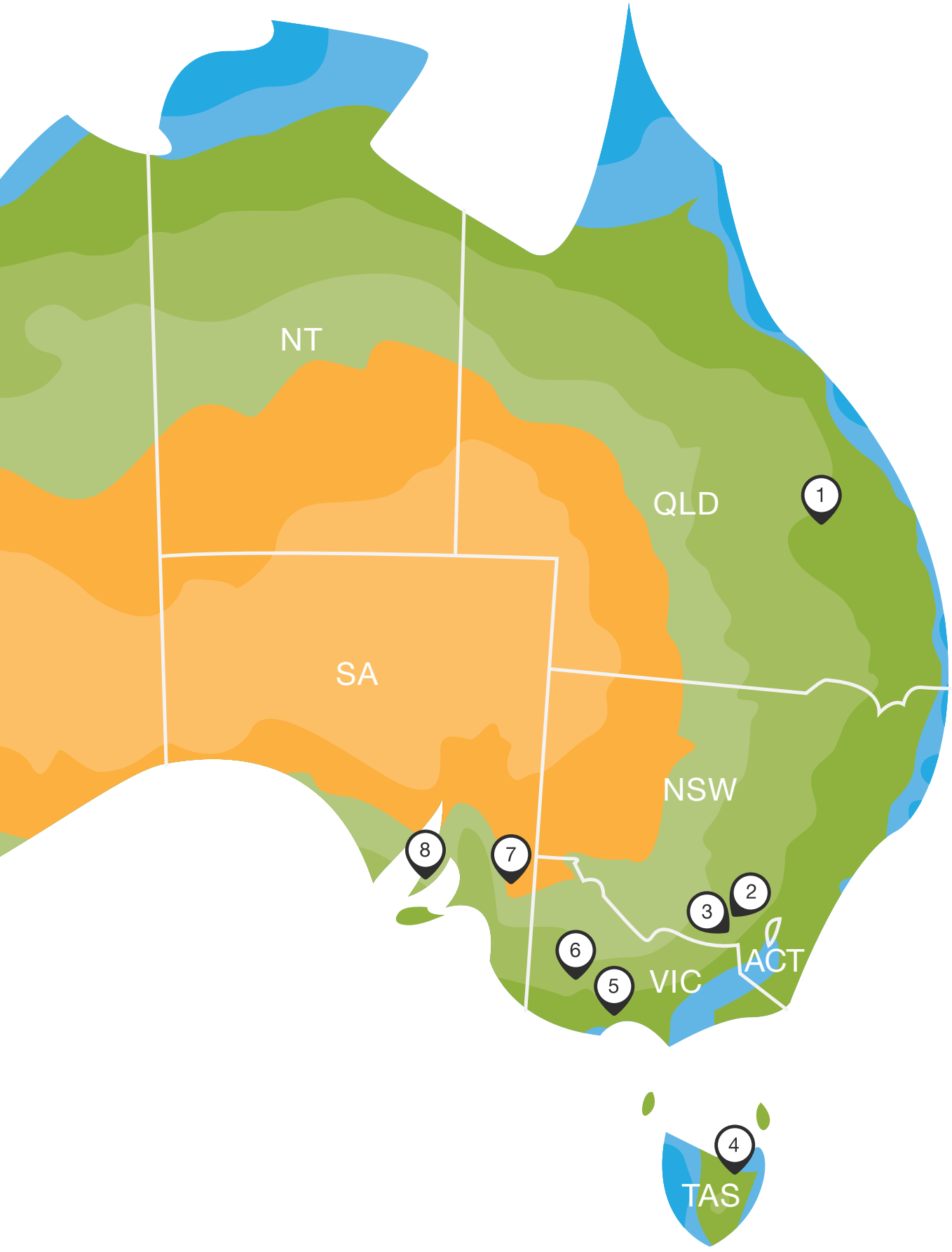
www.hoodsweeney.com.au

CASE STUDY FARM LOCATIONS AND RAINFALL ZONES

Case studies of farming businesses across a variety of rainfall zones around Australia:

1. ‘Kolora’, Dysart, QLD
2. ‘Berryjerry Station’, Wagga Wagga, NSW
3. ‘Yallock’, Holbrook, NSW
4. ‘Winburn’, Launceston, TAS
5. ‘Murdeduke’, Winchelsea, VIC
6. ‘Bretton Estate’, Campbell’s Bridge, VIC
7. ‘Bulla Burra’, Allawoona, SA
8. ‘Comfomabov’, Minlaton, SA
9. ‘Mourcourup’, Borden, WA
10. ‘Brookvale’, Kojunup, WA

- High rainfall zone
- Medium rainfall zone
- Low rainfall zone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FARM CASE STUDIES

Case studies of farming businesses across a variety of rainfall zones around Australia. You can also view their stories in the eBook version of 'Farming the Business'.

1 'Kolora', Dysart, QLD

Brian Gregg

Brian's farm 'Kolora' is approximately 130kms north of Emerald in central Queensland, which is about the most northern cropping land in Queensland. This is a high risk cropping area, with the country being either too dry or too wet. He loses more crops to inundation from flooding than lack of rain. His primary crops are sorghum and chickpeas, and he is able to crop across 9 months of the year.

Brian began his farming life as a share farmer many years ago and at the age of 40 bought some virgin property at about 30% equity. He said if you have debt, it helps sharpen your focus. He has significantly addressed the debt issue since then and has now begun the business succession process with his son.

2 'Berryjerry Station', Wagga Wagga, NSW

David & Nell Mott

David left Melbourne and the family business 39 years ago in search of a farm management career. After four years working as a jackeroo and overseer, he studied at Glenormiston College in Victoria and then went to work on a property near Holbrook. He eventually purchased 'Berryjerry Station' near Wagga Wagga. When he took over, it was predominantly beef and wool. His passion was wool, but the floor price collapse in wool prices didn't help his early career.

Since that time, he has followed a strategy of increased intensity rather than expansion. He has river flat country that suffers from floods, but brings great opportunity. He now has a mix of enterprises including beef, lambs (no wool), irrigation of crops and dryland cropping.

David, Genevieve and their daughter Nell are the business management team. Their involvement in Edge Management, a quarterly board structure, has brought them together more as a team.

3 'Yallock', Holbrook, NSW

Tony & Vicky Geddes

Tony is a farmer's son who came home 17 years ago after studying for an Agricultural Economics degree at UNE and spending 2 years in London. Vicky was a science graduate from University of Tasmania who had been working for the federal Department of Agriculture, Fishery and Forestry (DAFF) in Canberra, when they met. They both run the farm by dividing responsibilities: Tony manages the cropping and cattle trading, and Vicky manages the sheep enterprise and finances. Their farm is in a high rainfall area (700mm) and they are introducing cropping, where traditionally grazing has been the enterprise of choice. Tony has been through a successful succession planning process with his parents. He and Vicky are currently involved in Edge Management, a quarterly board structure.

4 'Winburn', Launceston, TAS

Michael & Fiona Chilvers

Michael & Fiona farm half an hour out of Launceston, trading livestock and growing a mix of dryland and irrigated crops. Michael comes from a farming background and Fiona, who grew up on a farm, also has extensive experience in education and leadership. They farmed as part of a broader family operation until they successfully separated the business in 2010. They now run their farm business independently, whilst still benefitting from the continued working relationship with the other family members, including sharing the synergies of some jointly-owned machinery, and marketing opportunities. They share strategic, business relationship and planning responsibilities, with Michael taking prime responsibility for the various enterprises and broader farm management, and Fiona managing the farm office and financial administration.

Michael is a 2012, GRDC-sponsored Nuffield Scholar, and completed his scholarship study on how systemising management of intensive mixed farms could assist with expansion, gaining insight into diverse expansion models for agricultural businesses and efficiencies of enterprise management.

5 'Murdeduke', Winchelsea, VIC

Bruce & Lachie Wilson

Bruce, Judy and Lachie run a mixed farm with a range of enterprises, one of which has been to successfully introduce cropping to a high rainfall environment by pioneering raised bed technology in the area. Bruce praises GRDC for their work with raised bed technology.

Bruce and Judy have successfully gone through succession planning with their son Lachie, who has been home from Marcus Oldham College for 8 years. Bruce was also a Marcus Oldham graduate and is currently the chairman of the Marcus Oldham Board. Bruce was also the initial chairman of the Southern Farming Systems.

6 'Bretton Estate', Campbell's Bridge, VIC

Robert & Scott Nicholson

Scott & Laura run a mixed farm near Campbell's Bridge, 20 km north of Stawell, VIC with the help of Scott's father Robert, who now lives in Stawell. Robert and Scott are an effective team, sharing both planning and workload. Robert does the accounts while Scott inputs the stock and crop data.

Succession planning started when Scott said he wanted to come back onto the farm. Robert and Lorraine saw education as essential to becoming better farmers and developing a sustainable business into the future, so the succession process began with Scott attending Marcus Oldham College. Their succession planning also identified the need for more land, which led to selling the home farm and buying a bigger property, as well as leasing extra land to improve capacity.

FARM CASE STUDIES

Case studies of farming businesses across a variety of rainfall zones around Australia. You can also view their stories in the eBook version of 'Farming the Business'.

7 'Bulla Burra', Allawoona, SA

John Gladigau & Robin Schaefer

John Gladigau took over the family farm at Alawoona in the Northern Mallee of SA in the mid-1990s. He is a 'big thinker' and knew his business needed to change to make the most of the opportunities provided by farming. As a Nuffield Scholar in 2007, he investigated collaborative farming worldwide which led him to develop a collaborative farm with a neighbour, Robin Schaefer. They created a farming business of 8,000ha by combining their land, machinery and financial resources.

'Bulla Burra, now in its 6th year of operation, has proven to be successful and has provided many personal and business benefits, including increased efficiency. John looks after the finances and strategic planning, while Robin manages the farm activities.

Robin was also a Nuffield Scholar in 2012. His study focus was on farm business management systems, medium to long-term weather forecasting, and decision making tools.

8 'Comfomabov', Minlaton, SA

Steve, Lhot & Jerome Martin

Steve and Lhot Martin farm about 6 km east of Minlaton, on Yorke Peninsula, South Australia. Steve took over the farm from his father, Peter, and further grew their farm business. When Lhot married Steve and joined the business over 20 years ago, she made a conscious decision to learn about the business of farming and improve her contribution through farm business management, rather than work off-farm. She has educated herself and now with their children, Jerome, Hannah and Rachelle, they run a very effective farming operation. They have clear delegated responsibilities and show the business benefits of good team work.

9 ‘Mourcourup’, Borden, WA

Tim & Rebecca O’Meehan

Tim and Rebecca run a mixed farm in a relatively reliable farming area of WA, the Albany zone. They are in a 350 – 400mm annual rainfall area, growing half of their cropping program to wheat, which has a ten year average of 2.7t/ha, with the other half equally sown to canola, barley and lupins. This rainfall reliability has enabled them to have had a fixed rotation plan for the last 20 years and has allowed them to focus instead on high risk issues such as weed resistance. To complement this rotation, they run 4500 merino sheep which include 2300 breeding ewes.

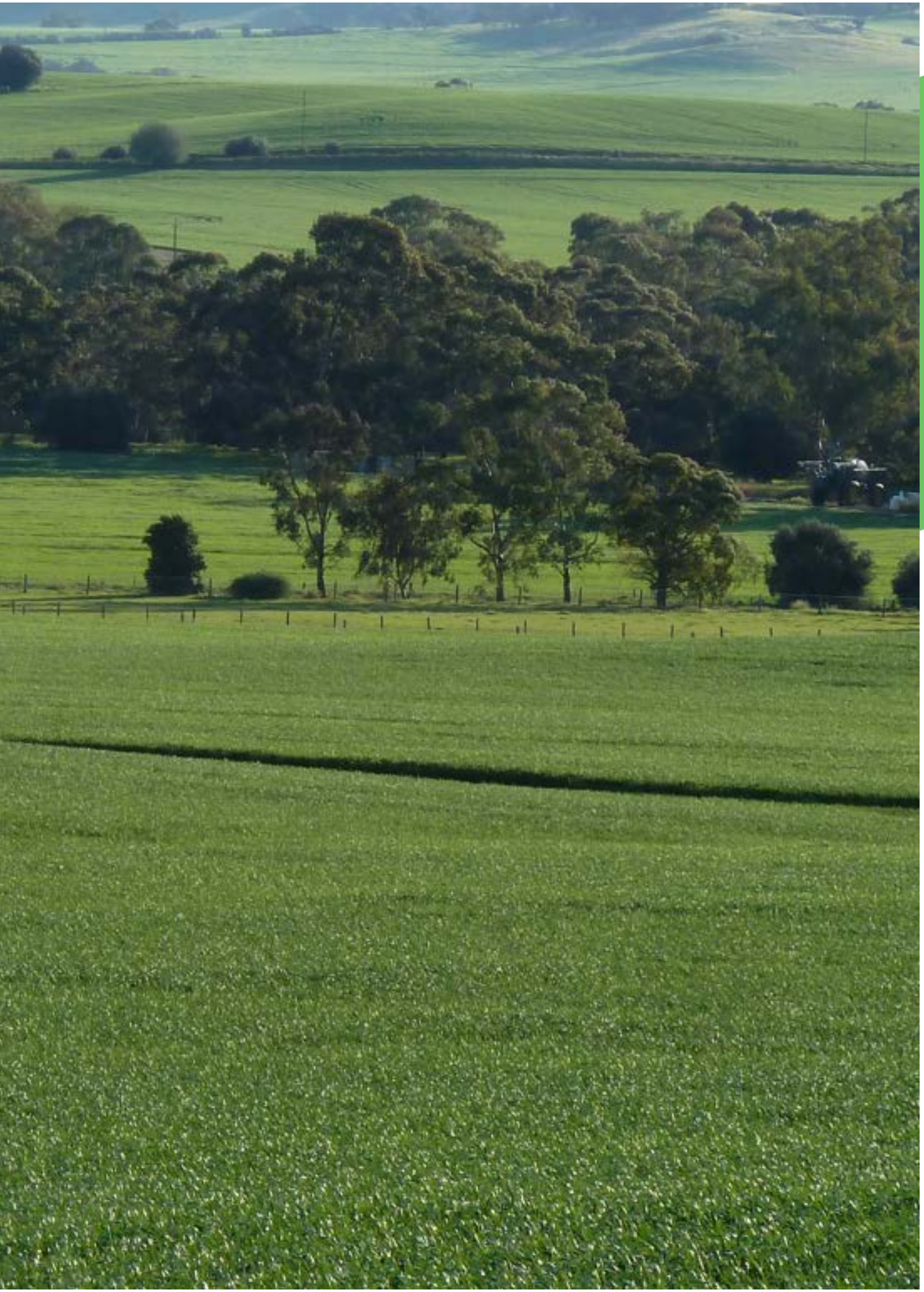
Rebecca does the financial recording of the business. Tim and Rebecca have successfully come through a succession planning process with Tim’s brother.

10 ‘Brookvale’, Kojunup, WA

Lynley Anderson

Lynley farms a mixed cropping, fine wool, prime lamb and stud ram business 20kms north-west of Kojonup in the Great Southern area of Western Australia. The business includes the original family farm her grandfather cleared in 1935, with added leased land for cropping. Lynley originally studied nursing and midwifery, and only came home ‘for a while’ to help her parents. That was 20 years ago, and 10 years ago, she took on management of the business. Attending a WA Dept of Ag ‘Plan, Prepare, Prosper’ workshop 4 years ago encouraged her to develop a strategic plan that is helping her business grow into the future.

MODULE 1
WHAT DO I NEED TO KNOW ABOUT BUSINESS TO MANAGE MY FARM BUSINESS SUCCESSFULLY?



MODULE 1

WHAT DO I NEED TO KNOW ABOUT BUSINESS TO MANAGE MY FARM BUSINESS SUCCESSFULLY?

The aim of Module 1 is to provide an overview of farm business management. Effective farm business management has elements of good judgement, which is subjective, and sound logical thinking with effective monitoring and planning processes in place. While you are encouraged to explore all the topics, some will be of more interest than others. Module 1 will identify areas on which to focus in Modules 2 and 3.

Module 1 covers sections 1 - 3 and provides an introduction to farm business management thinking:

1 THE WHOLE FARM BUSINESS SYSTEM

The future is shaped by forces both within and beyond the farm gate, most of which are beyond the farmer's control. The better we understand the forces that affect our business and how they work, the more effectively we are able to manage their impact:

- How well do I understand these forces and their effect on my farm business?
- What parts of the whole farm system are in my control?
- Which forces are likely to have the greatest impact on my business in the near future?

2 LEADERSHIP AND PEOPLE MANAGEMENT

This section of Module 1 deals with the 'soft' side of management: working with people and communicating effectively about the direction of the business. A large number of courses and books already address these topics. Rather than duplicate them, this section aims to provide a broad coverage of this issue to highlight areas for further investigation:

- Do I know where my business is going?
- How effective is my leadership?
- Is everyone in the farm business on the same team?
- Are we harnessing the power of synergy?

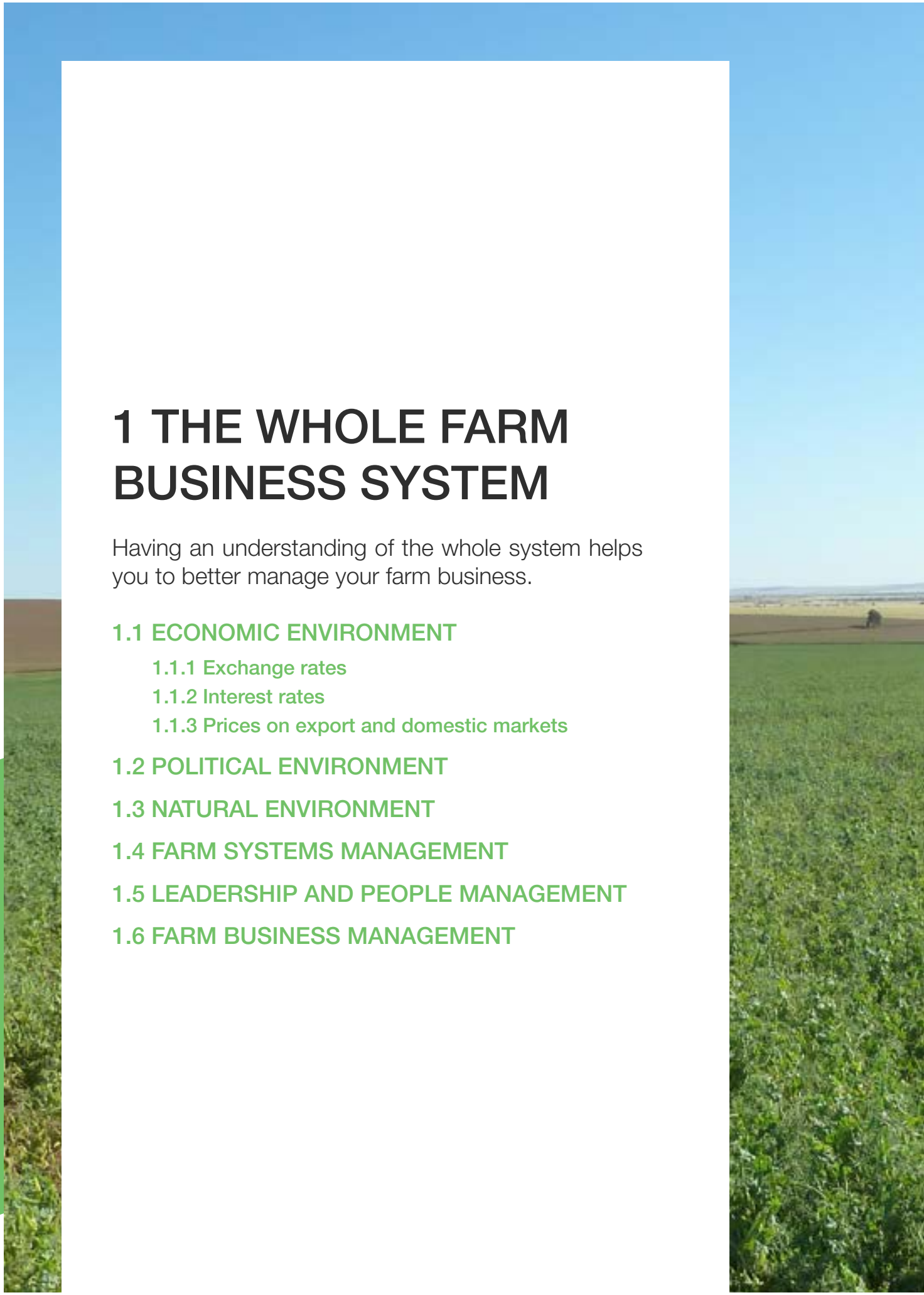
3 FARM BUSINESS MANAGEMENT

Historically, farm business management originated from a focus on farm budgeting. A great deal of this thinking was developed in the 1950s and 1960s, and is important for measuring and monitoring farm business financial performance. Farm business management is a broader and more important topic than farm accounting, which is mostly done for tax purposes. Farmers often focus on financial recording for tax, rather than for monitoring, controlling and improving business performance. Focusing on farm business management, measuring and monitoring farm performance is important as it helps answer essential business questions such as:

- Is my farm business viable now and will it be viable in five years' time?
- How can I improve the profitability and efficiency of my business?
- What is the risk profile of my business?
- How do I prepare my business for the next generation?
- Section 3 provides an introduction to and overview of essential farm business management thinking and budgets.

'I've always been a 'big picture' type of person. Looking to the future to see where agriculture was going, with neighbours taking over neighbours and people expanding, and knowing economies of scale was what it was all about, I guess it left me asking the question, 'Where are we going to be in ten years' time? Am I going to be owning my neighbour's farm, or is he going to be owning mine?' Strategic thinking is working out where you want to be, and how you're going to get there.'

John Gladigau
'Bulla Burra', Allawoona, SA



1 THE WHOLE FARM BUSINESS SYSTEM

Having an understanding of the whole system helps you to better manage your farm business.

1 THE WHOLE FARM BUSINESS SYSTEM

This section covers the 'big picture' of farming. While a manager cannot control all parts of the business system, it is important to know what you can control, as this will be the focus of your management.

KEY POINTS

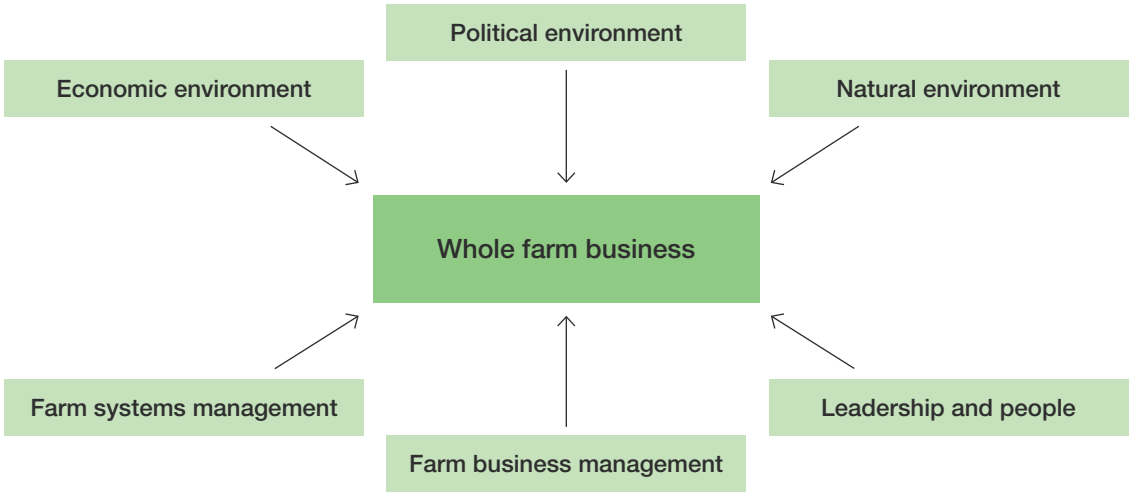
- A number of components make up the farm business environment, some of which are beyond the farmer's control.
- Understand all the components that affect the business, but focus only on those that you can influence.
- Business is challenging, but managed well, provides opportunity.
- Measure and analyse your farm business performance to help answer questions of sustainability, growth, profitability and debt servicing capacity.

The business of farming is complex, with many parts that interconnect and significantly affect the performance of the whole farm business. The term 'whole farm business' refers to each enterprise and component of the business that needs to be considered, then combined to provide the overall performance of the business. Some elements of this system that impact on business performance are outside the farmer's control. Figure 1.1 illustrates the areas that affect farm business performance.

A brief description is given of each of these elements and how they overlap and affect each other. For example, the impact of climate change has implications for the political environment as governments enact policies to manage climate change. It also has an impact on the economic environment, as international markets react to the outcomes of significant droughts, floods and cyclones. Understanding the impact of factors in the external economic environment on the performance of the farm business can help in managing the likely outcomes and consequences. This is a significant part of risk management.

› Risk management is covered in greater detail in section 7, Module 3.

Figure 1.1 The whole farm business system



Source: P2PAgri P/L

'We run it as a business. Fortunately, more often than not, that's resulted in being on the right side of the ledger. This operation is all about risk and that's where the three enterprises (pigs, sheep & cropping) all complement each other. We use business management principles and implement operating efficiencies to fight declining terms of trade, which agriculture seems to have been facing forever. That's where education has given me the tools to be analytical and link theory and practice. So many family farms have gone because there hasn't been that high level of business management.'

Lachie Wilson
'Murdeduke', Winchelsea, Victoria

1.1 ECONOMIC ENVIRONMENT

The economy is a complex system, and the following areas significantly impact the farm business:

1.1.1 Exchange rates

Exchange rates have a significant impact on the income and costs of farm businesses as most of Australia's agricultural production is exported, especially grains, and most export markets are priced in $US.

The floating exchange rate was introduced in the mid-1980s. With a free exchange rate, the value of the Australian dollar at any time is determined by the balance of our demand for overseas currencies (such as buying imports), and the supply of overseas currencies (which reflects overseas customers' willingness to buy Australian goods and services). The value of the $A depends on the state of the Australian economy and the state of economies around the world. The exchange rate, inflation and interest rates all impact on each other and the federal governments face a tricky balancing act trying to achieve a stable economic environment that is conducive to economic growth.

From a farm business viewpoint, the critical point is that the value of the $A will fluctuate and is unpredictable, and that these changes in the value of the $A end up affecting the returns farmers receive for the products they export. When the $A is strong, Australia's exports are expensive compared to our competitors, in foreign currency terms; when it is weaker, our exports are less expensive than competitors. Conversely, a strong $A makes imports such as fuel and machinery much cheaper.

While no farmer can influence the $A exchange rate, it is useful to have some understanding of the effect its movements will have on farm incomes and costs. One of the few strategies to protect against exchange rate movements is to forward sell grain and 'lock in' the $A at the same time. With our large grain production and small domestic grains market, the strategy to not export is not an option for most farmers.

1.1.2 Interest rates

Interest rates are the price of capital, affected by the demand for and supply of capital and expectations about future inflation in the economy.

Interest rates and the level of farm debt became a significant issue when the financial system and interest rates were deregulated in the mid-1980s. Through a combination of economic circumstances in the late 1980s, farmers were struggling with interest rates as high as 24% on their overdraft loans, which created an unexpected and large interest cost burden for their businesses. In contrast, there has been an extended period of relatively low interest rates over the past two decades.

There are two main drivers of interest rates:

- **Monetary policy:** The Federal Government's monetary policy is managed by the Reserve Bank of Australia (RBA). The RBA reviews Australia's interest rate setting monthly and use this to manage the Australian economy, in line with the policy aims of keeping annual inflation within a tight range. If the economy appears to be growing too strongly, interest rates are increased to slow down domestic demand and reduce inflationary pressures. The reverse can also occur, as has happened during 2013/14, when interest rates have been kept at historically low levels in order to stimulate growth in the economy.
- **Business confidence and the demand for borrowed capital:** Strong demand for borrowed funds will push interest rates up, regardless of the RBA's directive.

When managing your farm business, you need to assess how important interest rate movements are to your business. The size of your debt and the interest rate you are paying will determine your exposure to movements in interest rates. Having a good relationship, and being in good communication with your bank, is critical to managing this exposure. This risk can be reduced by using a mix of fixed and floating rates to try to maintain some stability in annual interest burdens.

Australian interest rates also have an effect on the $A exchange rate, as relatively high interest rates in Australia compared to overseas economies will also attract international investors to bring money into Australia. This in turn will strengthen demand for the $A and increase its value.

1.1.3 Prices on domestic and export markets

The movement of commodity prices on the domestic and overseas markets has a direct impact on farmer prices received and paid.

Under free trade, the price of commodities on the domestic market depends on global supply and demand. World wheat prices and Australian wheat prices tend to increase when a major producer, such as the USA or Russia, experiences a serious drought. If all major world producers of wheat have a reasonable production season, prices tend to be lower due to greater supply. Australian domestic wheat prices are volatile because while 80% of production is exported, traded wheat makes up around 20% of global wheat supply in any year. A small increase in production around the world has a marked effect on the quantity of wheat entering world trade, which causes sharp changes in export price – the price Australian wheat growers depend on.

Action points

- Have a marketing plan for each of your commodities.
- Continually monitor the market to determine the best opportunities to sell.
- Manage your interest rate exposure; watch and monitor interest rate discussions in the media.
- What impact would a 10% improvement in commodity price have on your business 'bottom line'?

1.2 POLITICAL ENVIRONMENT

The political environment in Australia tends to be relatively stable compared to many parts of the world.

The political environment also impacts on exchange rates. When investors around the world view Australia as having a stable economic and political environment, the $A is more attractive for foreign capital investment.

Government policies can have an impact on farmers to varying degrees, such as drought policies which provide interest rate subsidies and household support to farmers affected by drought. Loss of access to overseas markets, such as when a foreign country acts to protect their own farmers from imports, can have major immediate implications for farmers competing to sell into these markets, and subsequent implications for all farmers as supplies are redirected into other markets. The impact of government regulation is also felt on land use, natural resource management, pesticide use, workplace health and safety standards, and tax reporting (BAS, payroll and superannuation).

1.3 NATURAL ENVIRONMENT

The natural environment consists of climate, soil, plants and animals. Farmers manage most of Australia's natural environment challenges from pests and diseases, which are also the result of climatic and soil conditions.

The natural environment has the greatest impact on farm financial performance as it directly relates to levels of productivity. This explains why research has tended to focus on managing and improving productivity, with some significant success over recent years.

More recently, focus has moved to environmental change and predictions of its likely impact on agriculture. The evidence increasingly points to climate change resulting higher temperatures and changing rainfall patterns. It is still relatively early to quantify the added impact of climate change on Australian agriculture, as droughts, floods and fires have always been part of the Australian experience. However, more variable weather increases uncertainty around production, which in turn increases business risk.

The extremes of Australia's climate contribute to risk in farming.

Source: P2PAgri Pty Ltd

‘We grow a variety of crops – sorghum being the major one and chickpeas. Have grown cotton once but there’s got to be a lot more money in it before I do it again. The sorghum ends up either in a feed lot in Australia or exported as feed overseas. Last year they bought a fair bit to make alcohol in China, which was really good for us. Because we are pretty close to the coast, in the tropics, we have major rain events in the wet season. We’ve got deep black soil which stores a lot of moisture so at the beginning of the wet season, we can grow crops right through the year on that moisture. The minus is if we’ve got crops in, quite often you get a bit of flooding. Two years ago, one 1500 acre paddock had 12 floods over it in a year. We lost two crops, but that’s the exception, not the rule. Like this year we’ve had no floods at all. We’ve been desperate for rain this year; that year, we were wishing it would stop.’

Brian Gregg
‘Kolora’, Emerald, Queensland

1.4 FARM SYSTEMS MANAGEMENT

Farming systems are the combinations of enterprises used in a farming business.

Management of the competitive and complementary components of a farm system has a significant impact on the eventual financial performance of a farm business. A classic example of complementary and competitive effects in a farming system is the combination of annual crops and sheep, where sheep are an integral part of the crop rotation. At sowing time, these enterprises are competitive as crops require some of the total farm land for planting while sheep require land for pasture. The competition for the limited resource of land largely determines the number of sheep that the property manages.

However, these enterprises are complementary during the summer months when there is stubble available for sheep feed, and sheep provide a complementary service to crops by keeping summer weeds under control. The best farm managers are good at thinking ‘systems’ and the key to their success is putting all the elements together in a profitable ‘whole’, effectively managing the competitive-complementary relationships.

Examples of farming systems include:

- Continuous cropping, which entails rotation management.
- A purely grazing system where only sheep and cattle are managed.
- Raised bed cropping systems to assist with water management in high rainfall areas.
- The use of summer and winter cropping systems in various parts of Australia.

Managing farming systems successfully requires a thorough understanding of the natural relationships on the farm between soil, rainfall, plant and livestock nutrition, crop selection, rotation selection, disease and pest control, tillage selection and the timing of operations. Research organisations such as

What enterprise mixes provide the most profitable outcome for your business over different seasons?

Source: P2PAgri Pty Ltd

> **'Most people, when they talk about risk, talk about the downward risks, but there is a huge risk in not maximising the really good years, those years you can really put some fat in the system. I don't think people always see that coming and make the most of the opportunity.'**
>
> Vicky Geddes
> Yallock', Holbrook, NSW

the Grains Research and Development Corporation (GRDC) invest in R,D&E projects to help farmers solve problems and further improve productivity.

A good example of this is GRDC's continued research into soil and water management, and their effect on plant production. Bill Long (Agronomist and GRDC Southern Panel member) points out that effort is currently focused on matching crop inputs to moisture availability. Farmers are good at managing the average seasons from Decile 3 to 7 with their inputs. However, it is in the very good seasons that improved input management can greatly increase farm profitability. It is in these good years that improved profits can be achieved and have an influence on business performance in the long-term.

Farmers' detailed knowledge of their farming systems is a key to business performance and productivity. This manual does not go into this detail of farming systems, as there is significant information available through the many primary industry research organisations, such as the GRDC and other government agencies. However, the importance of the farm manager's knowledge in this area is critical, and continual learning in this area is encouraged.

1.5 LEADERSHIP AND PEOPLE MANAGEMENT

In recent years, there has been a growing focus on leadership and people management within a farming business and how effectively people communicate and are managed.

This includes working with family members and staff, as well as people external to the business such as accountants, agronomists and bankers.

If a business has a clearly defined and shared 'vision' outlining what the owners wish to achieve, with clearly defined goals to help fulfil this vision, a number of things are more likely to occur:

- Improved communication between all members of the farming business where goals and aims are clearly understood.
- Synergy within the workforce, providing a tightly focused commitment to achieving the goals.
- More effective advice from external advisers, as they understand more clearly what the business wants to achieve.

1.6 FARM BUSINESS MANAGEMENT

An important part of farm business management is measuring and understanding the financial performance of the business in order to answer questions of growth and sustainability, risk management, profitability and debt servicing capacity.

This process is the fuel to the financial 'engine' of the business and goes far beyond the regulatory requirements of completing a tax return. The saying, 'If you don't measure it, or understand it, how can you manage it?' is very true for farm businesses. Monitoring financial performance greatly improves understanding of the operation and potential capacity of the business and informs the assessment of future opportunities.

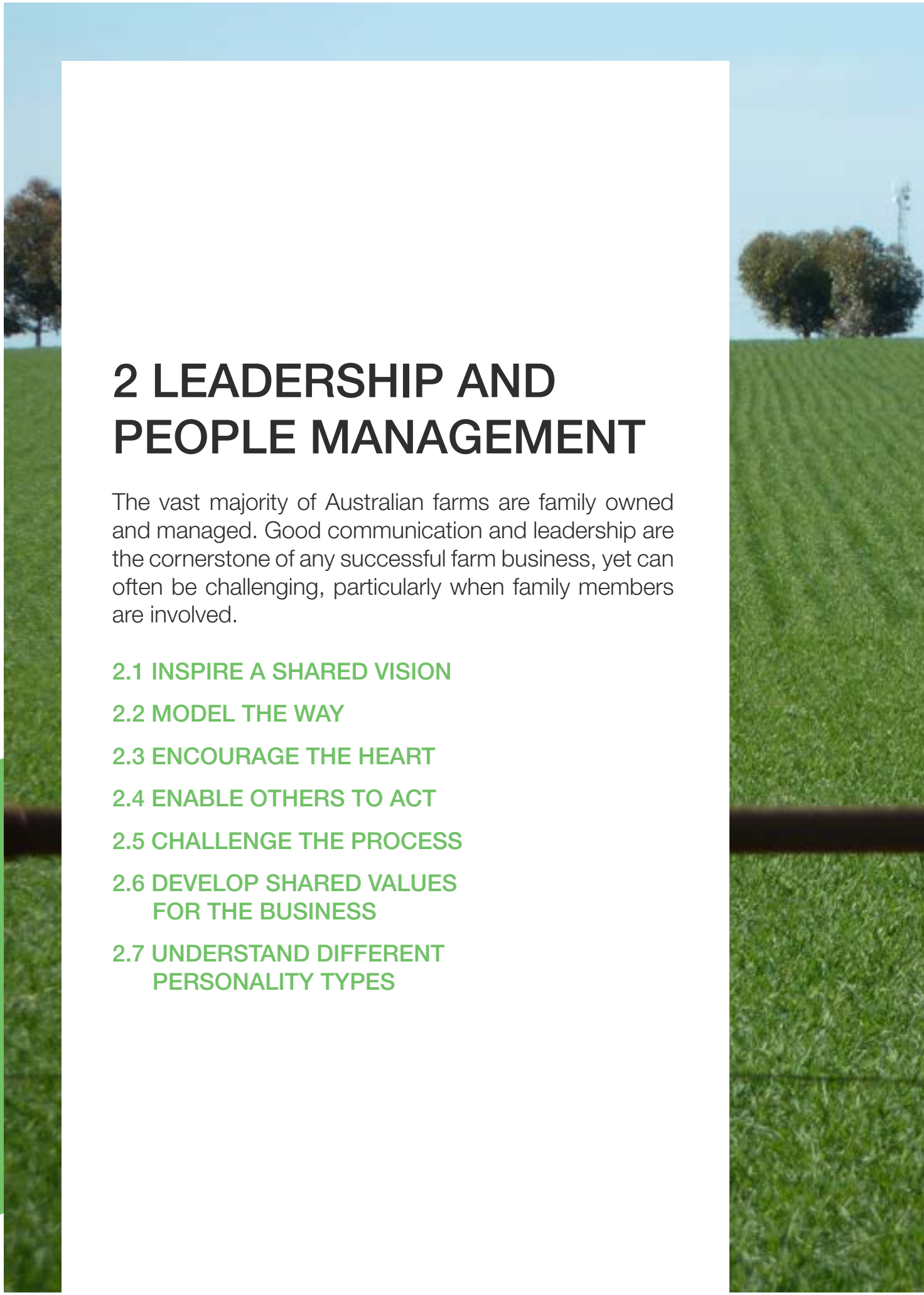
Traditionally, farmers have found the financial management aspects of managing their farm business to be challenging and, often, relatively difficult compared with the actual farming. There are not many advisers equipped to undertake this work and many accountants are not trained in farm business management. This manual aims to help farmers address this 'information gap'.

> **'Farm management is the process by which resources and situations are manipulated by the farm family in trying, over time, with less than full information, to achieve their goals.'**
>
> Prof. John Dillon

All elements of the farm business system influence business performance. Leadership and people and farm business management are the focus for this module for two reasons. Firstly, these are the areas that can be most significantly influenced by management, and secondly, they have not been the focus of the vast amount of research undertaken in farming systems by organisations such as GRDC. While it is important to have an understanding of all components of the system, good managers focus on what they have direct influence over. Leadership and people, and farm business management are two of the areas that can be most influenced by management.

Action points

- Each farm business is unique – learn what issues have the greatest impact on your business.
- Monitor GRDC research findings that affect your farming system: **www.grdc.com.au/resources**



2 LEADERSHIP AND PEOPLE MANAGEMENT

The vast majority of Australian farms are family owned and managed. Good communication and leadership are the cornerstone of any successful farm business, yet can often be challenging, particularly when family members are involved.

2 LEADERSHIP AND PEOPLE MANAGEMENT

One of the most significant impacts you can have on your farm business is through improved people management skills.

KEY POINTS

- The **real** value of a business is its people.
- Look for ways to improve your people management skills, because people can make or break a business.
- Like other skills, people management skills can be learned.
- A set of core values shared by management is fundamental to business success.

Developing leadership skills in communicating with and managing people can be a critical turning point in the life of a successful farm business. This is particularly relevant in many traditional Australian family farm businesses where communication and people management can often be challenging and not done particularly well. In recent years, there has been wider appreciation and increased understanding of these issues.

Most financial challenges faced by farm businesses can be directly related to a sequence of poor seasons or a run of poor commodity prices occurring in situations where the requirements for cash to service debt are substantial. Given these pressures, some farm businesses become financially unviable. However, a closer look 'under the hood' of these unsuccessful farm businesses often reveals that leadership and the management team were also dysfunctional.

Managing a farming family is not unlike a sporting team. If members of the team are willing to support and back each other, the team's probability of success on the sporting field increases. If the team has poor leadership, members do not get on, or there is little internal harmony, the likelihood of success is significantly decreased. The issue of leadership and people management needs to be addressed as part of your general ongoing management.

The aim of this section is to provide an overview rather than an in-depth examination of leadership and people management, as significant literature and training courses are available for farmers to develop skills in these areas.

'Bulla Burra is all about being professional at anything we do and having full accountability and transparency. In order to do that, we set up our own board with an independent chair. With a collaborative business like ours where we've brought two different farms together, two lots of values and two lots of personalities as well and two whole different histories, the emotions and personalities can certainly get in the way. By having an independent chair and a board, we allow the discussion, we allow everyone to be heard, and we ensure that everything we do and all the decisions we make are made with full accountability and with business principles in place… It's about being professional, transparent and accountable.'

John Gladigau,
'Bulla Burra', Allawoona, SA

The key elements of effective leadership

Co-contributor to this section: Linda Eldredge, Eldredge and Associates.

> **'As I travel around the country as a consultant…I am often surprised when I see businesses with the same amount of land and same equity, some businesses survive and thrive and go ahead, while other businesses are floundering…This is a challenge. We can be passionate about farming, but unless we embrace (effective) leadership, we're not going to move ahead in our business.'**
>
> Linda Eldredge,
> Eldredge and Associates

A successful farm business is one where leaders encourage a shared business vision, and all roles and responsibilities in the business are valued. This creates synergy where everyone in the business works as a team. Using business analysis, effective negotiation and well analysed strategies, a business has a much greater chance of success.

2.1 INSPIRE A SHARED VISION

One of the key elements of any business plan is to clearly and succinctly express what the vision is for the business. A vision is a short one-sentence statement, of no more than twenty words, that clearly states the business' essential purpose. To use a sailing analogy, it is the spot on the horizon that the ship is sailing towards. Outside events like strong winds, high tides and reefs may occur along the journey, but the captain of the ship reacts to these events to reach the planned destination. In a farming sense, it is the point the management is looking to achieve, regardless of droughts, poor commodity prices and cost price pressures. The management team react to these while managing the business to achieve its vision.

As well as having a vision for the business, it is also important to thoroughly understand the resources of the business and its strengths, weaknesses, opportunities and threats (SWOT Analysis), in the context of a well-defined and well-ordered set of business goals.

› **Vision, goals and SWOT analysis** will be discussed in greater detail in section **4, Module 2.**

2.2 MODEL THE WAY

This is a challenge for any business leader, to not only 'talk the talk', but also 'walk the walk'. Management should not be caught out with 'Do what I say, not what I do' as this is the surest way to discourage worker loyalty. The leader needs to set the standards in area such as:

- Work ethic
- Attitude to poor performance
- Follow through
- Communication
- Values such as trust and honesty
- Conflict resolution
- Encouragement of good performance
- Support of the vision

Recognition when a goal is reached or high performance is achieved should also be encouraged by the leader. When leadership does this, it models this behaviour in the management and working team. When they encourage each other, the leader does not need to be ever-present for the team to perform well. The converse should also happen when poor performance occurs. The poor performance should be acknowledged, learning strategies put in place so that it is not repeated, and everyone re-focuses on achieving the business' vision and goals.

2.3 ENCOURAGE THE HEART

Creating a positive, encouraging work and management environment enhances productivity, harmony and a sense of ownership by the working team. If a negative culture exists, teamwork tends to not be as good and business performance suffers. Encouraging and praising all members of the management and work team provides a strong foundation for business success.

There will be times when it appears that issues with staffing and business conditions make it difficult to achieve the goals that help fulfil the vision. In these cases, it is tempting for management to lose confidence and begin to think and act negatively. It is human to feel disappointment, but good management quickly regathers and refocuses on solutions. Strategies to help cultivate resilience in all members of the team include:

- Having a short break from the business to refresh.
- Having a focus on the medium and longer term plans restores perspective when both bad and good times occur.
- Developing short-term strategies and communicating these intentions with the team and your banker.
- Monitoring the actual versus expected cash flows regularly so liquidity is well managed and financial surprises are avoided.
- Praising the team for meeting goals, even in the trying times.

2.4 ENABLE OTHERS TO ACT

This point closely follows the previous one about positivity; however, the focus here is on enabling and empowering the management and working team. Although the business may have been successful in the past, the hallmark of most successful businesses is openness to new ideas and continuous improvement. One way of doing this is to encourage and enable members of the work team to use their skills and apply creativity to problems they encounter and foresee, and reward good solutions. This does not mean automatically adopting or rejecting every idea that is suggested; rather, follow a process of consideration and evaluation. Having a clear business vision also helps in this situation; if the new idea does not enhance progress towards achieving the vision, it can be more easily discarded.

2.5 CHALLENGE THE PROCESS

Change is inevitable. Embracing change, and managing for it, gives a better chance of achieving goals rather than resisting inevitable change and having it thrust upon the business. Consider how recently mobile phones have become available, and how portable computers have revolutionised the world and business. There will always be new technologies that will greatly impact the way farm businesses are run in the future.

A key to managing a farm business is to continually assess new technologies and processes, adopting the appropriate ones and making them work. Again, encourage management and the work team environment to continually challenge how activities are undertaken in the business. If done in a positive way and respecting all who contribute regardless of experience, synergy is fostered which is one of the several keys to the long-term prosperity of a farm business.

'Within a business, relationships are absolutely key. It's relationship with everybody you deal with …It's about sitting down with all of them and saying, 'What do you need from me? And this is what we would like from you.' Forming these relationships and trust, and not trying to get one over anyone on the way through. You develop relationships and what happens is that opportunities get created.'

John Gladigau,
'Bulla Burra', Allawoona, SA

2.6 DEVELOP SHARED VALUES FOR THE BUSINESS

Values are important to a business as:

- Values define what we believe and stand for.
- Differences in values cause conflict.
- They can be jointly owned by all in the business.
- They help all involved in the business to work toward a 'win-win' situation.

The set of values that underpin the business and how it is run is fundamental to success or failure. Values and behaviours are developed from a young age and these may or may not be similar to those of others we work with. If there is a core set of values shared by the management and work team in the business, conflict resolution is more easily managed. We rarely write our values out and often wrongly assume our values are held by others we work with, both in and out of the business. It is worth sitting down as a team, listing each member's values and then developing a set of core values that will guide the operation of the business. Table 2.1 below lists some values to get you started.

Table 2.1: A list of values

- Accountability	- Discipline	- Optimism
- Achievement	- Empathy	- Patience
- Acknowledgement	- Encouragement	- Passion
- Approachability	- Excitement	- Perseverance
- Availability	- Experience	- Prosperity
- Belonging	- Friendship	- Reputation
- Boldness	- Growth	- Resilience
- Care	- Harmony	- Respect
- Change	- Honesty	- Sincerity
- Commitment	- Hygiene	- Teamwork
- Contribution	- Integrity	- Trust
- Diligence	- Loyalty	- Wisdom

2.7 UNDERSTAND DIFFERENT PERSONALITY TYPES

Understanding ourselves and others improves communication. Members of a team will most likely have different skills, different preferences for communicating and different ways of taking in information. Do not assume that people you work with are the same, nor that their preferences are the same as yours. For example, people can be a mix of:

- Introvert or extrovert
- Organised or disorganised
- Feeler or thinker

The expression of these traits varies with situations, stages of life and experience. Understanding differences such as these can help you communicate with people in your business more effectively, in the way they prefer. For example, an extrovert enjoys 'being the life of the party' and is not frightened of attention. They prefer projecting their thoughts out loud and discussing their ideas with others. An introvert, on the other hand, is comfortable in their own company and is not concerned at being alone. They like to observe and reflect on issues, usually by themselves, and are comfortable communicating in writing where they can provide a considered reply.

Understanding these differences and the preferences people have for communicating can be complex. However, knowledge in this area has significantly improved in recent years. Two excellent programs to help you learn how to understand individual preferences and how teams work are:

- The Myers Briggs Foundation (C.G. Jung's Psychology Types)
- Work Preferences Profile (TMS Worldwide)

There are many other programs available which can be searched for on the internet.

This section provides just a brief introduction to encourage you to improve your understanding of people and how best to work with them for the benefit of your farm business.

Action points

- Effective leadership and management skills are essential to any farm business.
- Improve your understanding of the different personality types in your business (Myers Briggs).
- Improve your understanding of how your team works together most effectively (Work Preferences)

3 FARM BUSINESS MANAGEMENT

Economic thinking, which forms the basis of good farm business management, can be a challenging area. This section summarises the important parts of economic thinking and how it relates to management.

3 FARM BUSINESS MANAGEMENT

Having a clearer understanding of your farm business financial performance is a critical step toward improving business profits.

KEY POINTS

- Economic thinking is fundamental to sound farm business management.
- Measures of liquidity, efficiency and wealth give the complete business picture.
- Maximum production does not mean maximum profit.
- The key to effective farm business management is to prepare, not predict.

Co-contributor to this section: Tony Hudson, Hudson Facilitation.

The more traditional part of farm business management is about applying economic thinking to make decisions about managing the farm business. A business always has limited resources. For a farm business, this includes land, labour, management skill, finance, machinery and livestock.

It is human nature to want more of something that is valued, which could be part of the business' vision, but managers have to manage within the resources they currently have or can control. Economic thinking is about how the limited resources of the business are utilised to maximise goals, including building wealth. Managing the resources we control to make profit is a means to this end. This may sound simple, but there is a high degree of risk and uncertainty with seasonal variability and market volatility, which makes farm management decision making and operations difficult.

'...trying to grow the most profitable crops, trying to reduce our costs. We all know what the answers are to growing the highest yielding crops out there, but it's no good if it's going to cost us more to grow than we're going to make out of it. No matter if it's the sheep or the cropping side of things, it's the $/hectare. It's profit at the end of the day. It's just a bottom line figure for us. If we can focus on the bottom line all the time, I think that's the best way to run the business.'

Scott Nicholson,
'Bretton Estate', Campbell's Bridge, Victoria

3.1 ECONOMIC THINKING

3.1.1 Scarcity and opportunity cost

Every business has to confront **scarcity** (i.e. limited resources). We each have a limited capacity to fulfil a potentially unlimited list of wants and needs. From a consumer perspective, fulfilling our needs and wants provides a level of **utility** (satisfaction) to the consumer. For most people, income limits our capacity to fulfil our needs and wants, and we have to make choices about how we spend our (relatively scarce) income to maximise the satisfaction we gain from it.

In a production context, for example, a decision to do one thing, such as purchasing the latest header, may limit the capacity to do another thing, such as purchasing additional land. This decision therefore has an **opportunity cost** - i.e. something else is given up in order to make this choice possible, which in this instance is purchasing more land. In farm economics, all costs are opportunity costs.

Opportunity cost is an economic concept that can be applied to all business decisions on the farm. Essentially, when you have limited financial resources, with each decision making process, management should be asking, 'Is this the best use of the scarce finances available to the business?' A method to assess the economic outcome of alternate strategies is **'scenario analysis'**. The key to this economic concept is to make decisions that continually help the business achieve goals that fulfil its vision.

› Analytical tools are discussed further in section 11, Module 3.

3.1.2 Production economics

Production economics is about the decisions farmers face while aiming to achieve their goals from limited available resources. **Production functions** (also called response functions) are the relationships between resources used (land, labour, capital, water) and the resulting output. For example, if we have a fixed amount of one resource, such as land, more output can only be generated by adding additional variable resources to it, such as fertiliser, fuel, chemicals, labour, irrigation water and so on.

In agriculture, production functions are not usually linear relationships beyond the initial stage of inputs used i.e. the

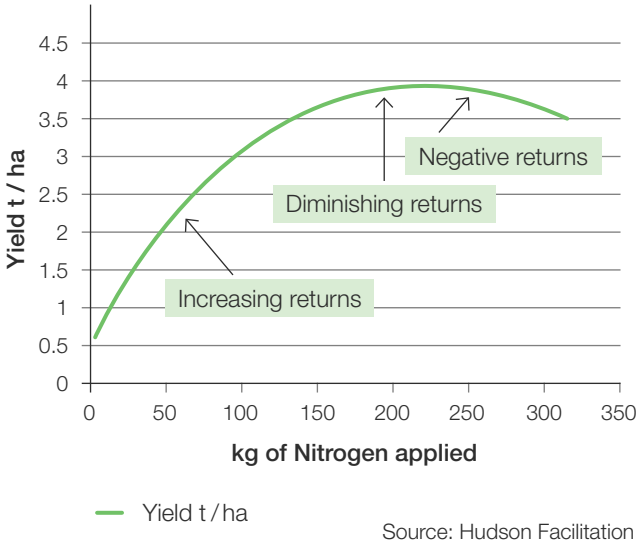
law of diminishing marginal returns applies (see below). For example, a predetermined amount of fertiliser will not always grow a known amount of grain; nor will doubling or tripling the amount of fertiliser necessarily double or triple the yield, even if all other conditions are identical. If no fertiliser were applied at all, there is usually sufficient residual soil nutrition to generate some level of yield as long as reasonable rainfall occurs during the growing season.

Knowing the potential production function of inputs to output that may apply to your crops will help to identify the 'best-bet' input levels that could give the best profit.

A. The law of diminishing returns

The **Law of Diminishing Marginal Returns** describes the relationship between varying levels of an input (e.g. fertiliser) and the resulting output (e.g. grain yield). As outlined above, output from a certain input is not linear beyond some level of input. Typically, beyond a certain point, further units of input can actually decrease output. Figure 3.1 illustrates this effect when increased levels of nitrogen are applied to wheat: the first 125kg/ha of fertiliser gives a clear and strongly positive increase in yield, from about 0.5t/ha to around 3.5t/ha (i.e. **increasing marginal returns**). However, as more units of nitrogen are added, the additional grain produced from each additional unit of nitrogen applied becomes less (i.e. **diminishing marginal returns**). Eventually, a point is reached where additional fertiliser input has a toxic effect and leads to a decrease in total yield (i.e. **negative marginal returns**).

Figure 3.1: Yield response to fertiliser input (Production function)



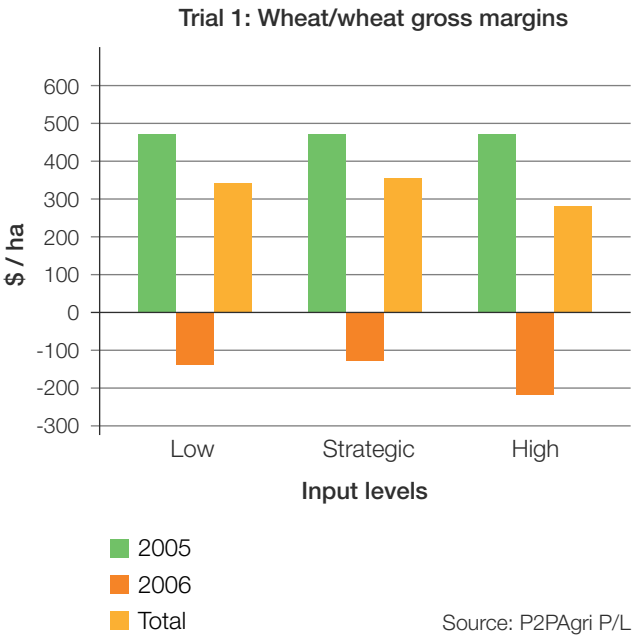
Source: Hudson Facilitation

What are the **financial implications** of this yield response? If a farmer's aim was purely to maximise yield, then in the example above, the farmer would apply 200kg of fertiliser to the wheat crop. However, most profit-driven farmers would advise against this level of input: it increases the risk of a negative gross margin if maximum yield is not achieved. It also ties up significant additional working capital in the wheat crop, some of which would be better spent on other variable inputs to other crops. This relationship between nitrogen and yield will vary between rainfall zones and seasons, so check with your agronomist what this relationship is likely to be for crops in your area.

This relationship of diminishing marginal returns to extra variable inputs was clearly illustrated in a series of fertiliser trials conducted at the Hart field trial site near Clare, SA, in the poor rainfall seasons of 2005 - 2007. The trial compared both a number of 2-year rotations and the level of fertiliser input (see Figures 3.2 and 3.3), and results reinforced the principle that input to maximize yield does not provide the maximum profit. Three fertiliser levels were assessed:

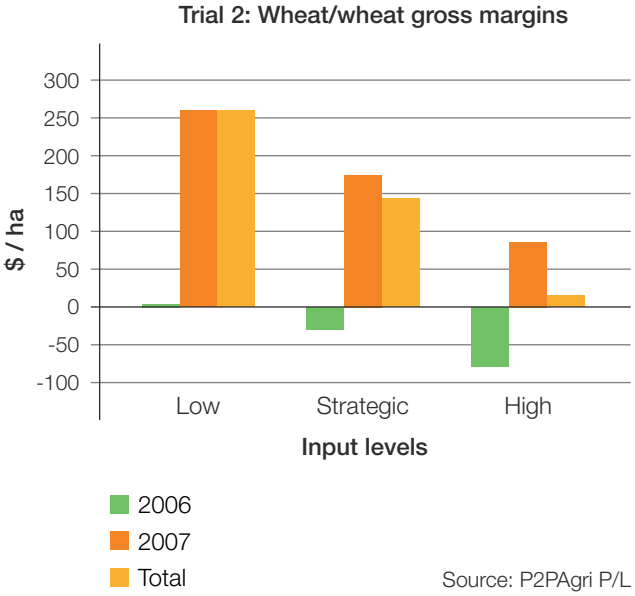
- Low
- Strategic (the adviser's recommendation, depending upon the season)
- High

Figure 3.2: Trial gross margin results for the wheat/wheat rotation 2005 & 2006



Source: P2PAgri P/L

Figure 3.3: Trial gross margin results for the wheat/wheat rotation 2006 & 2007



Source: P2PAgri P/L

The trial design had one 2-year phase conducted in 2005 and 2006, with the second 2-year phase in 2006 and 2007. The gross margin results of the wheat/wheat rotation are shown in Figures 3.2 and 3.3. In both phases of this trial, the best profits were not obtained by applying the maximum fertiliser level.

The main economic outcome from this trial was that in a poor season, it did not pay to apply high rates of fertiliser as it caused two problems for economic efficiency:

i. It caused higher costs, and

ii. Produced poorer yields, resulting in less gross income.

In every rotation tested, the high input treatment produced the poorest gross margin. How then, do you decide on the appropriate level of inputs?

B. Marginal cost and marginal return

The **marginal cost** is the additional cost of applying one additional unit of input to an activity, with all other inputs held constant. To use the previous example, if the fertiliser in question was nitrogen priced at $600/t, and one 'unit' was 25kg/ha, the cost per unit of nitrogen is $15.00/ha. So the marginal cost of an additional 25kg 'unit' of nitrogen is $15.00.

Similarly, the **marginal return** is the additional income generated as a result of adding that extra unit of input. So if you are paid a farm gate price of $200/t for wheat, each additional kg of grain earns us an extra 20 cents.

Table 3.1 illustrates this relationship. Each 25kg 'unit' of nitrogen costs $15.00 and the first 'unit' of nitrogen results in an additional yield of 0.7t of wheat. At $200/t, this produces a marginal return of $140. Clearly the first unit of nitrogen is highly profitable - you will earn $140 in gross income at an added cost of only $15!

The calculation that maximum yield does not necessarily result in maximum profit becomes more useful in decision making when you consider risk. In the above example, the maximum yield of 3.7t/ha of wheat is achieved by applying 200kg/ha of nitrogen. However, the maximum profit of $535/ha is achieved by applying only 150kg/ha of nitrogen to produce a yield of 3.6t/ha of wheat. At this level of nitrogen use, the last 25 kg of N costs $15 and added close to an extra $15 to profit. All units of N up to this level added to total profit.

The application of 125kg/ha of nitrogen produces 3.5t/ha of wheat. The additional 25kg/ha of nitrogen to reach maximum achievable profit at 150kg/ha costs an extra $15/ha. This adds $20 extra revenue. Considering that this produces only a further $20/ha in revenue, it may not be worth the added risk to achieve the resulting $5/ha in additional profit.

In production economics, the theoretical maximum profit is achieved when:

Marginal cost = Marginal return

In Figure 3.1, this occurred at a nitrogen application rate of somewhere between 150-175kg/ha. Beyond this point, the cost of the additional unit of nitrogen is greater than the resulting income it generates. In theory, this is the level at which nitrogen should be applied in the above scenario if certainty prevailed. The reality however, of applying an additional $15 of nitrogen to gain an additional $20 of wheat, is for most farmers too risky to consider.

Uncertain factors in agriculture include weather, yield, disease and prices of both inputs and outputs. With effective marketing strategies, many farmers can know with some certainty the price they are likely to receive at harvest for some or all of their produce. Similarly, the costs of inputs such as nitrogen will be known precisely when such application is being considered, as will stored soil moisture and medium range weather forecasts. The actual yield is unknown, therefore decisions about levels of input use have to be tempered by knowledge of current soil moisture and how the season is shaping up.

Table 3.1: Sample marginal cost and marginal return

Nitrogen kg / ha	Marginal cost $ / ha	Yield t / ha	Additional yield t / unit	Marginal return $ / unit	Marginal profit $ / unit	Profit $ / ha
0	0	1.00	0.60	120.00	105.00	105.00
25	15	1.70	0.70	140.00	125.00	230.00
50	15	2.30	0.60	120.00	105.00	335.00
75	15	2.80	0.50	100.00	85.00	420.00
100	15	3.20	0.40	80.00	65.00	485.00
125	15	3.50	0.30	60.00	45.00	530.00
150	15	3.60	0.10	20.00	5.00	535.00
175	15	3.65	0.05	10.00	-5.00	530.00
200	15	3.70	0.05	10.00	-5.00	525.00
225	15	3.65	-0.05	-10.00	-25.00	500.00
250	15	3.60	-0.05	-10.00	-25.00	475.00
275	15	3.40	-0.20	-40.00	-55.00	420.00
300	15	3.10	-0.30	-60.00	-75.00	345.00

Source: Hudson Facilitation

C. Equi-marginal returns

So far we have only provided the simple application of nitrogen on wheat example to illustrate the theory of marginal costs and marginal returns when making farm management decisions. Farming is more complicated than this, and on most farms, there is a range of potential crops which would benefit from the addition of extra nitrogen. How do we decide where and when to apply it? Remember, **we are aiming to maximise profit, not yield.**

A production function such as that presented in Figure 3.1 exists for every crop which may be grown, not just wheat. In an environment of scarcity (limited resources), it is useful to estimate the production function of each enterprise which may benefit from additional units of nitrogen. Estimating the marginal costs and returns from the production functions of alternate enterprises will assist with decisions around whether to apply the next unit of input, such as nitrogen to wheat, canola or peas.

Once the marginal return per input of nitrogen for each crop is established, the next unit of nitrogen should then be applied to the crop which will achieve the highest marginal return for that additional input. While this looks obvious, have you ever calculated the numbers yourself? Many farmers continue to make these types of decisions based on instinct or past practices, but it is often helpful to test intuition with science and economic information.

D. Budgeting is critical

Appreciating the concepts of production functions and marginal returns supports decision making but, as with any partial analysis, care is needed to make sure all factors that could potentially change are considered. A decision to increase production from what may historically have been a 'normal' level of inputs to one which is higher in an attempt to increase profit, should create additional harvest income. However, it will also require significant additional working capital to implement, and raises the following questions:

- If you were to crop 1,000 ha of wheat and apply an extra 3 units of nitrogen (as per the example in Table 3.1), you would require an additional $45,000 in working capital throughout the year. Do you have access to this much extra cash?
- Could the higher working capital requirements limit your ability to do other things?
- Are labour and equipment adequate to deal with the extra output?
- How might marketing strategies be affected?

Significant farm management decisions have implications for many parts of the whole system and require thorough budgeting to ascertain full working capital requirements and the likely profits from a range of seasonal outcomes, both good and poor.

E. Managing inputs with uncertainty

Risk, uncertainty and surprise are central features of running a farm. It is not possible to know what type of season you are experiencing until harvest is finished. For example, there are seasons when a crop has grown well, only to experience a frost at grain filling stage which then results in significant yield loss. This can be financially devastating, especially if a high input cost strategy has been adopted.

Advisers are often asked which management strategy is best: to be optimistic and plan for a Decile 7 season (good season) so that the opportunity can be maximised; or be conservative and manage for a Decile 3 season (poor season) and minimise losses. Either of these strategies, or mix of strategies, can be appropriate depending on the sequence of seasons experienced, the financial situation of the business and the attitude of the decision-maker to risk.

Recent research shows that farmers' decisions are often influenced by the experience of the most recent season(s): if it was good, the inclination is to feel more confident and think

What level of inputs will provide the most profitable outcome rather than the best yield?

Source: P2PAgri Pty Ltd

that the next season will also be good. Likewise after drought, farmers' management for the following season can often appear to be based on the assumption that it also will be poor. While some seasonal patterns can occur, such as a series of wet and dry years, there is little evidence that the seasonal outcome just past is closely related to the next years' conditions.

Risk Management Simulation Workshop

A risk management simulation workshop called 'Future Farming Business', developed by the University of Western Australia, provides some insight into the complex issue of managing inputs with uncertainty. This simulation workshop has been modelled on the farming conditions and expectations in the Great Southern area in WA, a cropping region with a relatively high growing seasonal rainfall.

This game is played over a number of seasons, using a computer program. Each player starts with the same farm and resources, and makes annual planning decisions with uncertainty, not unlike real farming. Decisions of enterprise mix, grain marketing and input levels are taken before the full understanding of the season is known.

The winners of the game are those that generate the highest net worth, which means the best sustained profits over the seasons played.

The most common strategies used by the winners are to adopt a conservative management style, which may imply placing emphasis on minimising exposure to losses is a sound starting strategy, depending on how the season begins. However, in practice, making the most of the occasional very good set of conditions, both prices and yields, is also critical to success over the medium term. Initially planning for a Decile 5 (average) season but having the capacity – financially and managerially – to be responsive to the season as it develops would be a sound strategy. If the season shows convincing signs of being above average, then increasing the inputs can be an option, and vice versa. The challenge to management is to have the capacity to respond to opportunities as the season unfolds.

For further information, contact Dr Amir Abadi: aabadi@iinet.net.au

Action points

- Develop a comprehensive set of management data, both physical and financial.
- Be guided by realistic medium term trends in yields and prices when planning each year.
- Practise using economic thinking in your decision making.
- Develop these skills yourself to validate/check professional advice.

3.2 MEASURING BUSINESS PERFORMANCE

3.2.1 Key management concepts

When managing any business, have the following concepts in mind:

i. **Liquidity (Cash)** – Cash flow management is to ensure more cash comes into the business than goes out, in the short-term and the medium term: Do you have enough cash to meet the day-to-day running of the business when annual costs vary from year to year?

ii. **Efficiency (Profit)** – This addresses the issue of whether the farm business is getting a return on the capital being managed that makes the investment of capital and time worthwhile. Profit and return on capital managed is measured using a profit and loss budget and a balance sheet: Is the business making enough profit, after all expenses, to be sustainable?

iii. **Wealth (Net worth)** - This measures how business wealth grows over the year by comparing net worth at the beginning of the year to net worth at the end of the year. If it has grown, then the year's activities have been successful: generating enough cash to pay all the bills, making enough profit to justify the investment, and building wealth which contributes toward achieving business goals. The wealth created through the year is generally a more important goal and measure of success than cash and profit.

Is your farm generating enough wealth to help you achieve your goals?

By measuring and managing with these concepts and goals in mind (see Figure 3.4), the farm owner will have criteria by which to judge situations and make decisions, both of a tactical (day to day) and strategic (medium term) nature.

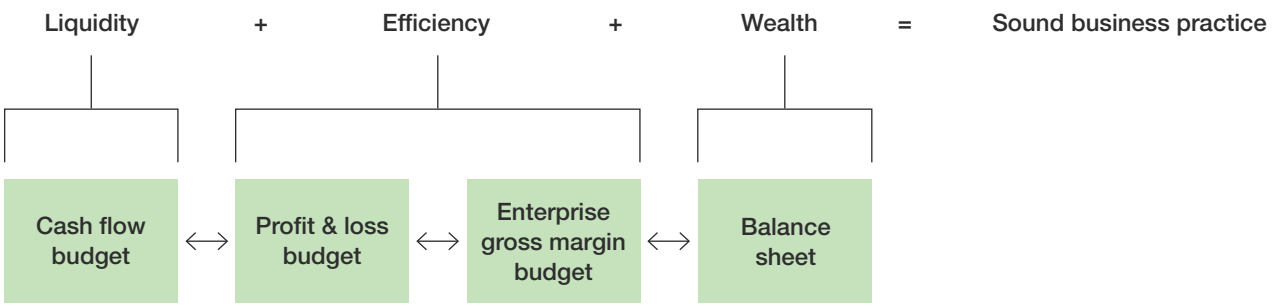
3.3 KEY BUSINESS 'TOOLS' AND INDICATORS

What farm business 'tools' do you need?

For a farming business to have a long-term future, it needs to be efficient and have an ability to grow. A business that does not grow over a period of 10 years will be going backwards, not standing still, and this can only be tracked properly by measuring the key indicators of the business health of a farm. But what are the tools that provide these indicators? Knowing the right financial tools to use to assess your business decisions will depend on your long-term business goals. Most farmers have one of two business goals – these goals, and the financial 'tools' to achieve them, are outlined in Table 3.2.

These tools, profit and loss, cash flow, balance sheets and gross margin budgets, can be used for both looking ahead and looking back. They are the fundamental business planning and recording tools for the farming business. They are valuable for planning and then useful when completed as 'actuals' at the end of the season, so that the business performance is monitored.

Figure 3.4: Key management concepts



Source: P2PAgri P/L

Table 3.2: Financial 'tools' to guide your farm business management

Farm Business Goal	Financial 'tools' needed to plan and track business health	What do these 'tools' indicate?
1. Continue to build the farming business and wealth for the business to be viable for the next generation.	• **Profit and loss budget**	**Profit** - the measure of profit gives the financial performance of the business.
	• **Cash flow budget**	**Cash availability** - measures whether the business can meet its obligations of loan repayments and interest and the required living standards of the owners.
	• **Balance sheet**	**Net worth** – growth indicates the business financial ability to manage risk. **Return on capital** - measures business efficiency. **Equity** – measures the percentage of assets owned.
	• **Gross margins budget**	**Enterprise profitability** - compares the relative contribution of farm enterprises to profitability.
2. Maintain and increase farm value as superannuation for the current generation operating the farm.	• **Cash flow budget**	Measures whether the business can meet its obligations of loan repayments and interest, and the required living standards of the owners.
	• **Balance sheet**	Measures the owner's **wealth** if the business is sold.

Source: P2PAgri P/L

If a business has a clear set of goals, then these budgeting tools can be used to assess how well the goals are being met. These tools provide key measures of business health, sustainability and wealth generation. Without knowledge of these tools, the owner or manager of the business is 'running blind' and it is more difficult to manage business risk and capitalise on opportunities. Without information from this set of budgets, business failure can come as a complete surprise, to the owner, if not the neighbours!

3.3.1 Profit and loss budget

Farm operating profit (also called Earnings Before Interest and Tax: EBIT) is a key business indicator and will vary significantly from season to season, as productivity is affected by seasonal growing conditions and commodity prices by market volatility. The operating profit achieved will depend on the size of the business and the cost structure.

Operating profit tells how well all the assets the manager controls are being used, i.e. economic efficiency. The indicator is return on capital managed - if this is low compared with what other similar farms achieve and compared with what other investments achieve, then a close look at the business is warranted (remembering returns to capital also come from owning the land as well as from farming it).

Expected profit improvement is the test to use when assessing any change proposed for the business. Figure 3.5 illustrates the measurement of 'net profit' and business growth.

3.3.2 Cash flow

The banker's truism that 'a positive cash flow is king' is well recognized by farmers: get the annual cash flow from the farming activities right and the profit and wealth creation follow.

Figure 3.5: Profit and loss

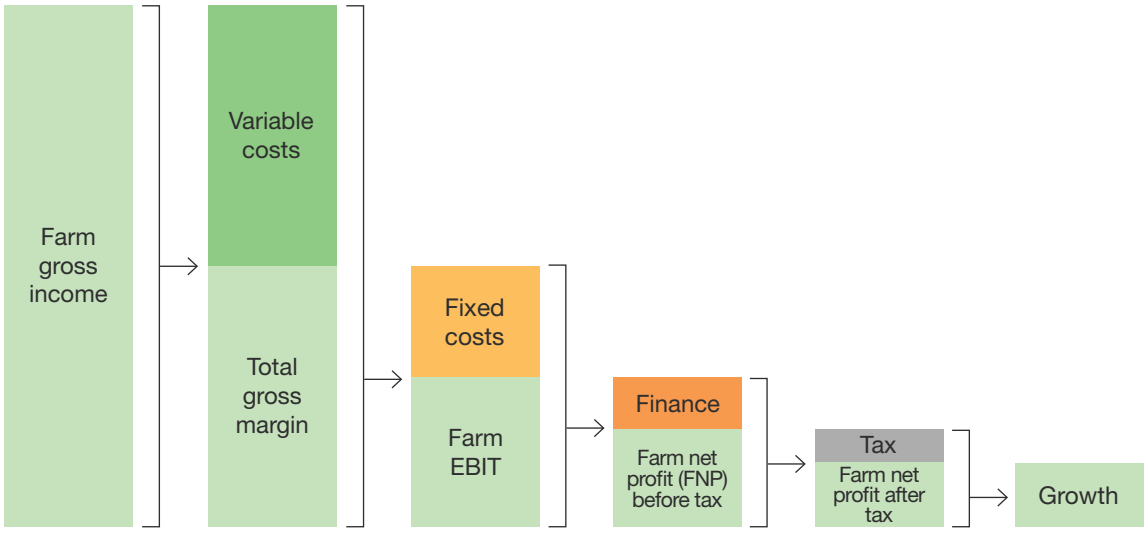


Figure 3.6: Cash flow

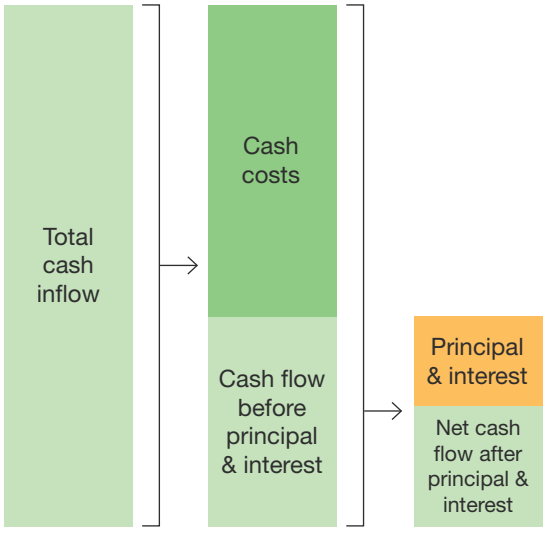
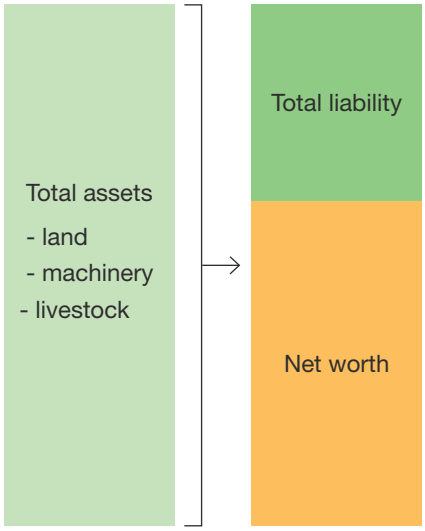
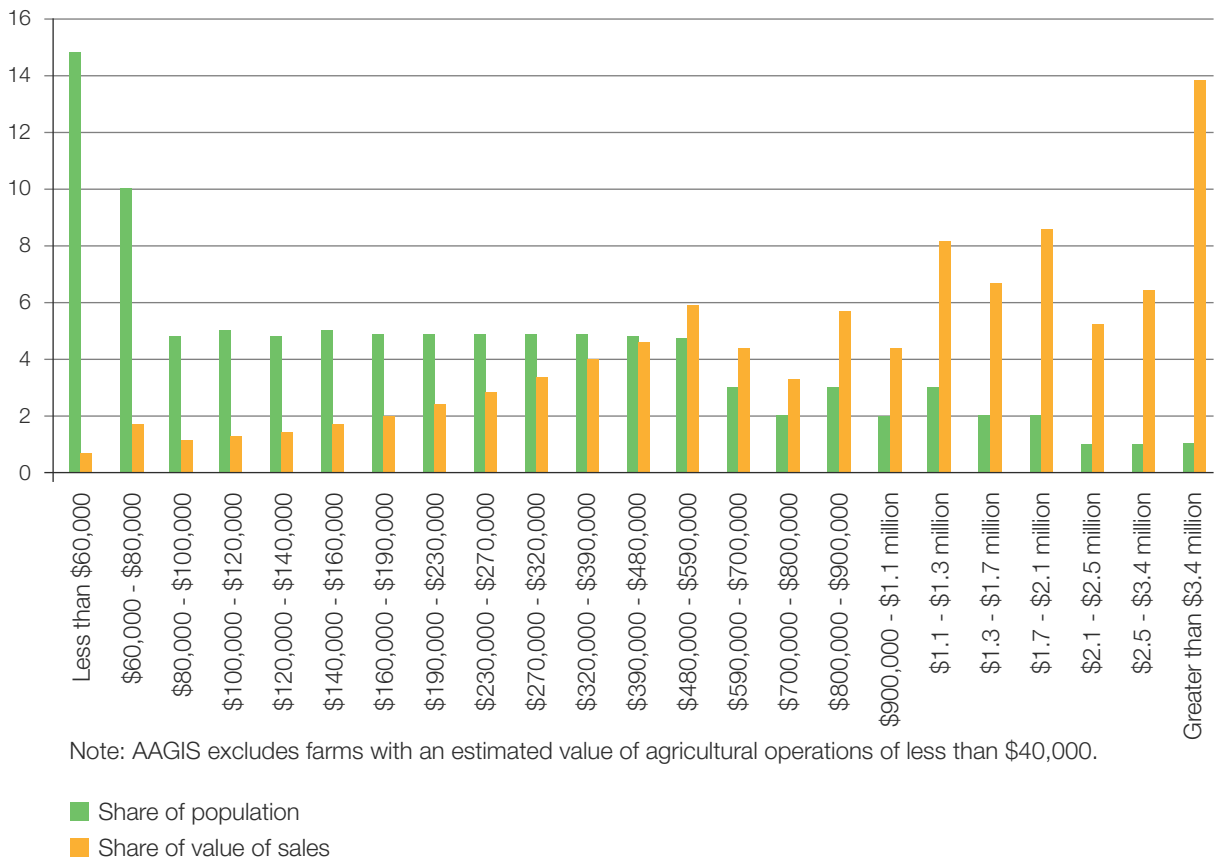


Figure 3.7: Balance sheet



Source: 'Agriculture in Australia', Bill Malcolm, et al, 2009

Figure 3.8: Distribution of broad acre farm businesses by value of sales (total cash receipts) 2012-13



Note: AAGIS excludes farms with an estimated value of agricultural operations of less than $40,000.

Source: Australian Agricultural and Grazing Statistics Survey (AAGIS)

Most business failures occur because of an extended period of poor cash flow, resulting in the depletion of cash such as liquid assets and the ability to borrow additional capital. In general terms, **the more that cash coming into the business exceeds the amount of cash going out, the healthier the business.**

While this is a simple concept, the challenge is to continually monitor cash in and out, best done monthly with a 12-month budget of expected versus actual cash flows. A sound cash flow is needed to build reserves for more challenging seasons. It also informs the owners and bankers of the business's ability to meet its lending obligations, which is another key performance indicator. Figure 3.6 shows the elements of a cash flow.

3.3.3 Balance sheet

Some farmers question the use of a balance sheet as they do not plan to sell the farm. **A balance sheet provides the only measure of business success if monitored over a period of time.** Also, when borrowing capital from a bank, a balance sheet is essential for banks to assess the security you offer them in exchange for the loan.

Figure 3.7 shows the components of a balance sheet.

The key indicators from a balance sheet are:

A. **Net worth (also called equity):** The best single indicator of how a business is performing over time.

   Net worth is the difference between total assets and total liabilities. In a sound business, this figure grows over the years as a result of the farming activities. Net worth also changes as a result of changes in the values of assets, especially farm land. This is the real estate part of the business. It is good to measure net worth annually, on the same date each year, and monitor its growth, from the farming activity and from the change in land values. If it is not growing, then the business will be in danger of becoming non-viable in the long-term.

B. **Equity:** This measures the net worth as a percentage of the business' total assets and indicates the financial security of the business. It indicates how much of the business is owned by the farmer. It is an indicator of financial strength and capacity of the business to withstand times of low cash flow and profits due to market downturns and poor seasons. Dryland farmers usually run their business with equity levels above 70%. Generally, equity above 85% indicates farmers could consider expansion by land purchase, but equity below 85% generally needs

'We try to have two, three or maybe four years' budget planning going on and we've started benchmarking the budget so we can look at the business health of those future budgets.'

Tony Geddes,
'Yallock', Holbrook, Victoria

a period of consolidation to decrease debt levels.

C. **Return on capital:** If you are interested in measuring the efficiency of the business, then the best measure is return on capital managed (ROC).

It is calculated by dividing annual operating profit by the total assets managed by the farm. Greater than 6%-8% return on capital from farming (not owning) indicates an efficient farm business; the top 25% of farms in any year achieve this, as well as a further 2%-4% from capital gain in land. Combined, this gives returns to capital of 8-12% p.a., which is a very good comparison to other investments in the economy. On average, Australian dryland farmers earn around 2% - 3% return on capital p.a. from farming. This reflects that there is a small proportion of total dryland farmers who produce a large proportion of total production, and a large proportion of farms that produce a small proportion of total output, Figure 3.8.

3.3.4 Enterprise gross margins

Enterprise gross margins are used to **compare the relative contribution of each enterprise to a farm's profit, before overhead costs are considered.** An enterprise gross margin of a crop is the difference between the gross income (yield x prices) less the cash costs of growing a crop (also known as variable costs). As land is usually the most limiting resource on a farm, the gross margin is normally expressed as $/ha. So, if a wheat gross margin is $350/ha and barley is $275/ha, then wheat is making a greater contribution to farm profit than the barley crop. The key to using gross margins is balancing the financial expectations with the agronomic requirements of the farming system. Some enterprises provide complementary benefits rather than just being competitive for land; for example, grain legumes provide nitrogen to the following season's cereal crop.

3.3.5 Other commonly used performance indicators

A. Benchmarks

Benchmarking is a farm management analytical method initially developed to compare farming businesses. However, **there are no two identical farming businesses, which makes meaningful direct comparisons difficult.** When using benchmarking data comparing businesses, at best they may raise questions of various parts of the farm performance, in a 'compare and contrast' sense. It is difficult to identify solutions for one farmer's situation and goals using benchmarks from another farmer's situation and goals. Farm problem solving and identification of opportunities can only be done on a whole farm case-by-case basis, using scenario analysis.

While technical benchmarks such as yield/ha and water use efficiency/tonne provide some useful technical information about what happens on similar types of farms, benchmarks are only reference points about parts of the operation of a farm business, not indicators of whole business performance.

Most business benchmarks are ratios and should be used to identify the issues a business needs to focus on; they cannot be used to provide solutions. Benchmarking assesses only parts of a business, whereas solutions require consideration of the whole business.

For example, issues that may be guided by benchmarking include:

- lambing percentage
- weaning rates
- water use efficiency
- machinery value / tonnes of grain produced
- various bank ratios

However, while these highlight specific components of the business, they do not provide the whole business picture.

A valid use of benchmarks is to measure key performance indicators of your own business against itself over time. This helps to assess if your business activities are improving in the areas that are important to your goals.

B. Tax returns

Tax returns are legally required to be completed annually to assess how much tax, if any, the farm business is required to pay the Australian Taxation Office (ATO). As they are a legal document, banks appear to rely quite heavily on the information provided in the tax return. Note that **tax information does not provide business performance measures relevant to management decisions** as they are completed to ATO rules. Some of the values used for tax purposes are different to the figures that are relevant for management decision making. While tax accounts have a 'profit and loss' and a 'balance sheet', these do not use the same numbers as farm business management and so do not provide a true measure of business profit or a true record of the worth of business assets. Despite the irrelevance of tax accounts for management purposes, many Australian farmers use their tax return as their major measure of farm business performance, and thereby gain very little useful information about how well or poorly they are managing the assets they control.

A good accountant can help produce a set of farm business management budgets in addition to the tax budgets. This will provide an accurate measure of business performance and an accurate measure of equity. These would then provide a sound set of financial records that give information to understand and improve the management of the business.

› Key business 'tools' and financial indicators are discussed in greater depth in section **5.5, Other performance indicators, Module 2.**

3.4 WHOLE FARM ANALYSIS

3.4.1 Business planning cycle

It is valuable each year to have a major planning phase that follows an accurate reporting of the previous season. Your tax return and cash flow reporting are not adequate to give all the information your business needs to be managed sustainably.

Regularly monitoring business performance by evaluating indicators of profit, cash flow, net worth, equity and return on capital is the only way of knowing whether failure is only days away, or whether there is capacity to expand and continually improve aspects of the business.

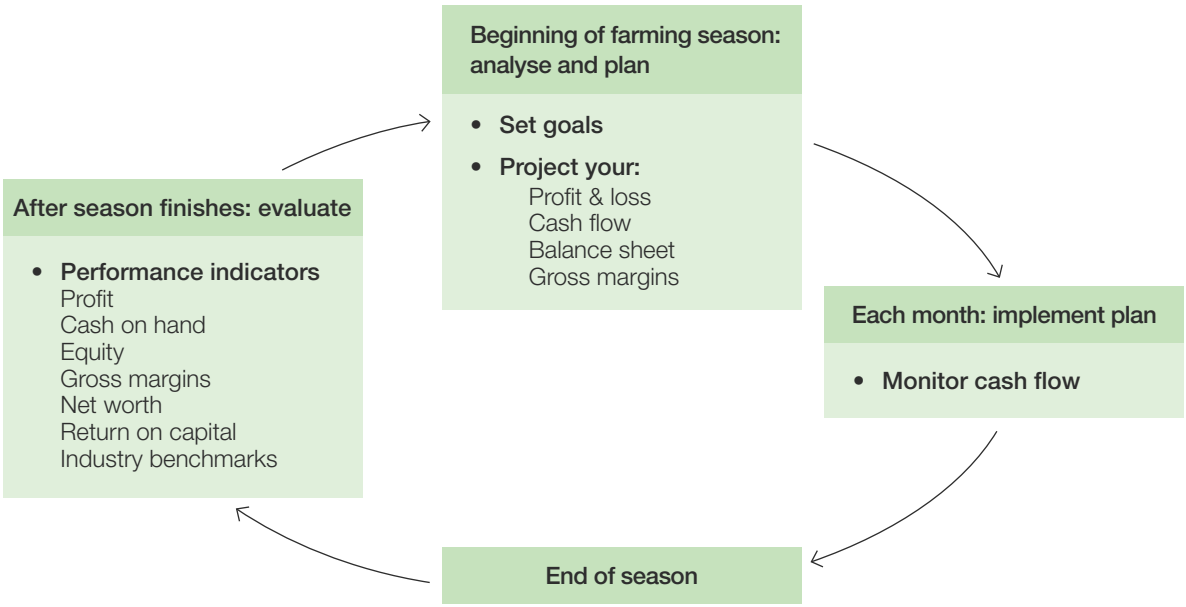
A feature of every well managed business is that they have a planning cycle comprising periods of goal setting followed by action and monitoring, with results feeding back into the re-setting of goals and targets. It can be an annual cycle (Figure 3.9), quarterly or monthly cycle, depending on the intensity of the business.

Farm business management requires focus on both part and whole business measurements in order to find business solutions and test business decisions. Your business feedback should come from a combination of the following farm business performance 'tools': Profit and Loss, Cash Flow, Balance Sheet and Enterprise Gross Margins.

'Budgeting is absolutely essential. We are very stringent on that. We have quarterly board meetings where we present budgets and go through our profit and loss, and budget actuals on the way through. We take our actual results from the previous 2 to 3 years and use those to sit down and plan for the future. In a business of our size and scale, it is really important to know when money is coming in and when it needs to go out.'

John Gladigau,
'Bulla Burra', Allawoona, SA

Figure 3.9: Farm business yearly planning cycle



Source: P2PAgri P/L

3.4.2 Bringing it all together: cash, profit and wealth

Co-contributor to this section: Assoc. Prof. Bill Malcolm, University of Melbourne.

> **'The key to farm business management is to assess the whole business and not just parts of the business. We can have a tendency to focus on each enterprise, one at a time. This may allow us to isolate problems and look for solutions. However, we should not lose sight of the whole business. This is called the 'whole farm approach.'**
>
> Assoc. Prof. Bill Malcolm,
> University of Melbourne

This section brings the annual farm business management budgeting cycles together and shows how the balance sheet, profit and loss and cash flow interrelate to provide the broad picture of the farm business performance.

The farm family business has the following components:

- The people who own, manage and work in the business
- The technology used to guide production
- The economic environment
- The finance of the business
- The risk of business
- Issues beyond the farm gate

The challenge for farm management is that all these things need to be managed together. We need to find solutions to the whole problem. Solutions to parts are not solutions to the whole.

It is important to see how cash, profit and wealth are linked and how all three measures are needed to assess the performance of the business.

The following example, based on a mixed farm of 2,000 ha, demonstrates the relationship between cash, profit and wealth, and follows the Farm Business Yearly Planning Cycle in Figure 3.9.

Step 1: Calculate Opening Wealth

At the beginning or opening of the year, the farm's wealth (both **net worth** and **equity**) can be assessed using a Balance Sheet (Table 3.3), which measures both opening assets and liabilities.

In this example, there is only one debt to the bank of $1m. This is a 10-year loan with an interest rate of 10%, so there is an annual principal repayment of $100k.

This provides a 'bottom line' of opening values against which to measure the growth of business wealth across the year (Table 3.4).

Step 2: Calculate Annual Profitability

This is measured by a Profit and Loss budget.

Gross income – Variable and Fixed Expenses
= Operating Profit

Table 3.5 shows the annual Profit and Loss for this sample farm. Gross Income from grain and livestock sales is $1m. The Variable Costs are those cash costs that can be directly attributed to grain and livestock production. In this example, it is $600k, which means the Total Gross Margin is $400k. The overhead costs of $200k are taken away from the total gross margin to get an Operating Profit of $200k. This figure is also known as Earnings Before Interest and Tax (EBIT).

The growth in owner's equity is $85k. This is a good result as it is positive, rather than negative. However, the true measure of success would be if this was compatible with the growth goal of the owners of the farming business.

Other business efficiency measures that can be calculated from the Profit and Loss budget are shown in Table 3.6.

Step 3: Calculate Annual Cash Surplus (Liquidity)

This is measured using an annual Cash Flow budget. It is important to note that the cash story is different to the profit story:

- A Profit and Loss budget takes into account hidden costs such as depreciation, and hidden income such as change in inventory of unsold production, whereas a Cash Flow budget only takes into account uses of cash and sources of cash.
- The Cash Flow in Table 3.7 shows a Gross (Cash) Income of $1m, which in this example is the same as the Gross Income for the Profit and Loss. However, the overhead costs in the Cash Flow do not include the depreciation cost as this is not a cash item. In this example, the machinery value of $1.0m is depreciated at 7.5% p.a., giving annual depreciation of $75k. So the Cash Overhead Cost is $125k ($200k - $75K).
- Annual Net Cash Flow includes any capital purchases that have been bought with cash. In this example, the farm bought $75k of equipment, which shows up on the balance sheet as an additional asset.
- Annual Net Cash Flow also includes any principal repayments. In this example of a $1m loan needing to be repaid over 10 years, the annual principal repayment is $100k.

By subtracting the principal payment of $100k, interest payment of $100k and tax of $15k, the annual Net Cash Flow of the business is negative $15k. This loss is not a good outcome for the business as it needs to be funded from additional debt. (If this was a projected Cash Flow, provision would have to be made to finance this extra debt, or change the plan to ensure a surplus.)

Step 4: Calculate Closing Wealth

Check what has happened to the end of year Net Worth and Equity by putting the end of year Balance Sheet together, as shown in Table 3.8.

- Land value remains at $4m, but machinery is now valued at $925k as it has been depreciated by 7.5%, or $75k.

Table 3.3: Sample farm's opening balance sheet

Assets		Liabilities	
Land value	$4.0m	Bank debt	$1.0m
Machinery value	$1.0m		
Livestock value	$0.5m		
Total assets	**$5.5m**	**Total liabilities**	**$1.0m**

Table 3.4: Opening values

Total assets – total liabilities	= Opening net worth
$5.5m - $1.0m	= $4.5m
Net worth ÷ total assets	**= Opening equity %**
$4.5m ÷ $5.5m	= 82%

Table 3.5: Sample farm's profit and loss

Gross income (grain and livestock)	$1.0m
Variable costs	- $600k
Total gross margin	**= $400k**
Overhead costs	- $200k
Operating profit (EBIT)	**= $200k**
Interest payments	- $100k
Net profit	**= $100k**
Tax	- $15k
Growth of owners' equity	**= $85k**

- The livestock value remains the same at $0.5m and $75k of new capital investment has been purchased out of cash flow. The total assets have remained unchanged at $5.5m. Assets like land and livestock are periodically revalued but within-year changes are kept separate so as to not distort the measure of performance from the farming activities.
- The original bank loan has been reduced to $900k by the $100k principal reduction. However, new debt of $15k has been incurred due to the negative annual cash flow of $15k. Total liability has moved to $915k.

The changes in net worth and equity for the year are shown in Table 3.9.

The growth in net worth of $85,000 from the beginning of the year is the recorded net profit for the year (as no tax has been paid).

Table 3.6: Efficiency measures

Operating profit ÷ total assets managed	= Return on capital managed (ROC) %
$200k ÷ $5.5m	= 3.6%
Net profit ÷ equity	**= Return on owners' equity (ROE) %**
$100k ÷ $5.5m	= 1.8%

Table 3.7: Sample farm's cash flow

Gross (cash) income	= $1m
Variable costs	- $600k
Cash overhead costs	- $125k
Capital expenditure	- $75k
Net cash flow before loan payment and tax	**= $200k**
Principal payments	- $100k
Interest payments	- $100k
Tax	- $15k
Net cash flow	**= - $15k**

Table 3.8: Closing balance sheet

Assets		Liabilities	
Land	$4m	Bank loan	$900k
Machinery	$925k	New loan from the cash flow deficit	$15k
Livestock	$0.5m		
New Capital	$75k		
Total assets	**$5.5m**	**Total liabilities**	**$915k**

Source: P2PAgri P/L

Table 3.9: Change to net worth and equity

Net worth		Equity	
Opening	= $4.5m	Closing	= $4.585m
Opening	= 82%	Closing	= 83.4%

Source: P2PAgri P/L

In summary, the results for this sample farm are:

- **Cash:** The annual net cash flow of -$15k is not desirable, but equity is strong enough for the bank to advance this amount.
- **Profit:** Profit (growth in equity) is $85k, which represents a return on capital managed of 3.6% - an average rather than good level of economic efficiency.
- **Wealth:** The Opening Net Worth was $4.5m, which grew to $4.585m at the end of the year. This is a positive movement in Net Worth, which is a good sign.

Note: No single one of these indicators tells enough about how the business is performing - all three measures are needed. It may not always be that all three indicators show the business is doing well. The profit can be sound but the cash position unsound, and vice versa. If all three indicators are showing poor results, it is a sign that the business needs to seriously assess the reasons why and look for strategies to turn the situation around.

3.4.3 Bringing strategic thinking to management

A. Risk

Risk refers to the fluctuations of seasons, prices and other variables that directly affect the profit, cash and wealth of the business. Australian farmers face more risk than any other farmers in the developed world.

Risks in Australian agriculture:

- Minimal government assistance compared with farmers in most developed countries.
- Significant climate variability, particularly evident in the last 10 – 15 years.
- Direct exposure to international commodity markets, interest rate movements and exchange rates.

Risks to individual farm businesses:

- **Business risks** – The uncertainty of prices, seasonal drought and disease outbreaks.
- **Institutional risks** – These are issues beyond the farm's control and include government policies, market changes, international events and exchange rates.
- **Financial risks** – You have some control as you decide whether to take on added debt.

Attitude to risk:

Managing these types of risk is the key to success in Australian farming. With these significant risks, it is easy to have a defensive view and avoid risk. However, it should be recognised that it is risk that creates the return. Economists would say that business profits are a reward for the risk taken by the business. Your risk preferences are important, but remember that if you want a low business risk life, then you will have a low business return.

› Risk management is covered in greater detail in section 7, Module 3.

Having an offensive (positive, opportunistic) view of risk allows you to manage opportunities as they occur.

B. Scenario analysis

Imagining the future is powerful when you are developing the business vision. It is helpful to model the farming business given different events, such as poor prices and poor seasons, using 'scenario analysis'. Management of the debt levels can be assessed by these scenarios.

This is a really useful tool to assess the risk profile of the business and assess different strategies for the business to withstand whatever risks it needs to face. **The key is prepare, not predict.** We cannot predict the future, but we can prepare for events that are likely to occur, such as drought and market downturns.

The key to success in farming is to be flexible and to adopt new technology to keep you profitable. **In farming, if you are standing still, you are going backwards!**

› Analytical tools are covered in greater detail in section 11, Module 3.

C. The relationship between debt and equity

One key to the success or failure of a business is the relationship of debt to equity. The principle of **'increasing financial risk'** has a dynamic effect on business performance, as illustrated by the following example:

Example of Increasing Financial Risk

A farm with $10m in assets and $5m in debt has equity of $5m. If this farm earns 10% ROC, that's a profit of $1m. The interest bill for that farm at 8% interest on $5m debt is $400k. This leaves a Net Profit of $600k. The change in equity for this farm is $600k, which is a growth in equity of 12% ($600k/$5m). This is a good result.

+10% ROC → 12% growth in equity

Consider what happens when the opposite occurs when there is an Operating Loss of 10%. This farm loses $1m. In this situation, the interest bill is still $400k, but the Net Profit for the year is -$1.4m. This gives the business a 28% drop in equity (-$1.4m/$5m), which is a very poor result.

-10% Loss → -28% decline in equity

This example highlights that when things go well, the business moves forward at a certain rate. However, **when things go badly, the decline is much more rapid**.

A snowball effect also occurs when things go bad as the asset value declines. This makes the equity decline even further and increases the gearing ratio, further exposing the business. The business will now be seen to be a higher risk, resulting in higher interest rates from the bank. All these elements create a snow-balling effect where the equity in the business is quickly eroded.

The key point of the principle of **'increasing financial risk'** is that too much debt will expose the business and it will not survive. However, keep in mind that too little debt will mean you may not grow fast enough compared to your competitors. This will again expose the business to higher risk. The key is to have the right amount of debt.

› For more information on **HOW** to measure your farm business performance, go to section 5, How do i measure the financial performance of my farm business? Module 2.

Characteristics of a good farm manager:

- The farmer who is **passionate** about their business. They love what they do, and this helps with resilience and getting the business through the hard times.
- The farmer **who wants to be the best** at what they do. This striving for excellence gets them focused on continual improvement.
- The farmer **who knows his business well** and **what makes the business money.**

Put these three characteristics together, and you have a successful farm manager!

Action points

Use these farm business management budgets to:

- Develop your farm business budgets at the beginning of each season.
- Record your actual farm performance.
- Evaluate your business results at the end of each season.
- Measure your business' financial performance each year.

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Malcolm B. et al. (2009), **Agriculture in Australia**, Oxford University Press, 2nd Edition.

Malcolm, B, Makeham, J and Wright, V (2005), **The Farming Game: Agricultural Management and Marketing**, Cambridge University Press, Melbourne.

GRDC RESOURCES

Other information relating to the topics covered in Module 1 can be found in the following GRDC Fact Sheets:

Are you a good labour manager? (ORM, 2013):
http://www.grdc.com.au/GRDC-FS-GoodLabourManager

Building emotional resilience (ORM, 2013):
http://www.grdc.com.au/GRDC-FS-EmotionalResilience

Farm business overview:
http://www.grdc.com.au/GRDC-FS-FarmBusinessOverview

Farm business risk profiles (ORM, 2013):
http://www.grdc.com.au/GRDC-FS-FarmBusinessRiskProfiles

Making effective decisions (ORM, 2013):
http://www.grdc.com.au/GRDC-FS-MakingEffectiveBusinessDecisions

Managing People in the Farm Business – Being an Effective Leader (ORM, 2014):
http://www.grdc.com.au/GRDC-FS-ManagingPeople

Production economics:
http://www.grdc.com.au/FBM-ProductionEconomics

Simple and effective business planning:
http://www.grdc.com.au/FBM-SimpleEffectivePlanning

Taking care of your personal health (ORM, 2014):
http://www.grdc.com.au/GRDC-FS-PersonalHealth

Your farm business management checklist:
www.grdc.com.au/FBM-Checklist

MODULE 2
WHERE IS MY FARM BUSINESS NOW AND WHERE DO I WANT IT TO BE?

MODULE 2

WHERE IS MY FARM BUSINESS NOW AND WHERE DO I WANT IT TO BE?

The aim of Module 2 is to provide farm business management tools to measure the current financial performance of your business. It focuses on the ‘how to’ of putting together the farm business management analysis and plan. It is useful to have an understanding of the tools available and how to use them to obtain a comprehensive analysis of your farm business. To make the most of these tools, management needs to have a clear understanding of where the business is heading, set appropriate goals, and implement a sound planning and monitoring system.

Module 2 covers sections 4 and 5 to help you answer two fundamental questions about your farm business:

4 WHERE IS MY FARM BUSINESS HEADING?

Having a business 'destination' or vision in mind will help guide your business decision making as you plan for your business. Having this clearly thought out and written down greatly improves the focus of the business activities. Knowing the goals will help all involved in the business to work more effectively toward achieving the business' vision.

A planning process, by incorporating past and present performance, encourages continual improvement in the business. A sound planning process has four steps regardless of the time period: analysis, planning, implementation and evaluation. Implementing and maintaining this process requires discipline, but helps identify what 'has' and 'hasn't' worked, so that people in the business can work toward continually improving performance – of themselves and the business.

A clear understanding of your current business position provides a strong foundation on which to build toward your destination, and leads to the second fundamental question:

5 HOW DO I MEASURE THE FINANCIAL PERFORMANCE OF MY FARM BUSINESS?

To answer this question, you will probably need to ask questions of your business, particularly about three key concepts in farm business management:

i. **Liquidity** (section **5.1**) – What is my business' cash position? Am I using my cash wisely? Do I have enough cash coming in this year to run my business?

ii. **Efficiency** (section **5.2**) – Are we making a profit? Is my business viable? Is the business using its capital and labour assets efficiently?

iii. **Wealth** (section **5.3**) – What is our business net worth? Are we building equity in the business?

Once you have analysed your business in these three key areas, you may also want to consider other business diagnostic tools to help fine-tune your business, such as:

- **Enterprise gross margin budgets** (section **5.2.5**)
- **Cost of production** (section **5.2.6**)
- **Other performance indicators** (section **5.5**)
- **Management versus tax accounting** (section **5.6**)

Throughout Module 2, a sample farm called 'Upndowns Farm' will be used to illustrate these key concepts of farm business management, and the various budgets and financial performance indicators that are used to measure and apply them. You will get to know a lot about the 'Upndowns Farm' business; however, there is no substitute for doing the budgets for your own farm business, as each farm business is unique.

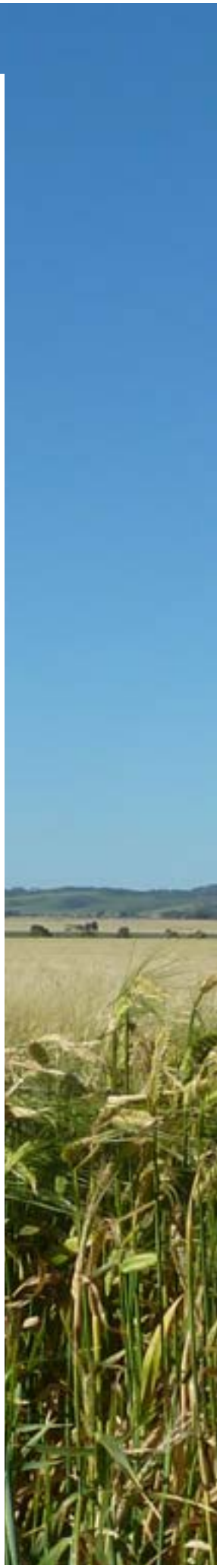
'Upndowns Farm'

This sample farm is located in a medium rainfall zone and has the following characteristics:

- Owned land: 1,500ha (3,700ac)
- Share farmed land: 450ha (1,111ac)
- Average land value: $6,412/ha ($2,596/ac)
- Average annual rainfall: 463mm (442mm growing season rainfall)
- Rotation: 37% pasture and 63% crop (48% of this cropped area is cereals)
- Livestock: 9,3-00 DSE (dry sheep equivalent) made up of prime lambs, self-replacing merino and a cattle enterprise
- Average carrying capacity: 14 DSE/ha
- Average wheat yield: 4.5t/ha
- Net worth: $8.5m
- Equity: 75%
- Full-time labour units: 3.2

4 WHERE IS MY FARM BUSINESS HEADING?

Having an understanding of the whole system helps you to better manage your farm business.



4 WHERE IS MY FARM BUSINESS HEADING?

This section covers the different stages of the business planning cycle and as part of this process, the development of business vision and goals.

KEY POINTS

- A clear vision for your business is like driving with a destination in mind.
- Involve all members of the farm business in the business planning process to create synergy in the team.
- Have an easily implemented analysis and planning process to encourage improvement.
- Review your business plan and goals as part of your yearly farm business planning cycle.

Farmers operate in increasingly complex and risky environments, facing issues such as increased costs for land and technology, more intense global competition, climate uncertainty and market volatility. Managers of businesses that succeed tend to have realistic expectations and a clear sense of purpose or vision, aligned with a strong will to succeed, while adhering to a well-defined set of core values. They monitor costs and profitability, and develop an understanding of their strengths and weaknesses. From analysing their business, they develop clear goals and build an action plan that keeps them focused on those goals despite the many and potentially distracting challenges they face.

'It was quite clear to me that in ten years' time I'd still be working as hard and not getting anywhere, so something had to change. I realised that I didn't have very clear goals of where I wanted to go – I just knew I wanted the business to be different. I found a farm consultant who could help me analyse how each enterprise was going so I could learn to evaluate any changes I might make and know whether they were worthwhile. It certainly helped improve my budgeting, which is now a very useful tool and not just something I do once a year for the bank. I went to a Plan Prepare Prosper workshop run by the Department of Agriculture and from that developed a strategic plan and that's really guided my business for the last four years, because it's broken down my vague goals and put them in writing into something specific, achievable and the steps to get there.'

Lynley Anderson,
'Brookvale', Kojunup, WA

4.1 FARM BUSINESS MANAGEMENT ANALYSIS AND PLANNING

Central to good farm business management is having an effective planning process at all levels of the business. This process is cyclical and involves four critical stages: analysis, planning, implementation and evaluation.

4.1.1 Four stages of the farm business planning cycle

The four stages of planning are useful for both short and long-term planning. They help set directions and maintain transparency about the performance of the business. This process needs to be objectively assessed and recorded:

- **Analysis** – The performance of your farm business ought to be analysed regularly to inform planning and evaluate progress against the business' vision and goals. The focus should be on financial and economic performance, but can also include useful production benchmarks. A business benefits from a sound, well-structured and consistent process where analysis can be done readily and simply. The main tools to help you analyse your farm business are a cash flow budget, a profit and loss budget, a balance sheet, and enterprise gross margin budgets.
- **Planning** – Once you have a complete financial analysis of the business, goals and financial projections can be developed to guide the farm business activities. A written plan allows the actual results to be compared against the plan as the season progresses.
- **Implementation** – Once the plan is developed, it needs to be implemented as the season unfolds. This is possibly the most challenging part of the management process as the focus needs to be on implementing the entire plan, rather than focusing on the more easily accomplished items on the list.
- **Evaluation** – At the end of the season, the business performance is measured against the plan and goals in order to assess 'what worked' and 'what could be

improved'. Done correctly, this evaluation provides the analysis to inform planning for the following season.

Figure 4.1 illustrates this cyclical process, which was introduced in Module 1. The process of business analysis, followed by planning, implementation, and ultimately evaluation against the plan, will provide the analysis for the next period, and the farm business management planning cycle continues.

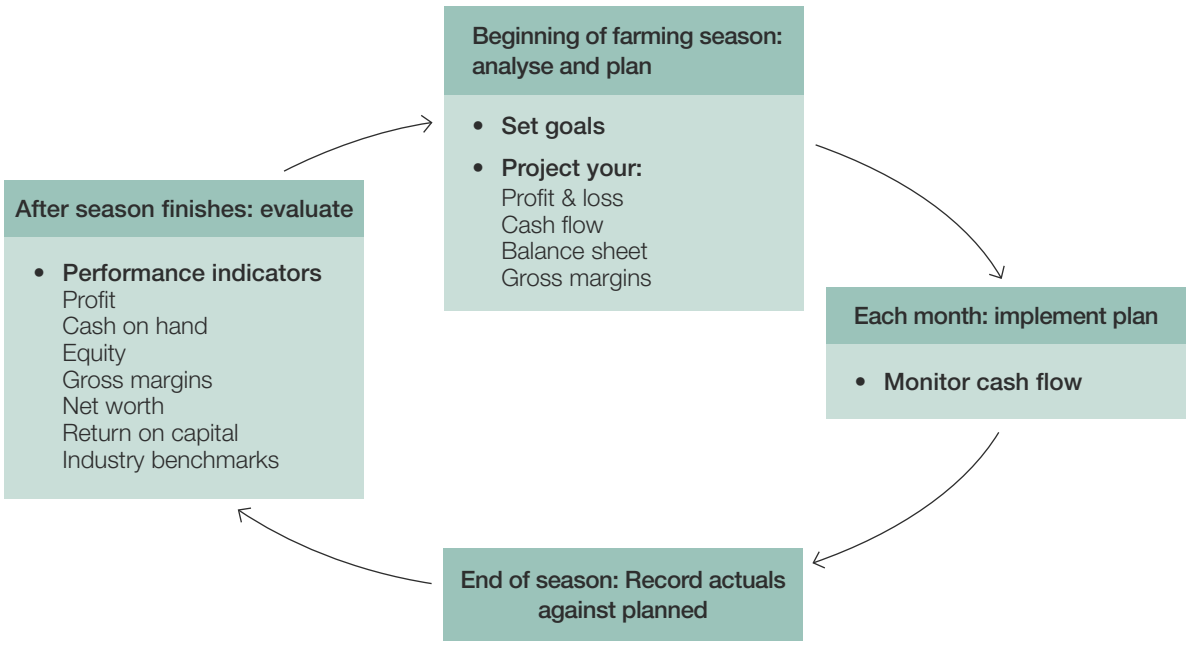
4.1.2 Benefits of business planning

Like all processes on the farm, there needs to be a benefit from the planning process that far outweighs the cost and effort involved. Some of the benefits at each stage of the cycle are:

- **Analysis**
  - > Analysis of the business provides objective information about how the business is performing. Written records of financial and physical performance identify both good and bad trends over time and provide a rich source of data that can inform sound decision making.
  - > Analysis helps to relieve stress if objective records are kept. Stress in tough times can be exacerbated if business performance is not measured, as memory can often be inaccurate.
  - > Analysis can facilitate the testing of ideas. If it doesn't work on paper, it is unlikely to work in the field. This can save time, energy and money, and helps build confidence in taking advantage of opportunities.
- **Planning**
  - > The planning process provides structure to the decision making process.
  - > During times of economic difficulty, stress can cloud a manger's ability to make sound decisions. A written plan can often minimise stress and maintain good decision making.
  - > Communication between people in the business can often be improved if there is a written plan. This is particularly helpful in family businesses.
  - > Planning helps managers to feel they are in control, as they can be proactive rather than reactive.
  - > A written plan reduces the chance of 'selective recall'. This can be significant if there are disagreements between those in the business.
- **Implementation**
  - > Without implementation, there is no business.
  - > Focusing on implementing the business plan helps to prioritise effort, especially in the stressful times of poor seasons.
  - > Knowing there is a process of evaluation at the end of the season can help management remain focused on implementing the plan as closely as possible.
- **Evaluation**
  - > Financial and physical records provide a base-line or benchmark against which to monitor the progress of the business.
  - > Evaluation of each season's results provides transparency of the business, which is helpful to the people both in and outside the business.
  - > Evaluation of the season's actual results provides data for subsequent business planning.

The benefits that result from a sound planning process far outweigh the costs involved of time and discipline.

Figure 4.1: Farm business yearly planning cycle



Source: P2PAgri P/L

4.1.3 Three levels of farm business planning

A comprehensive business plan needs to encompass different levels of management that focus on different periods of time as part of the farm business planning cycle. These levels include medium to long-term strategic planning, yearly tactical planning and more immediate operational planning.

- **Strategic Planning**

  Strategic planning refers to business analysis and planning for 1 to 10 years into the future. This can be the most challenging level of planning to undertake as it requires deep thought, way beyond the current situation. There is often less importance given to completing strategic planning as it does not focus on the immediate and is often not regarded as urgent. However, strategic planning is vital if you are looking to improve business performance over the longer-term. It encompasses developing the long-term vision, mission and goals of the business, and how these will be achieved. Examples of strategic planning include:

  > Obtain additional land through leasing, to gain economies of scale while not significantly affecting the balance sheet.
  > Develop a succession or transition of ownership plan with strategies for how this will be implemented to assist the older generation to move off the farm.
  > Implement an advisory board to help direct the business to achieve growth in accordance with the business' vision and mission statements.
  > Organise a buying group among 'like-minded' farmers to effect a reduction of input costs and improve profitability.
  > Sell major machinery and use contractors to reduce machinery debt, keeping up with expensive technology or solving labour problems.

➤ The strategic planning process is discussed further in section **4.2, The strategic planning process, Module 2**.

'With the cropping side of things, we weren't doing it particularly well. We had outdated machinery that was old and was requiring too much labour. So the plan was to upgrade the machinery, get extra labour and lease more land to spread the overheads over a larger area. I decided to ramp up the stud breeding side of things. I plan to market them a bit more and sell more rams and sell some semen. So I've developed a website and have a marketing plan, and I'll be holding my first sale this year.'

Lynley Anderson,
'Brookvale', Kojunup, WA

- **Tactical Planning**

  This refers to planning for actions to be undertaken within a year. A good example is a cropping or paddock plan, or a grain selling plan for the coming season. It is the planning needed for a season and would include reacting to events as the season unfolds. Most farmers would undertake tactical planning - it is easier than strategic planning and more immediate, as there are deadlines to meet every season. Examples of tactical management include:

  > Apply additional nitrogen to the crop part-way through the season as a response to good soil moisture levels.
  > Scan the mated ewes with the aim of culling ewes that are not pregnant.
  > Spread the cropping program over a longer period to encourage different flowering periods to help manage frost risk.
  > Sell store lambs early when a poor spring produces poorer feed availability.
  > Sell more grain forward when prices are abnormally high.

➤ The tactical planning process is discussed in section **4.3, The tactical planning process, Module 2**.

- **Operational Planning**

  This is the weekly and daily operations planning which many farmers find easier to focus on as there is a high level of immediacy and/or urgency. Examples of operational management include:

  > Weekly meetings with family members and farm staff to coordinate the tasks for the week, such as crop spraying, hay making and shearing.
  > This type of planning is also reactionary as management needs flexibility to respond to the weather, such as calm days needed for spraying and nitrogen being spread just prior to rain.
  > Co-ordination of labour, grain and livestock cartage, and contractors for seasonal tasks.

Operational planning is concerned primarily with physical operations on the farm rather than farm business management, and is therefore not a focus for this manual.

When developing strategic, tactical and operational planning, it is important that the process at each level includes analysis, planning, implementation and evaluation. Table 4.1 provides a framework indicating the process and tools useful for business analysis and planning at all three levels.

4.2 THE STRATEGIC PLANNING PROCESS

The process of strategic planning for your farm business should include the stages of analysis, planning, implementation and evaluation, as summarised in Table 4.1. Use this as a guide to your strategic planning process.

At the analysis stage, the key financial tool to assess the business' current wealth or equity position is a balance sheet.

› How to develop a balance sheet is addressed in section **5.3.1, Balance sheet, Module 2**.

Further analysis of the business is achieved through a SWOT Analysis (Strengths, Weaknesses, Opportunities and Threats).

› How to conduct a SWOT analysis is addressed in section **4.2.2, SWOT analysis, Module 2**.

This analysis of the business' current position is essential as it provides a base-line against which to develop business goals and measure progress toward achieving them. But what are your business' goals?

One of the most critical actions for your business at the strategic planning level is to develop clear vision and mission statements and goals.

4.2.1 Vision and mission statements

It is important to develop a vision for any business. This is like having a destination in mind and a farm business is no different. Once the vision is developed, this gives direction to the business, and management effort can be focused on how to achieve this outcome. This is formally known as a vision and mission statement, and is the first stage in developing a business plan. Some farm businesses may have an unspoken vision and mission statement, but it can be wrongly assumed that all in the business team know and understand this unspoken vision. A written vision and mission statement developed by the whole management team will help the team to work together to achieve the same goals.

The benefits of this process are that:

- It harnesses the sub-conscious to strive toward achieving the vision of the business.
- It provides a significant guide for decision making, allowing team members to assess opportunities as either helping or hindering the achievement of the vision. Well-defined goals and an established vision provide purpose to farm business decision making.
- It encourages synergy in the management team which can be powerful, as more can be achieved working together effectively and in the same direction, than as individuals heading in different directions. Having a well-defined and well-known vision and mission statement for the business, shared by the team, gives a solid foundation for the business.

'In Tasmania, we tend to run a lot of enterprises. We've got very diverse topography so we've got different soil types within small areas. So we might have a pivot circle that's got heavy black soil, black cracking clay, right up to wind-blown sand that's subject to wind erosion. There are a lot of little micro-climates in these hills and valleys, so that brings diversity. It's really easy to get wound up in this complexity and lose sight of the benefits of simplification.

In 2011, I was fortunate to win a Nuffield Scholarship, sponsored by the GRDC, and was able to travel around the world. I was searching for a way to overcome our management bottleneck, ways of reducing complexity and bringing more systems and protocols into the day-to-day management. The interesting thing I did come across was that most businesses I saw were running 3 to 5 enterprises, and to put it in context, last year we were running 10.

If we could get back to 5 or 6 enterprises, it could be a lot simpler. We're growing hybrid carrot seed which is really a specialised crop but we're not specialists at all! Maybe we're better off getting an expert who is a specialist in that area to grow that crop. Maybe there's more synergy…we'll do a better job of running the rest of it and keeping the business as a focus rather than the day-to-day on the ground stuff as a focus.'

Michael and Fiona Chilvers,
'Winburn', Launceston, Tas

What are the business vision and mission statements?

This is sometimes difficult to describe but an analogy to help illustrate this is 'travel'. Most successful trips begin with a planned destination and purpose for the journey. Maps are studied, travel dates are determined and travel arrangements put in place. In fact, the greater the preparation, the more likely the trip will be successful. As the journey progresses, there may be obstacles such as cancelled flights, car trouble and family sickness. Given that the destination is clearly known, it is likely that disruptions along the way will be managed so that the destination can still be reached. You may not reach your destination on time, but strategies are put in place to manage the unexpected and you do eventually arrive.

Planning and managing a business is similar, and the probability of achieving success increases when you know where you are going and have some good ideas about how to get there. Without a vision or mission statement, how do

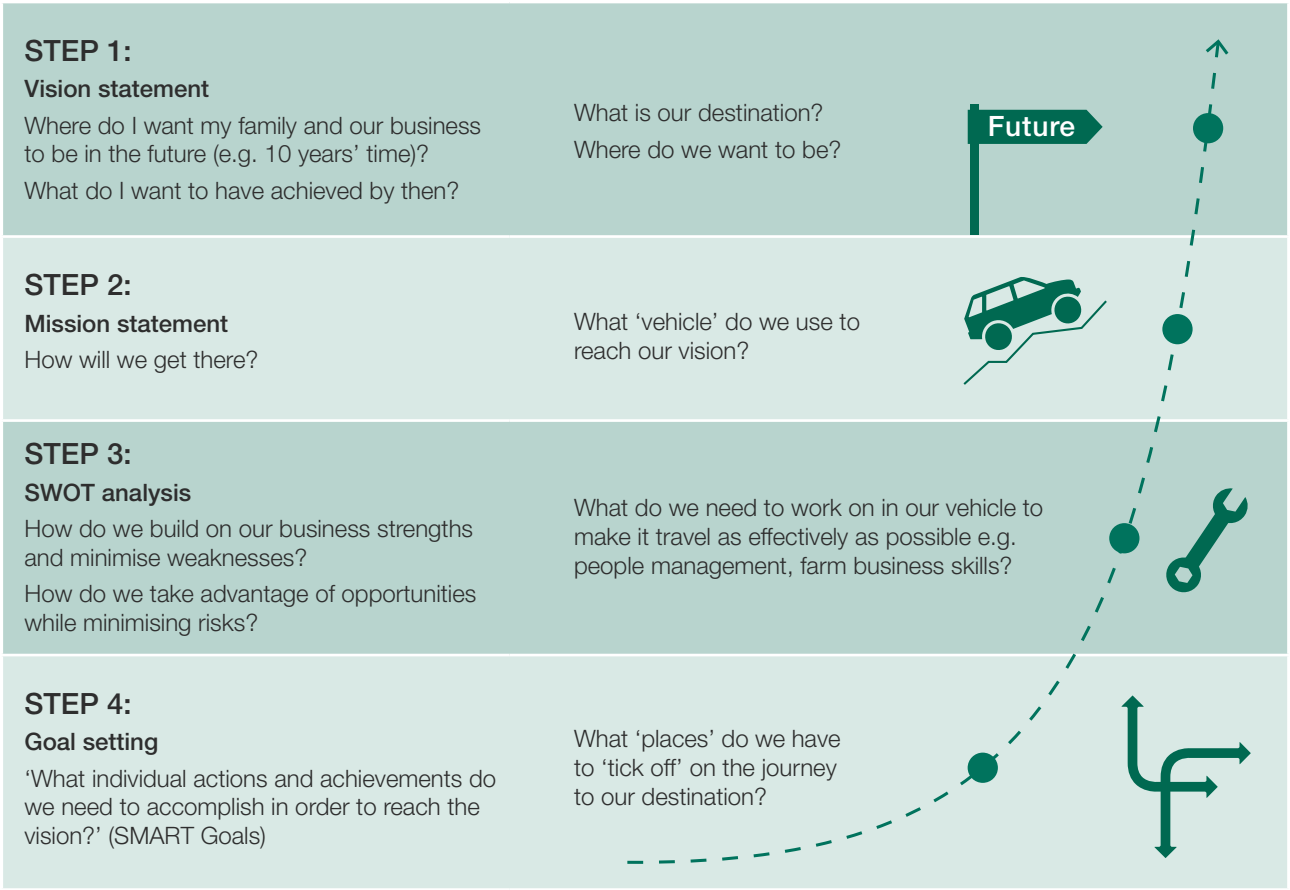
Table 4.1 Farm business management analysis and planning framework

Timing	Level of planning	Features	Key questions
Long-term (2-10 years)	**Strategic**	• Provides a high-level overview of the whole business. • Guides all business decisions. • A strategic plan is an open-ended 'living' document that grows with the business. • Needs a yearly evaluation of the business' progress against its vision and goals. • Crucial components: **vision and mission (Mod 2, 4.2.1),** and develop shared values for the business **(Mod 1, 2.6).**	**Where are we now?** **Where do we want to be in 2-10 years' time?** **How do we get there?**
Medium-term (1 year)	**Tactical**	• The tactics or actions that the business plans to use to achieve the vision. • A tactical plan needs an analysis of the business to provide answers to key business questions and a base-line against which to measure progress. • A yearly planning cycle ending with an evaluation of planned versus actual results.	**Where are we now?** **Where do we want to be at the end of this season/this year?** **How do we get there?**
Short-term (Now)	**Operational**	• The day-to-day plan of the business. • The operational plan provides a 'road-map' to achieve the business goals within a short time-frame, • Highly specific. • May be single events, or part of an on-going plan. • They align with the tactical and strategic plan.	**Where are we now?** **Where do we want to be in the next week/month?** **How do we get there?**

Key actions		Farm business management 'tools' and strategies
Analyse:	- Current business wealth/equity **(Mod 2, 5.3.1 Balance Sheet)** - Current resources: financial, human production (land, equipment stock etc) - Strengths and weakness in the business, and opportunities and threats external to the business **(Mod 2, 4.2.2 SWOT analysis)**	**'Tools' to help complete your business analysis and planning :** • SWOT analysis **(Mod 2, 4.2.2)** • Financial 'tools' for farm business analysis: > Cash flow budget **(Mod 2, 5.1.1)** > Profit and loss budget **(Mod 2, 5.2.3)** > Balance sheet **(Mod 2, 5.3.1)** > Enterprise gross margin budgets **(Mod 2, 5.2.5)** > Cost of production **(Mod 2, 5.2.6)** > Financial ratios **(Mod 2, 5.5.1)** > Benchmarks **(Mod 2, 5.5.2)** > Whole farm analysis **(Mod 2, 5.4)**
Plan:	- The vision, mission and values of the business - Roles & responsibilities - Set long-term goals and broad strategies **(Mod 2, 4.2.3 SMART Goals)**	
Implement:	- Implement and monitor	
Evaluate:	- Review yearly. Update financial position of the business and evaluate progress against goals.	
Analyse:	- Projected seasonal expectations - The outlook of current commodity markets	**Strategies to help assess and plan for potential business opportunities, threats and weaknesses:** > How banks lend to farmers **(Mod 3, 6)** > Risk management **(Mod 3, 7)** > Grain selling versus marketing **(Mod 3, 8)** > Possible business models **(Mod 3, 9)** > Succession planning **(Mod 3, 10)** > Analytical tools **(Mod 3, 11)** > Advisory boards **(Mod 3, 12)** Information from your business analysis will help guide the development of SMART Goals **(Mod 2, 4.2.3)** for all levels of your business planing.
Plan:	- Estimate the cash flow **(Mod 2, 5.1.1)** position for the season - Estimate the season's profit and loss budget **(Mod 2, 5.2.3)** - Estimate enterprise gross margin budgets **(Mod 2, 5.2.5)** for all enterprises - Estimate the cost of production **(Mod 2, 5.2.6)** for all enterprises - Set your enterprise program (crop and livestock) - Decide on selling plan – where and how you will sell - Set your medium-term goals and tactics **(Mod 2, 4.2.3 SMART Goals)**	
Implement:	- Implement and monitor	
Evaluate:	- Review progress toward goals several times throughout the season - At the end of the season, complete a **whole farm analysis (Mod 2, 5.4)** of your business - Evaluate business outcomes against medium and long-term goals and use to inform future planning	
Analyse:	- Seasonal conditions - Market conditions - Input supply conditions - Labour availability	
Plan:	- Daily/weekly/monthly operations: What gets done? How is it done? Who does it? When?	
Implement:	- Implement and monitor	
Evaluate:	- Review weekly/monthly	

Source: P2PAgri P/L

Figure 4.2: The business planning journey



Source: P2PAgri P/L

you know where to direct your business' scarce resources and management effort? Also, how do you know what to measure to ensure you are heading in the right direction to achieve your intended business destination?

Vision = where you are heading: your 'destination'

In a business sense, your destination is the vision or what you are striving to achieve. It is the ultimate goal that keeps you going when obstacles occur, such as poor seasons, disease outbreaks and low commodity prices.

Mission = your vehicle, or how you are going to get there

The mission statement is the 'how' you are going to achieve the vision. Using the travel analogy again, a mission statement is the selection of travel mode. It is how you are going to get to your destination. Going one step further with business planning, the detailed travel arrangements like flight and accommodation bookings are the 'goals' needed to make a successful journey. Goal setting is explained in the next section, but first the vision and mission statements need to be developed, as the correct direction needs to be set in place. Figure 4.2 shows the priority and process for setting the business direction or 'journey'.

'Down at our 100% cropping block, we've moved to full stubble retention and lupin rotation. It's a little hub of innovation so we're trying to get that sustainable but very profitable system. It really is a strategic move to find that really profitable enterprise - we really aren't aiming at mediocrity. We want high profit, or we stop doing it.'

Tony and Vicky Geddes,
'Yallock', Holbrook, NSW

Step 1: Develop a vision statement

This is a short statement of ***where*** the management team would like to see the business in the future, such as in 10 years' time. It is the 'big picture' of what you would like your business to do well and be known for doing. Dare to dream or desire a big goal, as a vision is something not yet achieved, but is what you want to achieve. Part of this process should include developing a set of values by which the business can be managed.

› Refer to section **2.6, Develop shared values for the business, Module 1**.

As part of the process, a useful step is to spend some time, perhaps a half-day, focusing on developing a vision statement for the business. Who should be included in this discussion? This could include anyone from those involved in ownership through to those who manage the business. The choice is yours. The aim is to have all who are involved in the business emotionally invested in the common vision. You may need a couple of sessions as this statement should be brief yet meaningful, and may take significant thought and effort to develop. The use of a whiteboard where all participants can see the statement being developed will help. Having an independent person facilitate this discussion is invaluable, as this helps manage the often challenging inter-personal relations and keep in check the bigger egos in the room, so that the team can remain focused and all can participate. Done well, this process encourages the management team to own the vision and create a synergy that will allow it to be achieved more successfully.

When developing your vision, ask yourself the following questions:

- What is our dream for the business?
- What would be inspiring to achieve?
- What would our management team find encouraging?

The vision statement should be:

- Meaningful and purposeful.
- Clearly and simply written.
- Easily communicated with others.
- Answer why you are pursuing the activities you are planning, or currently undertaking.

A well-developed vision statement should help to:

- Provide the inspiration and encouragement needed by the management team to focus on joint effort.
- Focus the team on the destination rather than the journey, when challenging times occur.
- Improve communication with others outside the management team, such as the accountant and banker, to help the business achieve its vision.

Examples of vision statements are:

- To be an outstanding merino sheep breeder.
- To be a highly profitable business, providing opportunity for growth.
- To have a profitable business that will build net worth to cater for retirement.

'Upndowns Farm' vision statement:

To be a sustainable family business that allows the next generation the opportunity to continue in the business.

Step 2: Develop a mission statement

This is a broad statement defining the essential purpose of your business, the action that is going to be done and states ***how*** the vision is to be achieved. It helps answer ***what*** is going to be done and ***why*** it is being done.

To write the mission statement, follow the same group process used in developing the vision statement. The focus is on the what, why and how of your vision statement; it is about action. The mission is a little longer than the vision statement, but the emphasis is still on being brief and succinct.

To write a mission statement, focus on the following questions:

- What is the most important outcome the business is aiming to achieve?
- Why do you want to achieve the vision?

A well-developed mission statement should:

- Provide a focus from which a list of goals can be developed.
- Make it clear to people outside the business precisely what the owners are striving to achieve in the business.
- Inspire action from the management team as it directs what is being achieved.

Examples of a mission statement are:

- Using industry best breeding practices, continue developing the sheep stud to build business reputation and provide purpose for action.
- Continue building the family farming business to create wealth and increased opportunity for the future.
- Using the family farming business, develop a broad investment portfolio both on and off the farm, to build wealth for retirement.

'Upndowns Farm' mission statement:

Through the use of best farm business practice and family team work, develop and maintain a sustainable farming business.

4.2.2 SWOT analysis

Step 3: Once you have developed your vision and mission statements, do a SWOT analysis of your farm business.

It is useful to assess both the internal and external environment of the business, to see where improvements can be made and opportunities grasped. This can be done in a structured approach using a **SWOT** analysis. The acronym SWOT refers to assessing the **Strengths, Weaknesses, Opportunities** and **Threats** of the farm business. It is a process that allows you to objectively analyse the performance of the business from a wide perspective, particularly within the business (assessing strengths and weaknesses), and outside the business (assessing opportunities and threats).

Strengths – These are the strengths within the business, such as location to market, productivity of the soils, reliability of rainfall, skills of the labour force, capital base, quality of livestock, and/or established relationships with reliable suppliers of inputs/buyers of outputs. This is the competitive advantage of the business.

Weaknesses – These are the weaknesses within the business, which could include supply and quality of labour and management, inadequate information systems, high debt levels, lack of a succession plan or having a poor relationship with the bank.

Opportunities – These are the opportunities available from outside the business. This could include taking advantage of the world's predicted increased demand for food, producing genetically modified free crops for a niche market, or joining a buying group to help minimise costs, the availability of an equity investor, or the chance to establish a commercial relationship along the value chain.

Threats – These are the threats to the business. Examples could include increasing difficulty obtaining the quality and supply of labour required, a disease outbreak, the competing interests of a miner who has found valuable minerals on the property, the continuing strength of the $A causing grain prices to be lower, or a change in government policy interrupting market function, such as the embargo on Australian agricultural exports to Russia.

Sit down with your team and detail a SWOT analysis of your business. Reflect widely and deeply on the list that you have generated from this analysis. It may look overwhelming at first, particularly the weaknesses and threats, so prioritise the most significant three or four in each of the categories. These then become the focus for management effort, particularly:

- Building on strengths, as this is the business' competitive advantage.
- Minimizing weaknesses, as this is the business' main vulnerability.
- Making the most of the opportunities.
- Minimizing the risks from the threats.

As a guide, the 'Upndowns Farm' business SWOT is outlined in Table 4.2.

A template to complete your SWOT analysis can be downloaded at: **www.grdc.com.au/FBMtemplate-SWOT**

4.2.3 SMART goals

Step 4: Develop SMART goals for your business

Now that you have a clear direction for your business, driven by the vision and mission statements, and with an improved understanding of your business environment through the SWOT analysis, it is time to focus on specific business goals that need to be achieved to fulfil the vision. These specific objectives form the basis of your business road map and guide the ***how***, or the actions and projects that need to be implemented to achieve the business vision. When developing your goals, make sure they are:

- **Written** – The act of taking them from thought and putting them into writing (from abstract to concrete) is powerful. It makes them more believable and realistic, and enhances your sense of commitment to carrying them out.
- **Both long and short-term** – When thinking of goals and how to achieve them, consider both the short-term, from the present to the next 3 years, and the medium and longer-term, from 3 to 10 years.
- **Developed with your management team** – As with your vision and mission statements, it is important that you have all your management team taking responsibility for these goals and actions.
- **Reviewed regularly** – Specific goal and action-setting should not occur just once. Assess and renew them regularly, or as they are achieved.

Using the following guide for developing SMART goals will help you set more effective goals. This also makes them more transparent, allowing you to more easily assess business progress toward achieving them. SMART goals area an acronym for:

- **S**pecific – Goals should be specific and focused, so they are easily understood and communicated to the team who are working with you towards achieving these goals.
- **M**easurable – Goals that you can measure means that it is clear when they have been achieved. Resist the easy path of developing general goals and develop a measure for each goal.
- **A**ttainable – Some goals appear so big that it is hard to know where to begin. It is not to say you should not have 'big hairy goals', but break them down into attainable steps so you can more easily build toward the big goals.
- **R**ealistic – To ensure goals are attainable, they also need to be realistic. Making your goals realistic is empowering as you are more likely to believe you can achieve them, and are therefore less likely to give up when challenges occur.
- **T**imely – Perhaps the most important part of this process is to time-bound your goals. This will focus you on the deadline and make you accountable for achieving them.

A set of SMART goals for 'Upndowns Farm' is shown in Table 4.3.

A template to complete your SMART goals can be downloaded at: **www.grdc.com.au/FBMtemplate-SMART**

Table 4.2: 'Upndowns Farm' SWOT analysis

Strengths	• The farm operates in a reliable rainfall cropping and grazing zone. • Crop production is achieving 70% water use efficiency. • Major sheep performance indicators are sound. • Sheep genetics are sound for a commercial enterprise. • Soil fertility and property infrastructure are sound. • Scope exists to develop and lift carrying capacity of some parts of the farm.
Weaknesses	• The business equity is at 74%, leaving no reserve of borrowing capacity for the tough times. • Debt servicing ability will be inadequate if yields or prices fall below the typical medium term level. • The owners/key staff are getting older, or have had poor health in recent years. • It is unclear whether the next generation want to come home and continue the family business; if this is the case, the current farm size is not big enough. • The management team of the business is feeling constantly pressured with staff issues • Wills have not been updated for 20 years. • No formal succession plan has been developed.
Opportunities	• There is some land available in the district for leasing. • Most farmers in the area are near retirement, so expansion opportunities through land purchase are increasing. • The sheep meat market is strengthening and the medium term outlook is good. • New technology is available that offers scope to increase stock carrying capacity. • Rising incomes in the emerging economies are increasing demand for food in general and for quality food in particular, so the fundamental outlook for agriculture in the future is positive. • The state farmer political body is being rejuvenated, which may bring better outcomes with land planning and regulation.
Threats	• Land values are increasing due to non-agricultural influences, making expansion in the current location problematic. • The $A remains high, suppressing Australian export commodity prices. • Recent concentration of grain buying capacity is threatening price bargaining power. • Interest rates are expected to increase over the next few years. • The livestock industries are continually under threat from animal welfare lobby groups, which threaten animal health practices such as mulesing. • The mining industry is looking for cold seam gas in the district, which could threaten the underground water supply.

A template to complete your SWOT analysis can be downloaded at: **www.grdc.com.au/FBMtemplate-SWOT**

Source: P2PAgri P/L

Table 4.3: 'Upndowns Farm' SMART goals

Goals	Who	Deadline
Short-term		
• Complete the first meeting for the succession plan	The family unit	30th March, this year
• Hold a quarterly management planning meeting to monitor goals	The management unit	28th February, this year
• Complete the cropping program for next season	Son and the agronomist	30th January, this year
• Discuss with banker to review and manage the interest rates.	Dad and Mum with the banker	28th February, this year
• Complete the repairs and maintenance pre-seeding program	Dad and Son	10th April, this year
• Complete the 2km/year re-fencing program	Dad and Son	30th September, this year
• Attend workshops on people management	Dad, Mum and Son	30th September, this year
• Complete tax planning for this year	Dad, Son and accountant	30th May, this year
Long-term		
• Look for ways to allow Dad and Mum to retire from full-time farming	Dad, Mum and Son	28th February, 5 years' time
• Review vision and mission statements	Dad, Mum and Son	30th March, 5 years' time
• Buy Dad and Mum a house in the local town	Dad, Mum and Son	30th October, 5 years' time
• Replace the header	Dad and Son	30th August, 4 years' time
• Complete tertiary degree in management	Son	30th December, 4 years' time

A template to complete your SMART goals can be downloaded at: **www.grdc.com.au/FBMtemplate-SMART**

Source: P2PAgri P/L

Tim: **'We have three people who help us with the farm management side – a farm consultant who is also our accountant, and he's been with us nearly 30 years. We do budgeting with him every February, once a year, and we go through the whole business, off-farm, on-farm, machinery, sheep, cropping, wool purchases, down to the last dollar. We also have an agronomist who also does a bit of the budgeting, but he pretty much sets out the cropping program with me. We work out the fertiliser rates and spray, and we gross margin that so we know exactly what this crop is going to cost to put in. We also have some grain marketing we've been doing for four to five years now. I don't think we've got it right, but it's all about averages. They give us trends in the market.'**

Rebecca: **'We decided quite early on that this outside knowledge from three very experienced operators, while it's an expense to our business, we see it as an investment.'**

Tim: **'So we try and take that advice and make the right decision.'**

Tim and Rebecca O'Meehan,
'Mourcourup', Borden, WA

4.3 THE TACTICAL PLANNING PROCESS

The process of tactical planning for your farm business should also include the clear stages of analysis, planning, implementation and evaluation, as summarised in Table 4.1. Use this as a guide to your tactical planning process.

Your tactical planning should also consider the following areas:

- **Farm business management**
  - > It is good to start each year with a planned monthly cash flow so that liquidity can be managed.
  - > This should also be accompanied by a planned profit and loss, a set of expected enterprise gross margin budgets and a balance sheet.
  - > From this, a well-considered set of SMART goals can be developed which will guide the implementation of the plan for the year.
  - > During the year, compare the planned monthly cash flow with the actual and respond to any changes accordingly.
  - > It is also important to evaluate and create a set of 'actual' cash flow, profit and loss and enterprise gross margin budgets as these will record what actually happened and measure the capability of the business.

» How to develop and use these financial 'tools' is discussed in section **5, How do I measure the financial performance of my farm business, Module 2**.

- **On-farm management**
  - > Regular meetings with the agronomist, reviewing the fertiliser, spraying and cropping program at various times of the year.
  - > Livestock management for marking, shearing, culling and mating, as this will affect the livestock enterprise performance.
  - > Meeting with the mechanical maintenance team to plan the proactive maintenance program.
- **Tax planning**
  - > This could be an annual meeting with the accountant prior to the end of June, but there could be more than one meeting through the year as tax planning can be complex.
- **Annual bank review**
  - > If you have bank loans, the bank may want an annual review to assess the performance of the past season and assess projections for the next season. You are encouraged to have a proactive relationship with your banker, as this will improve their understanding of your business and will allow them to gain confidence in your management skills. This relationship will become very important when poor financial years occur.
  - > You may want a pre-harvest and pre-seeding banker meeting, depending on how proactive you wish to be. This could also include a report being presented to the bank at selected times during the season.
- **Meeting frequency**
  - > The frequency of meetings will depend largely on the number of people involved in the business and the purpose of the meetings. The meetings listed above have a particular purpose and are aimed at delivering specific business outcomes. Efficiencies in meetings are also important to ensure that time is used effectively. In a family farm business, informal meetings tend to occur to determine operational tasks. The challenge with these meetings is that not all members of the management team may be present, so miscommunication can occur. To overcome these problems, some family farms have a short weekly meeting to determine the week's activities, especially during busy times of the year.
- **Annual review**
  - > It is a good idea to have an annual meeting where the results of the previous year's activities are presented and analysed, and plans for the coming year are developed. This meeting could involve the accountant and banker, but it is more important for the business' management team so that lessons learned in previous seasons can be addressed in the plan for the coming season.

It is becoming more common for family farms to have 'advisory boards', so that more rigour improved decision making and stronger governance can be brought to the management of the business. Progress of plans and goals are checked regularly. Independent input can lead to more effective outcomes for the business.

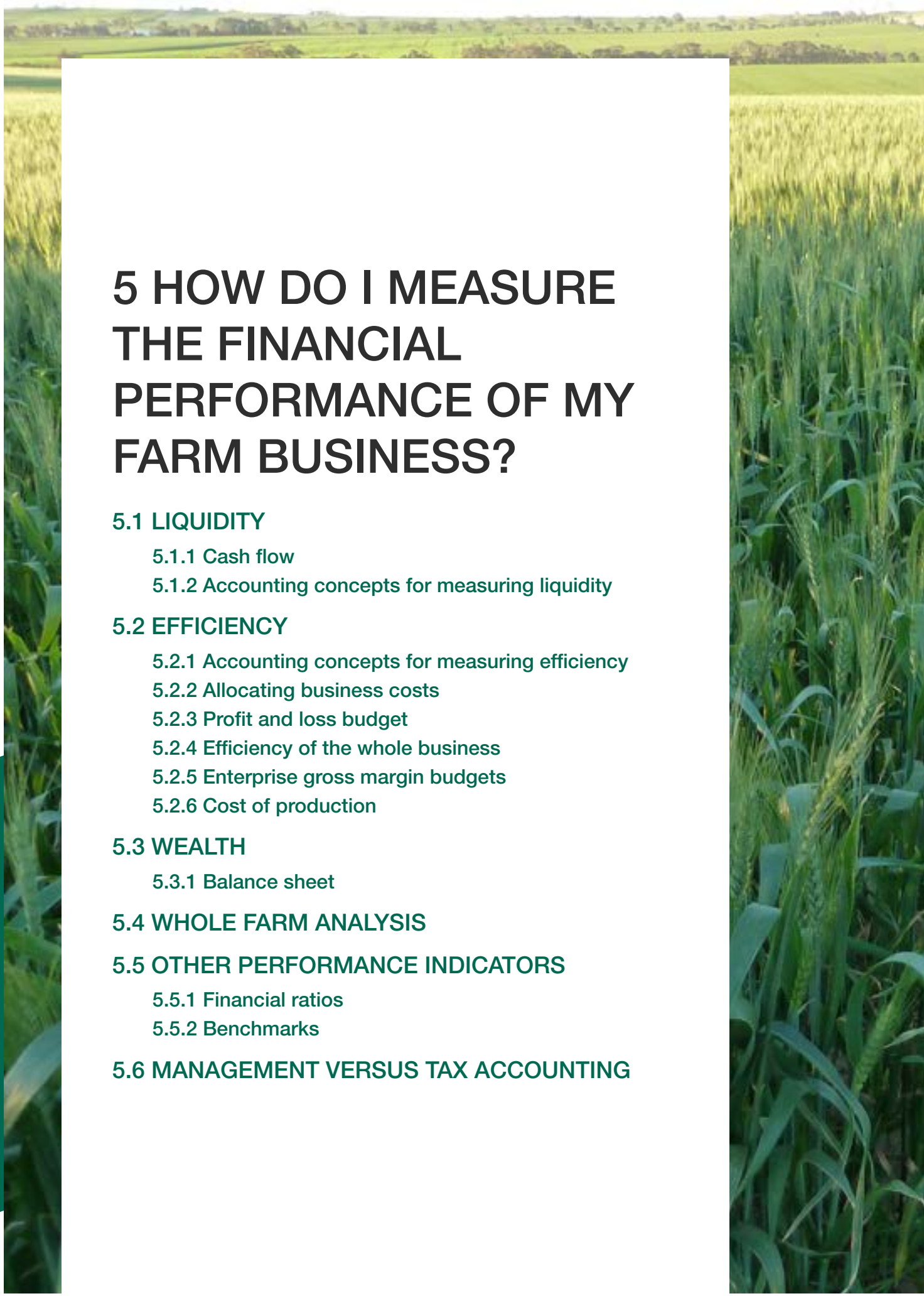
» The use of boards to guide farm businesses is discussed further in section **12, Advisory Boards, Module 3.**

'If you're faced with a job that you can't do, you think laterally and you innovate. Sometimes I think that's an advantage for women because they come up with better ways of doing things because they simply can't automatically go and do it the way it's always been done.'

Lynley Anderson,
'Brookvale', Kojunup, WA

Action points

- Develop a vision and mission statement for your farm business. Involve all stakeholders in the business in this process.
- Complete a SWOT analysis of your farm business.
- Break down the long-term vision into medium-term SMART goals.
- Review progress toward achieving these goals and vision each year as part of your yearly business planning cycle.
- Download templates for a SWOT analysis from: **www.grdc.com.au/FBMtemplate-SWOT**
- Download templates for a SMART goals from: **www.grdc.com.au/FBMtemplate-SMART**



5 HOW DO I MEASURE THE FINANCIAL PERFORMANCE OF MY FARM BUSINESS?

5 HOW DO I MEASURE THE FINANCIAL PERFORMANCE OF MY FARM BUSINESS?

This section covers the essentials of farm business management and will help answer most business questions when it comes to viability, financial sustainability and efficiency. Mastering this area of your business will help you to:

- Measure business performance with farm business management budgets. These form the basis of 'best practice' farm business management.
- Analyse, plan, monitor and evaluate business performance – all part of the farm business planning cycle.
- Maintain business viability, efficiency and wealth.

Much of the thinking behind modern farm business management occurred in the 1950's and 1960's. While there have been significant developments in agricultural technologies since this period, the thinking behind farm business management developed in that period was sound and remains relevant today. A major advance has been the development and use of software to record financial data and do financial modelling. The use of spreadsheets, accounting software and farm business modelling software are perhaps the biggest advances to farm business management in recent years and these have now become available for farmer use, not just for professional advisers.

The most readily available financial records for a farm business are documented in annual tax returns, as these are mandatory financial documents needed to calculate tax liability. In fact, the introduction of GST in 2000 caused a significant change to the way businesses recorded financial information, as financial reports were required to be submitted monthly or quarterly to report GST liability. However, as these financial records have to be compliant with the Australian Tax Office rules, this information is inadequate for farm business management purposes. The challenge is to take this improved financial record-keeping completed for tax obligations and then use it to develop a set of useful farm business management budgets. The farm business management tools described in this module will help clarify the financial performance and capacity of your farm business. However, it takes a high level of business governance and personal discipline to maintain consistently a set of farm business management budgets and plans. Doing this enhances understanding of business thinking and performance, and improves the chance of successfully achieving your goals.

When assessing the financial performance of your farm business, there are three key concepts to consider (Figure 5.1).

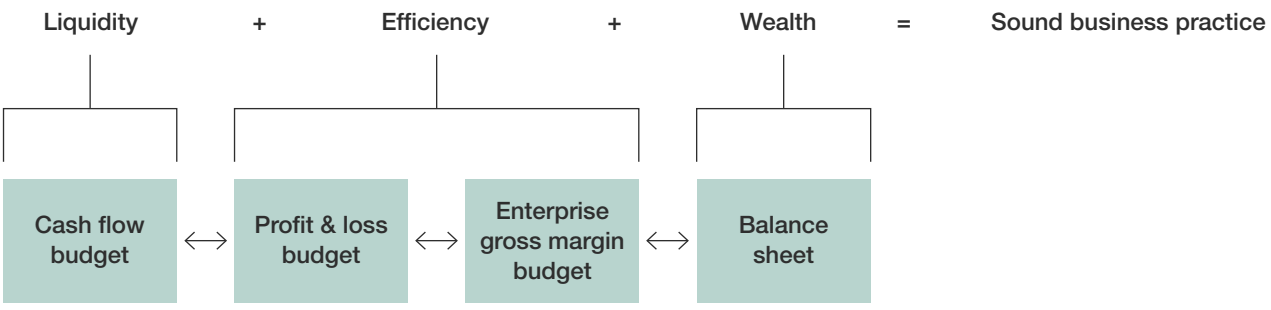
These were referred to in section **3, Farm business management, module 1**, and are addressed in greater detail in this section as measures of farm business performance:

Liquidity (cash) – This refers to cash flow. A business is liquid when more cash comes into the business than goes out.

Efficiency (profit) – This refers to how well the resources of the business are being used: is the business getting the best return on the capital being managed? Efficiency is measured as profit using a profit and loss budget and a balance sheet.

Wealth (net worth) – This refers to the ability of the farm business to build wealth (net worth) over time. Building wealth gives owners greater choice about goals, taking up business opportunities and managing the risk of financial downturn, when inevitable poor seasons and commodity prices prevail.

Figure 5.1: Key management concepts



Source: P2PAgri P/L

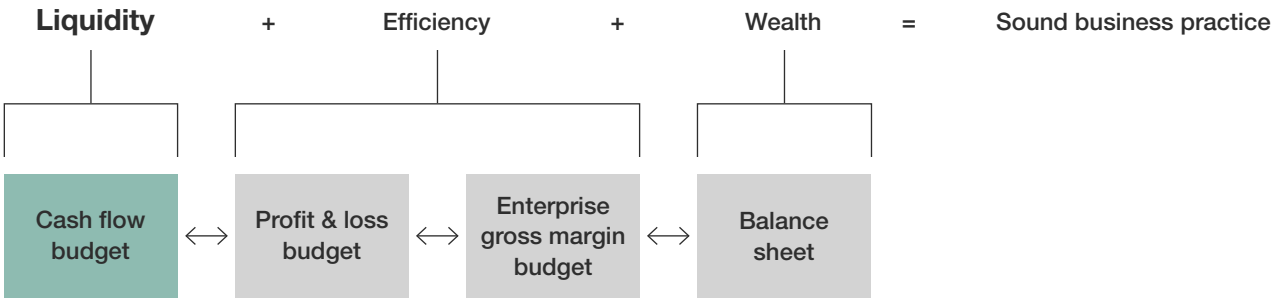
5.1 LIQUIDITY

This section covers the importance of liquidity to your farm business. Essentially, this is about how cash is managed in the business.

KEY POINTS

- A cash flow budget is a financial 'tool' that tracks cash availability to the business, known as 'Liquidity'.
- A positive net cash flow is where more money comes into the business than goes out.
- Net cash flow is a key measure to show banks whether the business can service its debt, which is essential to retain the confidence of the bank.
- A poor cash flow over a period of years can be catastrophic for the sustainability of a business.

Figure 5.2: Key management concepts: Cash flow



Source: P2PAgri P/L

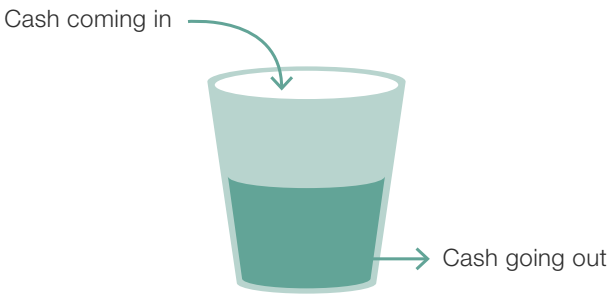
The monthly or quarterly cash flow budget is a financial 'tool' to help plan the expected cash flow required in your business across the season, and then monitor the actual cash flow compared with the expected cash flow as the season unfolds. Completing this budget to accurately reflect your farm business cash flow will require some understanding of accounting concepts such as accrual accounting, and allowing for GST. The key management concept of **Liquidity**, as measured by a cash flow budget (see Figure 5.2) is the focus for this section.

5.1.1 Cash flow

The cash flow budget is one of the major financial tools in farm business management.

The cash flow budget measures the amount of cash coming into a business and when it comes in, against what goes out and when it goes out. Figure 5.3 is a simple illustration of how a cash flow budget works. Cash flow can be measured as an annual budget, but more commonly is a one to two-year monthly budget. It is one of the simplest and most useful tools in farm business management and probably the budget most widely used by Australian farmers.

Figure 5.3: A business cash flow



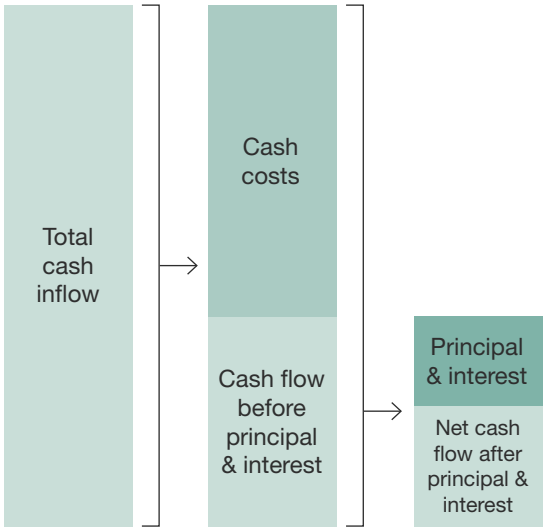
Cash flow management is about keeping enough cash in your 'bucket' to meet the out-goings.

Source: P2PAgri P/L

What is a cash flow budget?

Figure 5.4 illustrates a cash flow budget, where the total cash that flows into the farm business is balanced against the cash costs and loan repayment costs (principal and interest). The aim of any business is for the annual 'Net cash flow after principal and interest payments' to be positive rather than negative. If the farm business' cash flow is negative for a couple of years, then either business reserves will be needed to maintain business viability, or bank debt will need to increase to cover the negative cash flow.

Figure 5.4: Cash flow budget



Source: 'Agriculture in Australia', Bill Malcolm, et al, 2009

How do banks use the information from your monthly cash flow?

Most farmers develop a cash flow budget because the bank has asked for it to be developed. Banks use a farm's past and projected cash flow for the following reasons:

> To assess at what times during the season the overdraft is required.

> To know when the overdraft will be at its maximum and how large it is likely to be.

> To assess the farm's capacity to make loan repayments as they become due.

> To assess the client's ability to manage cash.

This information enables the bank to assess the client's overdraft requirements as well as manage their own credit requirements, as they need to make this finance available when it is needed.

How does a monthly cash flow budget help your business management?

A challenge for farmers is to not only develop a projected cash flow budget, but to use it for monitoring cash flows through the year. Only then does the cash flow budget become a really useful management tool, as the information about actual versus expected cash flows will enhance and tighten the cash management of the business. If your estimated monthly cash flow is only being done to meet the bank's requirements, then the bank may be driving your business rather than you! You may be missing important management information that can be gained by actually monitoring the cash flow throughout the season and comparing estimated versus actual figures.

The benefits to farmers of estimating and monitoring the monthly cash flow budget include:

- Knowing when income and expenditure are expected to occur, and if they don't occur, having the ability to check quickly why this has happened and its likely impact on the overdraft.
- Using the cash flow budget to manage payments and income to help minimise the use of an overdraft, and reduce overdraft interest costs.
- Providing the farm with an early indicator of how much additional finance might be needed following a tough financial period. The farmer can be proactive with the bank by looking early at likely additional finance needs, before other farmers who have not been closely monitoring their cash position.

A cash flow budget will be of most benefit to a farm business when it involves two steps: **a forward estimate of the monthly cash flow**, followed **by recording monthly actuals** against these estimated figures. Software programs have greatly improved the ability to undertake this type of management.

Step 1: Estimating monthly cash flow

The first challenge for farmers is estimating likely cash outgoings and incomings, as you need to go through each category estimating when income and expenditure will occur. To illustrate this, the cash flow estimate of 'Upndowns Farm' is provided in Table 5.1.

A template to complete your cash flow budget can be downloaded at: **www.grdc.com.au/FBMtemplate-CashFlow**

When looking at the sample farm's estimated cash flow in Table 5.1, take note of:

- **Income:** Each enterprise is allocated an income row, so respective incomes can be specifically estimated. In estimating when income enters the business account, check these issues:
  > Remember that marketing choices like grain pools may take longer than 12 months to complete payment. This means you could have a grain pool payment coming into this 12-month period, even though the grain was produced in the previous season.
  > Allow for income from contracting work you plan to do for the neighbours.
  > Income can also come from off-farm investments and off-farm employment, such as teaching or nursing.
- **Expenditure:** Outlines the different types of business expenses. Note that Table 5.1 has four types of expenses:
  > Crop costs,
  > Livestock costs,
  > Overhead costs, and
  > Finance costs.

Table 5.1: 'Upndowns Farm' planned cash flow

		Planned monthly cash flows											
Income		**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**
Wheat	165,000											145,000	20,000
Malt barley	72,450												72,450
Feed barley	115,000											60,000	55,000
Canola	310,000	110,000											200,000
Beans	150,000												150,000
Clover	21,000		10,000	11,000									
Chickpeas	37,500	17,000	20,500										
Prime lambs	170,000	40,000							20,000			55,000	55,000
Self-replacing merino	527,000	20,000						300,000	207,000				
Cattle	10,000		2,000		3,000			3,000			2,000		
Off-farm													
Other farm income													
Interest earned													
Cash													
Farm management deposits													
Total gross income	1,577,950	187,000	32,500	11,000	3,000			303,000	227,000		2,000	260,000	552,450
Expenditure													
Crop costs													
Seed	20,000		20,000										
Fertiliser	94,000	94,000											
Chemicals	128,000	128,000											
Insurance	5,500										5,500		
Fuel & oil	30,000	10,000		5,000						15,000			
R & M	20,000	10,000						10,000					
Cas lab	5,000				2,500						2,500		
Harvesting	10,500											10,500	
Livestock costs													
Purchases													
Wool packs	2,000						2,000						
Wool freight													
Shearing	54,000							54,000					
Flock costs	25,000						25,000						
Annual costs													
Supplementary feeding													
Pasture improvement	44,000		44,000										

cont. >

Table 5.1: 'Upndowns Farm' planned cash flow cont.

		Planned monthly cash flows											
		Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Overhead costs (general)													
Permanent wages	124,600	10,383	10,383	10,383	10,383	10,383	10,383	10,383	10,383	10,383	10,383	10,383	10,383
Admin and office	4,700	392	392	392	392	392	392	392	392	392	392	392	392
Accountant and book keeping	6,000		6,000										
Electricity	5,000		1,250			1,250			1,250			1,250	
Telephone	6,500	542	542	542	542	542	542	542	542	542	542	542	542
Insurance	25,000											25,000	
Registration	7,500	1,250		1,250		1,250		1,250		1,250		1,250	
Rates and taxes	22,500		5,625			5,625			5,625			5,625	
Fuel	10,000			5,000							5,000		
Repairs and maintenance	37,000	17,000							20,000				
Workshop supplies	3,000	250	250	250	250	250	250	250	250	250	250	250	250
Miscellaneous	5,000	417	417	417	417	417	417	417	417	417	417	417	417
Family cash drawings	87,000	7,250	7,250	7,250	7,250	7,250	7,250	7,250	7,250	7,250	7,250	7,250	7,250
Finance costs													
Existing farm loans													
Bank long-term debt	221,000												221,000
MX275 tractor	17,000											17,000	
Puma tractor	22,737		22,737										
Header	56,000			56,000									
Toyota Prado	12,900	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075
Existing off-farm loans													
Real estate													
Land lease + interest (other)													
Leased land													
Overdraft & stock mortgage	11,865		663	1,287	1,839	1,992	2,208	2,559	1,037		30	252	
Bank fees	300	25	25	25	25	25	25	25	25	25	25	25	25
Total costs	1,123,602	280,583	120,608	88,870	24,672	30,450	49,541	88,142	48,245	36,583	33,363	81,210	241,333
Net increase/ decrease in cash held	454,348	-93,583	-88,108	-77,870	-21,672	-30,450	-49,541	214,858	178,755	-36,583	-31,363	178,790	311,117
Cash held at beginning of period													
Overdraft at beginning of period													
Total cash at beginning of period			-93,583	-181,692	-259,562	-281,234	-311,684	-361,225	-146,367	32,388	-4,196	-35,559	143,231
Total cash at end of period	435,613	-93,583	-181,692	-259,562	-281,234	-311,684	-361,225	-146,367	32,388	-4,196	-35,559	143,231	454,348

A template to complete your cash flow budget can be downloaded at: **www.grdc.com.au/FBMtemplate-CashFlow**

Source: P2PAgri P/L

Different farmers use their own account categories, but read section **5.2.2, Allocating business costs,** before you draw up your list. In the cash flow expenses, include family drawings, as the cash flow needs to meet these costs. Note that family drawings is a category in overhead costs.

- **Finance section:** Loan repayments for bank loans, machinery related loans and vendor payments need to be entered. These payments include both the interest and principal repayments required by each loan.
- **Monthly result** (Net increase/decrease in cash held): Income and expenditure are totalled monthly, with the difference reported. There will be months when expenditure exceeds income and vice versa. This is the nature of a farming business.
- **Cumulative result** (Total cash at end period): The important part of a monthly cash flow is to monitor the on-going cash balance of the business which is shown in Table 5.1 in the last row 'Total Cash at end of period'. 'Upndowns Farm's' maximum use of the overdraft is estimated to occur in August at approximately $361k, and the business has a closing balance at the end of the year with a cash surplus of $454k.

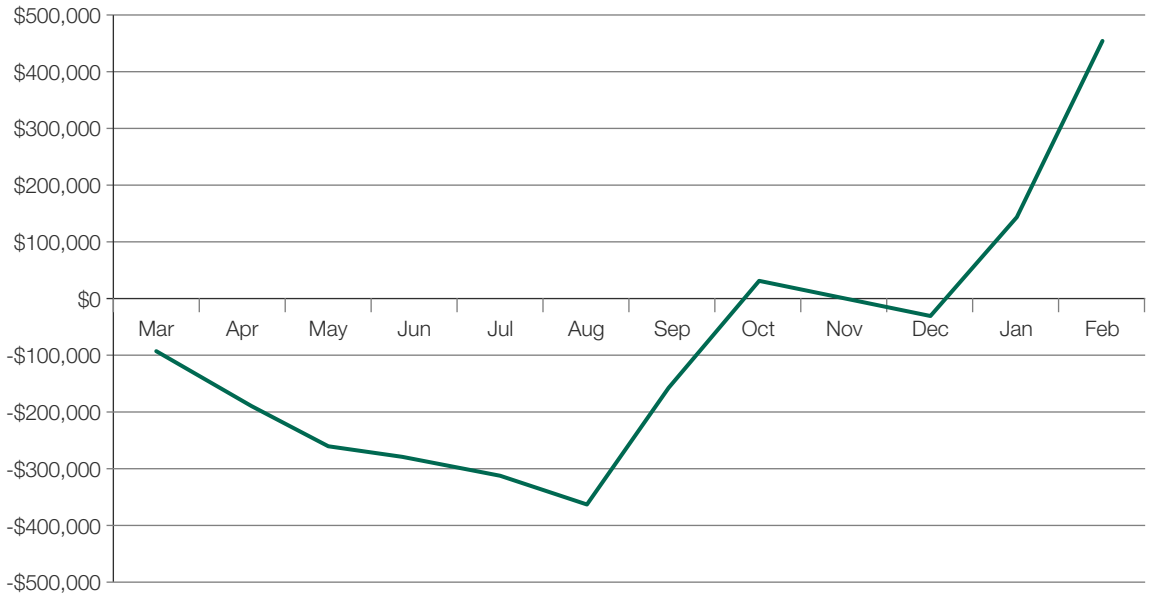
Figure 5.5 shows the 'lumpiness' of the monthly income and expenses, which is typical of a farming business. However, this pattern is dependent on the types of enterprises conducted in the business, as income and expenditure can occur at different times across the season. This is evident when the crop income is compared to the livestock income. Figure 5.6 illustrates the peak debt and when the business becomes cash flow positive again.

The estimated monthly cash flow in Figure 5.6 shows that this business is estimated to need an overdraft of $361k in August and should not require an overdraft from December onwards in this planning period.

Figure 5.5: Estimated monthly income and expenses

Source: P2PAgri P/L

Figure 5.6: Estimated monthly cash flow



Source: P2PAgri P/L

Table 5.2: 'Upndowns Farm' monthly cash flow for the first three months

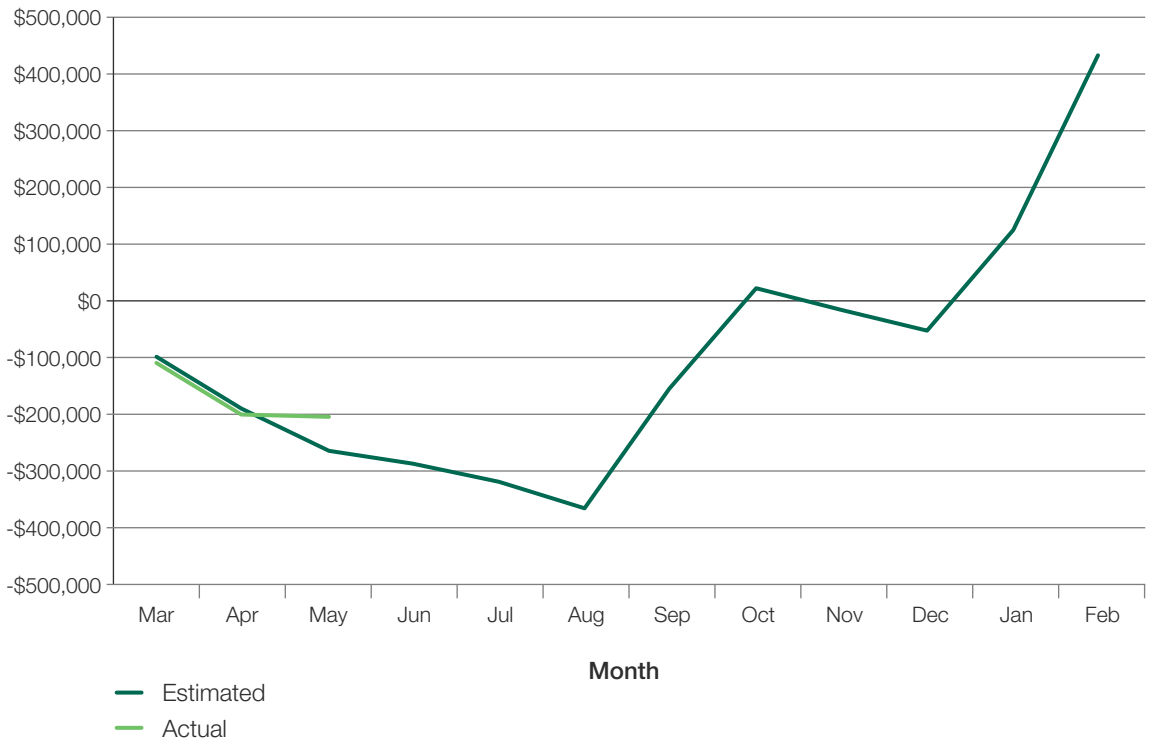
	Planned	Actual	Planned	Actual	Planned	Actual
Income	**Mar**	**Mar**	**Apr**	**Apr**	**May**	**May**
Wheat						
Malt barley						
Feed barley						
Canola	110,000	70,000		45,000		
Beans						
Clover			10,000	9,568	11,000	10,567
Chickpeas	17,000	18,500	20,500	19,500		
Prime lambs	40,000	38,760				
Self-replacing merino	20,000	18,500				
Cattle			2,000	1,890		2,500
Off-farm						
Other farm income						
Interest earned						
Cash						
Farm management deposits						
Total gross income	187,000	145,760	32,500	75,958	11,000	13,067
Expenditure						
Crop costs						
Seed		18,500	20,000			
Fertiliser	94,000	60,000		30,000		
Chemicals	128,000	100,000		30,000		
Insurance						
Fuel & oil	10,000	10,567			5,000	
R & M	10,000	25,000				
Cas lab						
Harvesting						
Livestock costs						
Purchases						
Wool packs						
Wool freight						
Shearing						
Flock costs						
Annual costs						
Supplemen-tary feeding						
Pasture improvement			44,000	40,000		

Cash flow continued >

	Planned	Actual	Planned	Actual	Planned	Actual
Expenditure	**Mar**	**Mar**	**Apr**	**Apr**	**May**	**May**
Overhead costs (general)						
Permanent wages	10,383	10,383	10,383	10,383	10,383	10,383
Admin and office	392	405	392	55	392	60
Accountant and book keeping			6,000	6,550		
Electricity			1,250	1,120		
Telephone	542	621	542	580	542	594
Insurance						
Registration	1,250	950			1,250	850
Rates and taxes			5,625	5,625		
Fuel					5,000	4,800
Repairs and maintenance	17,000	15,560				
Workshop supplies	250	234	250	180	250	350
Miscellaneous	417	280	417	550	417	560
Family cash drawings	7,250	7,250	7,250	7,250	7,250	7,250
Finance costs						
Existing farm loans						
Bank long-term debt						
MX275 Tractor						
Puma tractor			22,737	22,737		
Header					56,000	
Toyota Prado	1,075	1,075	1,075	1,075	1,075	1,075
Land lease + interest (other)						
Leased land						
Overdraft			663	744	1,287	573
Bank fees	25	25	25	25	25	25
Total costs	280,583	250,850	120,608	156,874	88,870	26,520
Net increase (decrease) in cash held	-93,583	-105,090	-88,108	-80,916	-77,870	-13,453
Cash held at beginning of period						
Overdraft at beginning of period						
Total cash at beginning of period			-96,133	-105,090	-186,129	-186,006
Total cash at end of period	-93,583	-105,090	-181,692	-186,006	-259,562	-199,460

Source: P2PAgri P/L

Figure 5.7: Estimated versus actual cash flow



Source: P2PAgri P/L

Step 2: Monitoring actual cash flow

- The next challenge for farmers is to actually monitor the monthly cash flow as the season unfolds. Table 5.2 shows the first three months of planned versus actual monthly cash flow for 'Upndowns Farm' and Figure 5.7 shows this as a graph.
- Monitoring throughout the season should be done monthly when the cheque account statement becomes available, or can be done quarterly in line with completing and submitting the Business Activity Statement (BAS) to the Australian Taxation Office (ATO).
- The results in Table 5.2 and Figure 5.7 are typical. The canola income has been delayed and some of the expenditure has also been delayed, resulting in the actual cash flow being better than the planned cash flow at three months.

Action points

- Put together a cash flow budget for your farm business, using any of the following: a spreadsheet such as EXCEL, accounting software, or a template.
- Do this budgeting yourself. Do not rely on a trained book-keeper or your accountant, as it will provide you with insight into the cash management of your business.
- The more experience you have with the cash flow process, the more your skills will improve.
- Be conservative when estimating your income to help manage risk.
- Download a template for a cash flow budget from: **www.grdc.com.au/FBMtemplate-CashFlow**

5.1.2 Accounting concepts for measuring liquidity

This section covers some key accounting concepts to follow when completing the cash flow budget.

- The **time period** – Monthly cash flows are usually completed on a 12-monthly basis, but there is nothing to stop you doing a two-year monthly cash flow. If you are doing it for farm management reasons, it is suggested you use a farming year, as you will capture the expenses and the income for the same seasonal period. For most mixed farms, this starts at the beginning of March, as this is when the bulk of the grain payments have come in and is before the next cropping season starts. It is suggested that you speak to your bank about this, as they may require a monthly cash flow for a specific time period.
- How **GST** is accounted for – As a general rule, GST is left out of farming budgets and financial reporting. This includes reporting in a tax return. However, GST does have implications to the cash flow, so if you want to do a detailed job with the monthly cash flow, include the estimated GST payments or income. This also means the income and expenses would need to be entered as GST inclusive. However, a lot of cash flows are done without GST, as GST essentially should flow through the business books and not be a cost burden to the business. The approach you use is your decision, but decide before you begin putting your cash flow together, and then use this approach consistently.
- It is helpful to align your tax **accounting categories** with your cash flow categories. The account categories in most farms tax book-keeping or accounting software systems are set up at the recommendation of their accountant. This is fine if all that is required from the financial monitoring in the business is to comply with the GST and ATO taxation reporting requirements. However, if you want to make the most of the financial information you are currently monitoring and turn it into more valuable management information, then slightly redefining the accounting categories can be very useful.

  The following sections will provide a better understanding of the different business costs and their uses, and why it is helpful to group different costs:

  > Section **5.2.2, Allocating business costs, Module 2**
  > Section **5.2.5, Enterprise gross margin budgets, Module 2**
  > Section **5.5.1, Financial ratios, Module 2**

  Once you have covered these sections, review your accounting categories and regroup them to more effectively report management efficiencies. Use categories that will help you plan and monitor the monthly cash flow.

- **Be conservative** with your budgeting – It is easy to make any budget look exceptional by using high yields, good prices and low costs. However, it is recommended that to effectively manage your business, use conservative budgeting rules i.e. use conservative average yields and prices, and slightly over-estimate your costs. If the cash flow budget is healthy under these expectations, then most of the negative experiences of poorer seasons, poorer commodity prices and cost overruns can be managed. It is also a healthy business practice to demonstrate to your bank that you have a clear understanding of the true financial performance of your business by showing that your planned cash flow reasonably reflects the actual cash flow at the end of the season. This will improve the bank's confidence in your business management skills and in turn should lead to a lower 'risk' component in your borrowing interest rates.

» Section **6, How banks lend to farmers, Module 3** addresses this issue in more detail.

5.2 EFFICIENCY

Knowing the efficiency of a farm business may be confronting, but once known, strategies can be put in place to help improve and maintain sound levels of efficiency. This helps to manage the long-term viability of a farming business.

KEY POINTS

- An efficient business has the greatest chance of maintaining long-term viability and sustainability.
- Knowing the efficiency of your business helps improve decision making and decreases the stress of managing a farming business.
- Knowing the efficiency of the business helps to know where to invest, both in and outside the business.
- A good farm business adviser can help assess the efficiency of your business. Most accountants and bankers will not be able to undertake this analysis.

Farm business efficiency is an important measure to help manage for long-term sustainability. The more efficiently a farm business is managed, the more likely you will be able to achieve the business' financial goals and have more positive business options in the future.

The key management concept of **Efficiency** (see Figure 5.8) is the focus for this section.

Efficiency is a measure of how well all the assets in the business are being managed and is the best measure to use when comparing against the performance of other farm businesses, and against businesses in other industries. Efficiency measures also provide a comparison against other forms of capital use, such as depositing cash assets in a bank or investing in the share market. If the farm business is earning more than it would if its equity were deposited in a bank, then there is clear reward for management effort. If a farming business does not monitor efficiency, it runs the risk of endangering long-term business sustainability.

Farm business efficiencies can be measured by the following process:

Step 1: Understand relevant accounting concepts (Section **5.2.1, Accounting concepts for measuring efficiency**).

Step 2: Understand your cost structures (Section **5.2.2, Allocating Business Costs**). This is essential as there are non-cash costs, such as depreciation, that need to be correctly accounted for within the efficiency measures.

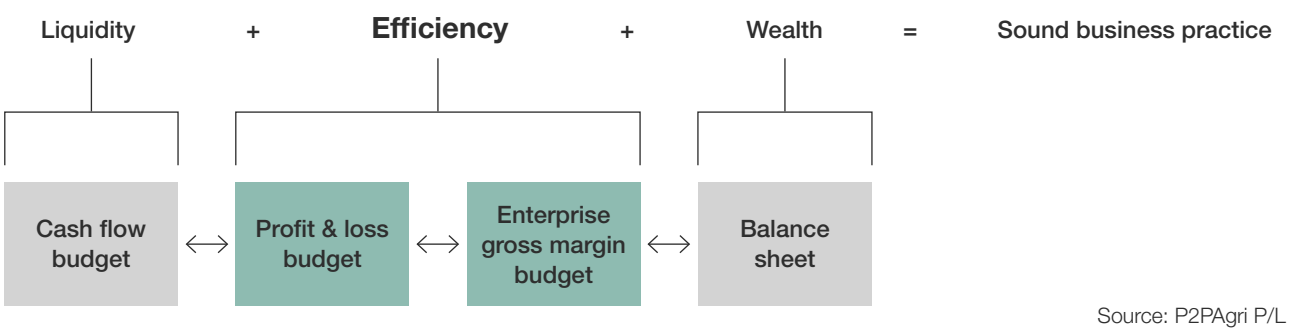
Step 3: Measure your profitability (Section **5.2.3, Profit and Loss Budget**).

Step 4: Measure your whole farm efficiency (Section **5.2.4, Whole Farm Efficiency**). Whole farm efficiency can be measured by combining information from the Profit and Loss budget, as well as the Balance Sheet (Section **5.3.1, Balance Sheet**).

Step 5: Measure the financial contribution of each enterprise to the business (Section **5.2.5, Enterprise Gross Margins**). Note that farm total gross margin is not profit, as no overhead or financial costs have been allowed for in gross margins.

Step 6: Measure your cost of production (Section **5.2.6, Cost of Production**). At what price do you need to sell your commodities in order to cover your cost of production?

Figure 5.8: Key management concepts: Efficiency



Source: P2PAgri P/L

5.2.1 Accounting concepts for measuring efficiency

When undertaking any budget used to assess efficiency, use the following accounting procedures to calculate the correct profit and loss for the season.

- **Accrual accounting** – When calculating the profit and loss budget (refer to section **5.2.3, Profit and loss budget**), more specifically EBIT (Earnings Before Interest and Tax), the objective is to line up all the costs and income from a production cycle. To do this, an accrual year is used. This means all that is produced in the season is valued, regardless of when the income is received, and all the costs of production for that season are used regardless of when they are paid. The production year's expenses are taken away from the production year's income, so an accurate profit can be calculated. This eliminates the ebbs and flows of an actual cash flow and provides a clear result for the farming year.

  A good example is the payment schedule of grain pools. When you deliver to a grain pool, it can take up to 18 months to receive the final payment. In a cash flow, the income is recorded in the month it is received. However, for a profit and loss, the full expected income from that grain sold to the pools needs to be included in the year of delivery to account for the true value of that season's production. The same is true for expenses. If you bought two years' supply of nitrogen fertiliser because it was a good price, but only use half in the current year, then only one year's worth of the nitrogen should be included as an expense in the profit and loss. This is called accrual accounting.
- **Depreciation** – The hidden cost of machinery ownership, known as depreciation is accounted for in a profit and loss budget. Recording depreciation is important as machinery loses value as it ages and wears out, and needs to be replaced over time. If the business cannot afford to replace machinery, it will eventually become non-viable. The term 'living off the depreciation' means that the business can only exist if it does not replace machinery when it is due. This is a quick route to becoming unviable.
- **Principal repayments** – The repayment of principal means liabilities are being paid off, which is a balance sheet entry (see section **5.3, Wealth**). While principal repayments are often necessary and are allowed for in a cash flow, when measuring return to owners' equity or net profit, only the cost of borrowing capital, the interest component of the repayment, is taken into account.
- **Managerial allowance** – In a cash flow, the owner tends to only take drawings to maintain the family's living requirements. However, to correctly measure efficiency, we need to accurately account for the true cost of all inputs to the operation of the business, including the operator's labour and management. The cost of a professional manager is generally greater than the drawings taken by the family. Another way of looking at this is to assess what it would cost to hire the necessary management to run the business for a year if the owner's management were not available, as this is the real cost of management. In 'Upndowns Farm', the family drawings are $87,000, but $120,000 has been allowed for as a true managerial cost. Even though only $87,000 cash is taken out of the business, the difference of $33,000 is allowed for and added to 'owners' equity'.
- **Farming year** – A profit and loss analysis is best completed using a production year, which can change from farm to farm. The Australian taxation financial year of July to June does not line up with the production year for most farms. For most grain farmers, the tax or financial year captures the income of one year against the costs of the following production year. To obtain an accurate view of the business, a production year has to be the focus. For most grain farmers, this would be from the start of production activities around March through to after harvest the following February. This enables the income and costs from the same production cycle to be assessed. For graziers, it could be from when lambing occurs, so an autumn lambing year could be May-March. For an intensive agricultural business like pigs or poultry, the financial year of July to June could work well. For a horticultural business, the farming year could start a month after harvest is completed, or before pruning starts. It is your choice, but it is important to have this ideal farming year in your mind as the basis for your budget reporting.
- **Goods and services tax (GST)** – The GST, introduced into the Australian economy in 2000, is a tax on the end consumer. The GST collected on income and added to expenses should flow through the business and not be a cost burden on the business. The GST does have cash flow implications even though it affects cash flow at different times. In some quarters, GST needs to be paid while in other quarters, GST compensation is paid back by the Australian Taxation Office (ATO). When undertaking any budgeting for farm business management, only GST exclusive numbers are used, i.e. income and costs without GST. If you use software accounting systems, you should be able to get income and expenses reports with both GST inclusive or exclusive numbers. Use the GST exclusive numbers.

5.2.2 Allocating business costs

Understanding your costs and having meaningful accounting categories will help you to monitor efficiency of your business for management decision making, rather than just taxation measures.

KEY POINTS

- Streamlining accounting categories will make monitoring and reporting on financial performance more efficient.
- Not understanding the costs of your business can be catastrophic for sustainability.
- Understanding why costs are grouped will assist with enterprise analysis and business decision making.
- Costs tend to increase over time – review them regularly and look for savings.

Co-contributor to this section: Tony Hudson, Hudson Facilitation.

Understanding which category a cost should be allocated to is the starting point to accurately assessing the profitability of the various enterprises you run (or may run in the future), and also your overall business profitability and financial efficiency. Costs are handled slightly differently between the cash flow budget, profit and loss budget, and gross margins.

Farm businesses costs can be classified into five categories:

- Operating:
  1. Variable Costs (input costs)
  2. Overhead Costs (fixed costs)
  3. Finance Costs
- Non-Operating:
  4. Personal Costs and
  5. Capital Costs

Note: When considering these costs, **GST is not included**, so costs used should be **GST exclusive**.

Source: P2PAgri P/L

1. Variable costs

Variable costs are those costs which can be quite clearly attributed to a certain enterprise and which increase as the scale of the enterprise increases. Consider the cost of canola seed, for example. If you grow canola, purchasing canola seed is clearly attributable to the canola enterprise. The more hectares of canola you grow, the more seed you require and the higher the outlay on canola seed becomes. Another example would be shearing cost. Again, shearing costs are needed for the sheep enterprise, and the more sheep you manage, the higher the shearing cost.

Table 5.3 provides a checklist of some of the most common variable costs for cropping and livestock.

The dynamics of these variable costs can vary. Some variable costs affect yield, with fertiliser on crops being the most obvious, followed by seeding rate and chemical costs. Other costs are yield dependent and increase as yield increases, such as freight, harvest and marketing costs. Others do not change greatly regardless of yield, but the enterprise could not be undertaken without them. These include fuel and repairs and maintenance costs.

Table 5.3: Common variable costs

- Sowing
- Seed
- Spraying
- Harvesting
- Windrowing
- Fertiliser
- Herbicide
- Contractors
- Fungicide
- Insecticide
- Shearing
- Crutching
- Drenching
- Marking
- Freight
- Marketing
- Irrigation water costs

Source: Hudson Facilitation

Valuing inputs provided by the farm

When considering the variable costs for an enterprise, you also need to consider those inputs that the farm may provide. For example, when sowing a wheat crop, wheat seed may have been retained from the previous season rather than needing to be purchased and will therefore not appear in your cash flow. However, this cost needs to be considered as you could have sold that seed after harvest, so it has a value. Economists say it has an **opportunity cost** which is the value for which it could have been sold. So when considering the variable costs for growing wheat, the seed used should be costed at the price it could have been sold for during the last harvest.

This concept is the same for livestock. For example, in the case of a sheep enterprise, older ewes from the self-replacing merino flock may be crossed with a British ram to get a first cross lamb, or prime lamb. In a cash flow sense, these older ewes are not sold from the self-replacing merino enterprise and then purchased by the prime lamb enterprise. However, when comparing variable costs between these two sheep enterprises, the cost of the older ewes needs to be accounted for. In the variable costs of the prime lamb enterprise, the purchase cost of these older merino ewes coming into the prime lamb enterprise needs to be taken into account. Likewise in the self-replacing merino enterprise, these older merino ewes should be shown as income. This will enable you to accurately compare the gross margins between the self-replacing merino and prime lamb enterprises. Sheep movements in and out of the flock are more accurately assessed in livestock reconciliation.

Similarly, the price of supplementary feed that is grown on the property and then fed to the livestock enterprises should be costed in the respective livestock enterprise to gain an accurate gross margin comparison. This supplementary feed should be valued at the price for which it could have been sold.

› Section **5.2.5, Enterprise gross margin budgets, Module 2** covers this in greater detail.

Value of knowing your variable costs

It is important to know the variable costs per hectare for any given enterprise for four reasons:

a. **To select the most profitable enterprise mix:** Calculate the enterprise gross margin per hectare and compare various enterprises for likely profitability in order to select the most profitable enterprise mix given environmental, market and agronomic issues.

b. **To calculate working capital needed:** Calculate the amount of working capital required to farm a certain number of hectares of a certain enterprise.

   For example, consider the option of growing more canola instead of wheat next season. If we assume variable costs for growing canola are $375/ha and for wheat, $333/ha, canola is $42/ha more expensive than wheat. The decision to grow an additional 500ha of canola instead of wheat will tie up a lot of working capital:

   Additional Variable Costs: $42/ha x 500ha = $21,000.

   The decision to grow canola may appear more profitable over the year, but input costs leading up to harvest and sale may place significant strain on the business cash-flow, so it is important to ensure you have access to adequate working capital.

c. **Sensitivity analysis:** Variable costs can be used to consider enterprise profitability sensitivity to price, yield and variable costs.

   The enterprise gross margin per hectare is calculated by:

   Gross Margin = (Yield x Price) - Variable Costs

   This calculation helps to assess the effect of changing any of these variables on the gross margin. It demonstrates where management should be more focused in order to achieve higher gross margins. For example, assume a canola crop has the following:

   Yield @ 2.2t/ha
   Price @ $520/t
   Variable Costs @ $375/ha

   Therefore, this Canola Gross Margin = ($520/t x 2.2t/ha) - $375/ha = $769/ha

   In this example, a 5% decrease in variable costs without reducing yield would mean the new variable cost is $356/ha. This would result in the canola gross margin now being $788/ha, an increase of $19/ha or a 2.5% increase in the expected gross margin. Note that adjustments of variable costs are also related to yield performance and sometimes grain quality. So decreasing variable costs could also have a negative impact on yield and grain quality.

d. **Comparison with other farmers** – If enterprise gross margins are used as a comparison between farms in the same area, then the differences could be in the price achieved, the realised yield and the variable costs, or more likely a combination of all three. If you are in a farmer discussion group, comparative analysis would be a valuable exercise to do, but ensure that the data is collected in the same way on each farm. In other words, compare 'apples with apples'! Also, drill down so that differences in price, yields and variable costs are recorded. You will do a lot of learning. Be aware that soil type and the season experienced by each farm can also cause differences in gross margins.

Growing the highest yield in the district may feel good at the pub, but growing the most profitable crop will always win in the end!

HOW TO CALCULATE VARIABLE COSTS

Some approaches to calculating these costs for your business are as follows:

a. Seed:

When completing farm business management budgets and comparing enterprise gross margins, all inputs need to be valued, even if they are produced on the farm. Seed therefore needs to be valued even though it came from last year's harvest.

Use last harvest actual market prices, the grading and pickling costs, and sowing rate to calculate this figure. You will need to do this calculation for each crop.

Seed cost ($/ha) =
(Farm gate seed price ($/t) + Pickling cost ($/t) ÷ 1000)
x seeding rate (kg/ha)

Example:

Seed cost ($/ha) = ($200/t + $75/t ÷ 1000) x 65kg/ha
= $17.88/ha

b. Fertiliser:

You may have an understanding of this cost from computer programs. If not, there are two alternative methods you can use:

1. If area cropped and fertiliser prices are similar to the previous year, use last year's bill and divide by the area (ha) cropped.
2. Calculate the price of each fertiliser used (Urea, Super, MAP, DAP, Hi Analysis etc.) and the application rate used in order to calculate the cost per ha. Do this calculation for each crop as you may have treated each crop type differently.

c. Chemical:

Calculating chemical costs is a little more involved, but is similar to fertiliser. Again, there are two methods you can use:

1. If area cropped and chemical prices are similar to the previous year, use last year's bill and divide by the area (ha) cropped.
2. Calculate the price of each chemical used and the application rate used to calculate the cost per ha. Do this calculation for each crop as you may have treated each crop type differently.

d. Insurance:

Crop insurance cost is not a large cost, but still needs to be assessed.

1. If the cropping program this year is similar to the previous year, use last year's crop insurance bill and divide by the area (ha) cropped this year.
2. Use the per $1,000 crop value on your crop insurance documentation. Using that rate, estimate the gross income per ha to calculate the crop insurance premium.

e. Fuel and oil:

This can be a challenging cost to calculate, as most farmers do not keep good fuel consumption records, and the fuel rebate must be calculated. Fuel is a major cost and needs to be calculated correctly:

Step 1: Take your off-road fuel bill of last year and subtract the fuel rebate. The current fuel rebate is about $0.38/l, so if your diesel price is $1.30/l, your price is $0.92/l, or 29% rebate savings. So, if your fuel bill (GST excl.) was $20,000, the cost to you is $14,200 (20,000 x (100%-29%)).

Step 2: Estimate what percentage of this fuel was used for cropping. That is, for sowing, spraying and harvest. If it is 80%, then the cost to the cropping program using the number above is $11,360 ($14,200 x 80%)

Step 3: Divide this fuel amount by the total cropping program last year. If you are cropping 500ha, the fuel cost in this example is $22.72/ha ($11,360 ÷ 500ha).

f. Repairs and maintenance:

This is the cropping machinery repairs and maintenance estimated on a per ha basis. If you do not know this number, use the following method:

Step 1: If you expect these costs to be similar to the previous year, use last year's crop R&M bill and divide by the area (ha) cropped.

Step 2: Review this figure to see if you had any large, unexpected R&M cost. If you did, then average the costs of the last few years to get an average figure.

g. Casual labour:

Permanent labour is handled as overhead costs (fixed costs). However, if you hire casual labour e.g. for seeding, spraying, harvest and/or shearing, it is a variable cost.

Divide your casual labour cost (include WorkCover and superannuation) by the cropped area for which you used the labour. For example, you may have only used labour for the cereals and not the grain legumes. So only the cereals should have casual labour included as a variable cost.

h. Shearing costs:

This cost can be:

- Piecework rate, which is an industry rate for shearing different types of animals such as lambs, adult sheep and rams. You will also need to allow for shed hand casual rates; or
- Contract rate, which combines shearing, wool preparation and baling.

Generally, these expenses can be obtained from industry recommendations and awards, or by looking at the most recent tax return, as they should be listed as a specific account category.

i. Crutching costs:

Use either of these methods to calculate this cost:

1. Use industry recommended crutching price per head.
2. If this year's sheep numbers are similar to the previous year, use last year's crutching bill (GST excl.) and divide by the number of sheep crutched.

j. Drenching costs:

Use either of these methods to calculate this cost:

1. If this year's sheep numbers and the price of drench are similar to the previous year, use last year's drenching bill (GST excl.) and divide by the number of sheep crutched.
2. Calculate the price of the drench and rate per head to obtain a cost per head.

k. Marking costs:

Use either of these methods to calculate this cost:

1. If this year's sheep numbers and expected marking costs are similar to the previous year, use last year's marking bill (GST excl.) and divide by the number of sheep weaned.
2. Use the industry recommended marking price per head.

l. Freight costs:

You may have a freight bill for both grain and livestock:

1. If this year's freight costs (GST excl.) for grain and livestock are expected to be similar to the previous year, use the respective numbers and allocate them appropriately to each grain and livestock enterprise.
2. Use last year's freight costs and adjust for the variation in this year's grain and livestock production.

m. Marketing costs:

Use either of these methods to calculate this cost:

1. If this year's marketing costs (GST excl.) for grain and livestock are expected to be similar to the previous year, use the respective numbers and allocate them appropriately to each grain and livestock enterprise.
2. Use last year's marketing costs and adjust for the variation in this year's grain and livestock production.

n. Irrigation costs:

- If this year's water costs (GST excl.) are expected to be similar to the previous year, use last year's irrigation bill (GST excl.) and divide by the area (ha) cropped for the season.

o. Other:

- There could be other variable costs that have not been allowed for. This could include contract haymaking, windrowing canola or spraying costs. Use the contract rates to calculate these variable costs.

2. Overhead costs

Overhead costs are those that generally do not change with the amount of output produced from a given business. Overheads do not vary greatly between years. They relate to the farm business as a whole and are irrespective of what mix of enterprises is undertaken, or the productivity of those enterprises. Table 5.4 lists many of the common overhead costs which relate to farm businesses.

For most businesses, it is difficult to change overhead costs in the short-term. However, assuming the intent is to maintain assets and continue trading, they must be met regardless of how land is utilised. Knowing what overhead costs will be for a year is important for good budgeting. The size of the overhead identifies the minimum total gross margin a farm must generate in order to break-even.

As with other types of costs, overhead costs can be compared with other similar producers to gain an understanding of the efficiency of the business. A major hidden cost is the overhead cost of depreciation which derives from the amount of capital invested in machinery, equipment and fixtures.

Table 5.4: Common overhead costs

- Council rates
- Permanent wages
- Work-cover
- Superannuation
- Farm insurance
- Registrations
- Repairs & maintenance
- Accounting
- Utilities (phone/power)
- Subscriptions
- Travel
- Training
- Fuel
- Professional fees
- Depreciation
- Employee wages
- Employee superannuation

Source: Hudson Facilitation

› Section **5.2.6, Cost of production, Module 2** discusses the allocation of overhead costs to an enterprise and how these contribute to your cost of production.

Where to find your overhead costs

The financial records you keep for your tax accounting is a good place to start to look for records of the costs of overheads. Your last tax return should have these costs listed in the expenses part of the profit and loss schedule. Another place to look is your accounting software and assess the last 12 months of cost data.

Depreciation is the hidden cost of machinery ownership and can be difficult to determine. It has to be estimated based on expectations about current market value and the productive life of an asset. Effectively, it is the annual value lost in capital tied up in machinery in a year. If you value all the machinery owned by the farm at the beginning of the year as $2m and you value this set of machinery at the end of the year at $1.8m, the difference in depreciation is $200k. As a percentage, this is a drop in value of 10%, which is known as the depreciation rate. As 'a rule of thumb', a diminishing balance depreciation rate of between 8% - 10% is used in the grains industry for the main items of powered machinery. Newer plant tends to depreciate more rapidly in the early years compared to later years, so this would be closer to a 10% depreciation rate.

Reducing overhead costs

Overhead cost can be reduced in two ways: by cutting total overheads for a given level of total production, or by increasing total production for a given level of overheads. Reducing total overhead costs, and overhead costs per unit of output can be difficult in the short-term but it is certainly not impossible. Indeed, while most farmers are very focused on their input costs and do not like to see a dollar wasted on sprays, fertiliser and so on, far fewer regularly and seriously review overhead costs to identify potential savings. Savings can be made in the following areas:

1. **Capital investment in plant and machinery** – Are you matching the capacity of the plant and equipment with the business output? Over capitalisation means increased capital costs per unit of production.
2. **Farm insurances** – What are you actually insured for and is it appropriate?
3. **Repairs and maintenance** – Are these costs all legitimate R&M or are some of them capital or lifestyle choices and should be treated as such?
4. **Depreciation** – Are you relying on the figure your accountant calculates (undertaken with ATO rules and may not be accurate for management) or attempting to utilise a more realistic market value figure?
5. **Communications** – Are there lower cost options for phone/internet combinations?

One common way of reducing overhead costs per hectare is to increase the scale of your operations, to spread the major overhead costs of operations, such as labour, management and depreciation of plant, over more output. This is typically done by either purchasing, share farming or leasing more land. Although this will usually mean that the total overhead costs the business pays will increase, many of these costs, such as accounting, utilities, rates if leasing land, travel, training, depreciation and so on, may not change with increased scale.

In this instance, while there will likely be an increase in total overhead costs, the overhead costs per hectare should decrease, as should overhead costs as a percentage of gross revenue. The business will achieve greater overhead cost efficiency by gaining what is known as Economies of Scale.

3. Finance costs

Finance costs include interest payments on term loans, equipment finance and overdraft. However, it is important to understand that finance costs include only the interest component of any repayment. If you are paying off a loan in principal plus interest repayments, the principal component of the repayment is reducing the business liability and is not a finance cost.

Borrowing money to buy land is an example. Most farmers do not have adequate cash reserves to purchase additional land, and so borrow money from a bank. The interest payable on that loan is the cost the bank charges for using their money to provide you access to that additional land. Similarly, finance payments include any land leasing costs. As with interest, lease payments provide the farmer with access to assets which they could not otherwise access.

4. Personal costs

This is the family drawings from the cash flow, or the annual cash needs for maintaining the family(ies) associated with the business. This is probably the cost item least recorded in the farm business as this is not a tax deductible item and does not need to be recorded for tax purposes. However, the family need to live and so it is a legitimate management cost to the business, so record what the family needs to support its lifestyle. These items include food, personal items, medical expenses, education expenses and holidays.

The issue of family drawings and market value of management to the business is an issue that should be considered.

› Section **5.2.4, Efficiency of the whole business, Module 2,** discusses this issue further.

Typically, personal costs are lifestyle related and have little impact on business productivity. However, they are an unavoidable cost to any family business and the amount of annual drawings will obviously affect both the quality of life of the owners of the business, and the amount of cash left to either reduce debt or reinvest in the business.

5. Capital costs

Capital expenditure is cash spent on assets out of cash flow. They do not appear in the profit and loss budget as capital purchases add to the assets in the balance sheet. However, capital purchases from cash can have a major impact on cash flow. Ideally, capital expenditure should improve the productive potential of the business. However, this is not always the case. Typical capital expenditure includes the purchase and/or development of land, buildings, machinery, breeding livestock and principal repayment of debt. Essentially, a capital item is anything that is added to the asset value in the balance sheet.

› Asset values are discussed further in section **5.3, Wealth, Module 2.**

Machinery requires periodic replacement and not all capital expenditure will lead to improved productivity. A useful approach to capital expenditure is to prepare budgets based on sound assumptions of likely outcomes both with and without the proposed capital expenditure, so at least you are aware of its impact before making the decision.

› This is discussed in section **11, Analytical tools, Module 3.**

Comment on costs

All costs tend to increase in real terms over time and so farm productivity must also improve over time to keep pace. Many costs are directly responsible for productivity and these must be monitored carefully, but it is important not to sacrifice productivity and gross revenue in the endeavour to cut costs. The focus should be on maintaining and improving profitability. There are often a number of areas in any business where, either with a review of costs or by increasing scale, greater cost efficiencies and production increases can be achieved.

Some complexities in categorising costs

Some costs can be allocated to different categories as they are used for different roles. Common cost challenges include:

a. How are labour costs handled?

Depending on the context, labour costs can be categorised as any of the following:

- **Variable costs** – Labour costs are a variable cost where they can be attributed to a particular enterprise. A good example is shearing labour costs attributed to sheep and contract windrowing to canola. As a general rule, labour costs are variable costs when they are contract or casual labour.
- **Overhead costs** – Labour costs are overhead costs when the labour is used over multiple enterprises. Generally, overhead costs are hired permanent labour, whether they are full or part-time employees.
- **Drawings** – This is the money needed by the owner to cover living expenses. Most farmers see this as adequate recompense for their labour and management input to the business, which allows the business to retain as much capital as possible. They are effectively investing their operator's labour and management return back into the business. However, this does not value their labour and management at commercial rates.

b. How are livestock purchases handled?

Purchased livestock through the season can be classed as either:

- **Variable costs** – Livestock purchases are variable costs when they are a normal annual cost for those enterprises. Examples include ram replacements for a self-replacing merino enterprise, breeding ewe replacements for a first and second cross prime lamb enterprise, and animals purchased for a feedlot where the animals are being held for less than 12 months.
- **Capital purchases** – Livestock purchases are classed as capital purchases when they are a one-off purchase to increase the size of that particular livestock enterprise. An example is the purchase of 1000 merino ewes for the self-replacing merino enterprise, so that this enterprise can be expanded. As these animals will be retained for a number of seasons to help increase income, and can be sold again, they are classed as a capital purchase and their value is added to the balance sheet (see section **5.3, Wealth, Module 2**).

c. How are costs managed in order to improve business returns?

Good cost management is central to running a profitable farming business. However, it is not just about reducing costs; it is about allocating those costs to provide the best profits for the business.

› Section **3, Farm business management, Module 1** discusses this economic thinking.

Action points

- Using your last tax return or a profit and loss budget from your accounting software, allocate your costs to the 5 categories listed above.
- Choose a method to allocate overhead costs that suits your particular mix of enterprises. Make sure you use this same method each year.

5.2.3 Profit and loss budget

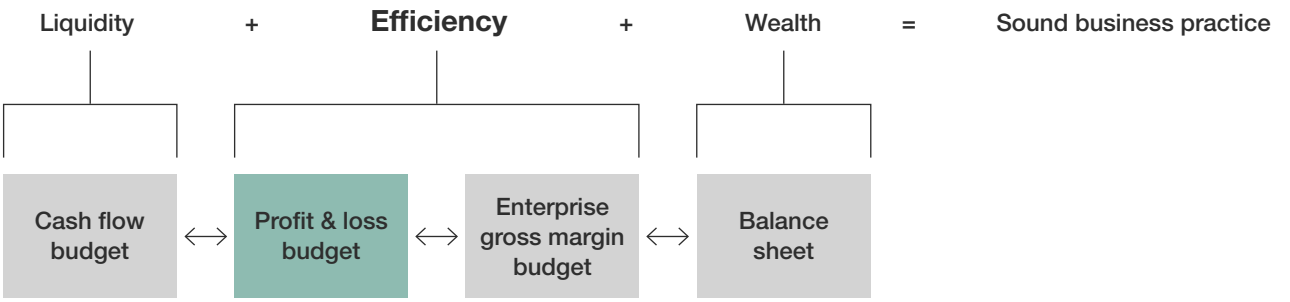
How much profit is your farming business making?

Maintaining a sound business management discipline of measuring business performance, using this information for planning and then learning from each year's results, will help to maintain a healthy and sustainable business. Understanding your profit and loss budget is essential to this process (refer to Figure 5.9).

KEY POINTS

- Profit and loss is the true measure needed to determine long-term business sustainability.
- Profitability is not the same measure as cash flow.
- Profitability is a key measure to help assess farm efficiency.
- Farm management profit and loss is not the same as the profit and loss statement in your tax return.

Figure 5.9: Key management concepts: Profit & loss budget



Source: P2PAgri P/L

What is a profit and loss budget?

In farm business management, a profit is the measure of the financial gain the whole business has made in a year's operation. It is not identical to a cash surplus, as measured by a cash flow, but can be similar. A profit and loss budget is a measure of business performance in terms of income, costs and the use or retention of unsold goods. Measured profit is an essential part of the efficiency equations, where profit divided by total managed assets provides the essential 'return on managed capital' measure. This measure of business efficiency can be used for comparison with any other business in the economy. It is the major comparative benchmark when assessing business performance.

Some farmers are more concerned with cash flow than profit, but understanding business profitability and efficiency is just as essential as cash flow and liquidity. If the business focus is on future sustainability, responsible management needs to include an annual profit and loss budget to measure efficiency accurately. Figure 5.10 illustrates the various components of a profit and loss budget.

There are different levels of profit measures (Figure 5.10):

- Total Gross Margin,
- Operating Profit or Earnings Before Interest and Tax (EBIT),
- Farm Net Profit (FNP) before and after tax, and
- Farm Growth in Equity.

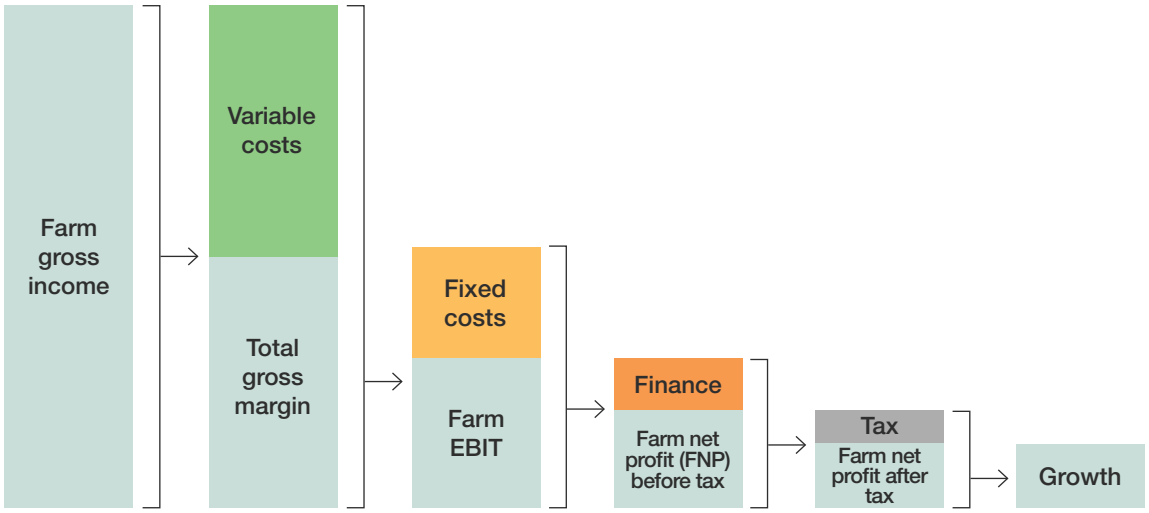
Each of these measures tells something different about the performance of the business in light of family goals. Understanding and measuring each of these enables various questions about the business to be answered.

The ultimate goal of a farming business each year should include a growth in equity (also called net worth or wealth). This is the measure that shows if the business is moving ahead or going backwards. Growth in equity is obtained from both:

- The business profits after debt is serviced and tax paid, and
- Growth in the assets owned, such as land.

A valuable measure of the performance of the business and its management is the business profits achieved from the capital managed and the growth in equity derived from farming, as this is directly influenced by management. Growth in equity from owned asset growth (mainly land value increase) is valuable too, but is more a reflection of the health of the rural economy than the actions of management.

Figure 5.10: Profit and loss budget



Source: 'Agriculture in Australia', Bill Malcolm, et al, 2009

'Upndowns Farm' profit and loss budget

'Upndowns Farm', a dryland mixed farm, has the following asset data:

- Total assets managed = $13.9m
- Total assets owned = $11.1m
- Total liabilities = $2.9m
- Net worth (total assets owned minus liabilities) = $8.2m

A profit and loss budget based on this data is shown in Table 5.5.

Efficiency calculations are also based on this data.

› Section **5.3, Wealth, Module 2,** discusses this information further.

Results indicate that this farming business has generated a net profit before tax of $350,334. Technically, this farm is economically viable given an average season expectations. To really test this farm's economic viability, both a good and poor season need to be modelled to see the range of outcomes.

Information obtained from a profit and loss budget

The main observations coming from a profit and loss, illustrated by the sample farm, are as follows:

1. **Farm gross income:** This is the gross income received from each farm enterprise as well as the non-cash income, which could be the abnormal increase in stock numbers where flock or herd building is occurring. This increase in stock is valued as non-cash income, as these animals are not normally retained. Also, please note this is accrual income, so all sold commodities are valued as income regardless of when the full cash payment is received.
2. **Farm EBIT:** The farm's earnings before interest, leasing and tax (EBIT) are taken into account and is a number that can be compared with other similar businesses. The higher the EBIT, the better the business performance; if this number was negative, farm viability would be in doubt. More importantly, it is also the profit number used in the calculation of efficiency, or return on managed capital. Table 5.5 indicates the sample farm's EBIT is $616,019. While this appears quite a reasonable result, remember that interest, leasing and tax payments have not yet been removed, so it may not in fact be a very positive result.
3. **Farm net profit before tax:** This is the profit to the farm business once all cash and non-cash costs, depreciation and finance costs have been accounted for. In Table 5.5, this figure is $350,334; this indicates that this business is profitable, but whether this level of profit is good or not depends on how much capital has been used to produce it i.e. return on capital measures the whole farm efficiency. Regardless of the profit level, it is always useful to ponder how the business would cope with the inevitable low profit years.
4. **Farm net profit after tax:** This is the farm's net profit after tax liability has been taken out. Assistance from your accountant may be needed here to assess this season's tax liability as this will depend on things such as business structure, carried forward losses and taxable income averaging. 'Upndowns Farm' net profit after tax is $315,301. This is positive and means the business can probably meet its costs and interest and tax obligations, though only the cash flow budget can tell us for sure.
5. **Farm growth in equity:** This is the profit that remains and is in addition to equity. It is the surplus available to put back into the business as either infrastructure up-grade or repayment of principal. Either way, it helps build the owner's equity. The sample farm 'Upndowns Farm' has a growth in equity of $336,301.

Action points

- Complete a profit and loss budget for your last season.
- Once you have completed the balance sheet in section **5.3.1, Balance Sheet**, come back to your profit and loss and calculate the various returns to capital.
- Access a profit and loss template from: **www.grdc.com.au/FBMtemplate-ProfitLoss**

Table 5.5: 'Upndowns Farm' profit and loss budget

Profit measures		Discussion
Farm management profit and loss:		
Cash income:	**Annual**	**Farm gross income** • Farm gross income is simply all income earned in the business year (accrual), and can include: 1. Each commodity sold by the farm business. 2. Other income earned from the use of the farm's assets, such as providing contract spraying and windrowing. 3. Wages earned off-farm, such as shearing for other farmers in the district. • **Non cash income** – This is for production that would normally have been sold, but in this instance has been retained. This can occur in both grain and livestock enterprises. An example would be if more ewe lambs were retained to build up breeding ewe numbers making the number greater than at the start of the season.
Wheat	164,250	
Malt barley	72,450	
Feed barley	115,020	
Canola	312,312	
Beans	150,575	
Clover	21,000	
Chickpeas	37,500	
Prime lambs	171,819	
Self-replacing merino	526,703	
Cattle	10,500	
Other farm income		
Non cash income:		
Net livestock movements		
1. Farm gross income	1,582,129	
Expenses:		
Cash production expenses:		**Expenses** in a profit and loss are attributed to various categories so that profits can be viewed at different levels. These categories are: • **Cash expenses** – Those costs that are paid for annually, like crop and livestock variable costs, and overhead costs. • **Non-cash expenses** – These are costs that are incurred but may not have been paid in full, such as the management allowance, or depreciation of machinery which occurs over time.
Cropping variable costs	309,436	
Livestock variable costs	218,574	
Other farm expenses		
General overhead costs	256,800	
Non cash production expenses:		
Managerial allowance	120,000	
Depreciation	61,300	

2. Farm EBIT	616,019	
Financing costs:		
Interest:		• **Financing costs** – These are the costs associated with borrowing money, namely interest rates and bank fee charges. In this example, the income from bank deposits and farm management deposits (FMD) has been included as income.
Interest on existing farm loans	242,435	
Interest on new farm loans		
Interest on overdraft and stock	22,950	
Mortgage:		
Bank fees	300	
Land lease		
Interest earned on cash		
Interest earned on FMD		
3. Farm net profit before tax	350,334	**Key performance indicator: Farm viability**
Tax costs:		
Tax rate	10%	• **Tax costs** – Most profits and losses are assessed prior to tax, but as tax paid to the ATO is a legitimate business cost, this is included in the profit and loss budget.
Less losses carried forward		
Taxable income	350,334	
Farm estimation of tax paid	35,033	
4. Farm net profit after tax	315,301	
Farm consumption:		
Family drawings minus Managerial allowance	33,000	**Farm consumption** – This is a little technical but it helps to measure what is being put back into the business by the family farm owners. • In this sample farm, a manager/owner is taking a family drawing of $87,000 and has allowed for $120,000 in the profit and loss for the managerial allowance. So, while it is acknowledged that the manager/owner is worth $120,000, only $87,000 is being taken out for living expenses. This means the difference of $33,000 is being left in the business and can be classed as invested equity. • Farm business management calls this value 'farm consumption'.
5. Farm growth in equity	336,301	**Key performance indicator: Growth in farm equity**

A template to complete your profit and loss budget can be downloaded at: **www.grdc.com.au/FBMtemplate-ProfitLoss**

Source: P2PAgri P/L

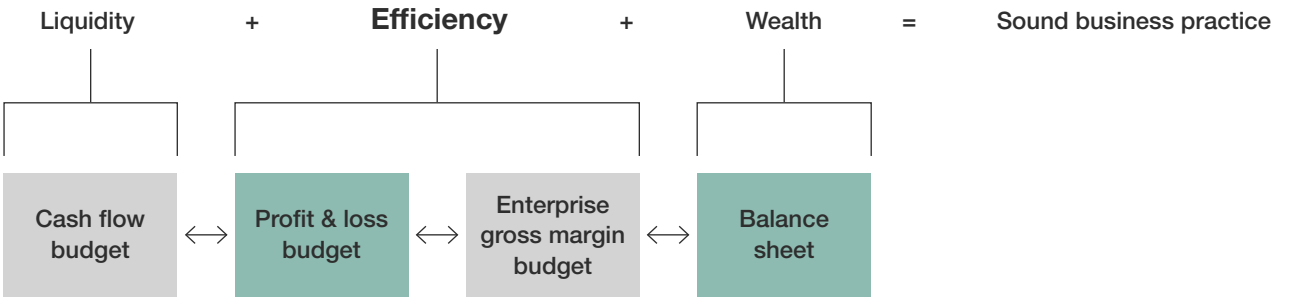
5.2.4 Efficiency of the whole business

One of the keys to success is knowing how efficient your business is, and continually striving to improve business efficiency.

KEY POINTS

- Efficiency is the measure of how well you are managing the total assets used by the farm business.
- To measure efficiency, you need to know the business profitability and the value of assets being managed.
- Efficiency is measured by the return on total assets managed, and is the only benchmark that provides a correct comparison between farming businesses and other businesses in the economy.
- Business decision making is greatly enhanced with a focus on the improving efficiency.

Figure 5.11: Key management concepts: measures for whole business efficiency



Source: P2PAgri P/L

Why look at efficiency?

Most farmers rely on business cash flow to determine how well the business is performing. While this is a good measure of liquidity, or cash available to the business, the measure of efficiency should not be ignored as it accounts for non-cash income and costs that are not assessed in a cash flow. Allowing for these items, such as hidden costs like depreciation, means that the true profit performance is revealed. This helps maintain viability into the long-term (refer to Figure 5.11).

The measurement of efficiency is the measure of how much profit is generated by all the assets (also known as capital). However, there are other important measures of efficiency, which help answer different questions about the business. The two essential measures of efficiency are shown in Table 5.6.

The figures needed to complete these efficiency measures come from both a profit and loss, and a balance sheet.

Calculation of these efficiency measures using 'Upndowns Farm' figures

For this exercise, the sample farm has $11.1m in owned assets, with a further $2.8m of land that is share farmed. While the share farmed land is not on the business balance sheet (covered in section **5.3.1**) it is a part of the total assets being managed, which comes to $13.9m ($11.1m + $2.8m).

To complete the efficiency measures of the whole business, specific calculations from **'Upndowns Farm'** Profit and Loss, and Balance Sheet, have been used and are shown in Table 5.7.

1. **Return on managed capital (ROMC)** – This is the return on total assets managed by the farm business (including leased and share farmed land) and is the preferred indicator of business efficiency. A figure greater than 8% indicates an efficient farm business. This is calculated by:

   ROMC = Farm EBIT ÷ Total assets managed

   In the sample farm, the farm EBIT of $616k divided by the total assets managed of $13.9m, gives a ratio of 4.43%, before any increase in asset value from market movements. This is well below the efficiency mark of 8% that other good businesses (farm and non-farm) would consider a sound level of performance, so there is plenty

Table 5.6: Measures of efficiency and return to owner's capital

Efficiency measures	Question that is answered
1. Return on managed capital (ROMC)	What is the efficiency of the business? This is the correct measure of efficiency as it measures the return from all the assets being managed, and not just the owned assets. Industry would regard a return on total managed capital of 6% - 8% to represent an efficient operation.
2. Return on owners' equity (ROE)	What is the return on the owner's equity? This measure identifies the return on the owner's equity in the business and can be compared to alternate returns on investment, such as depositing this equity in a bank. If the bank deposit was earning 4%, then the farm business would be looking for a return on equity above this to reward risk taking, as a farm business manages more risk than a deposit in a bank.

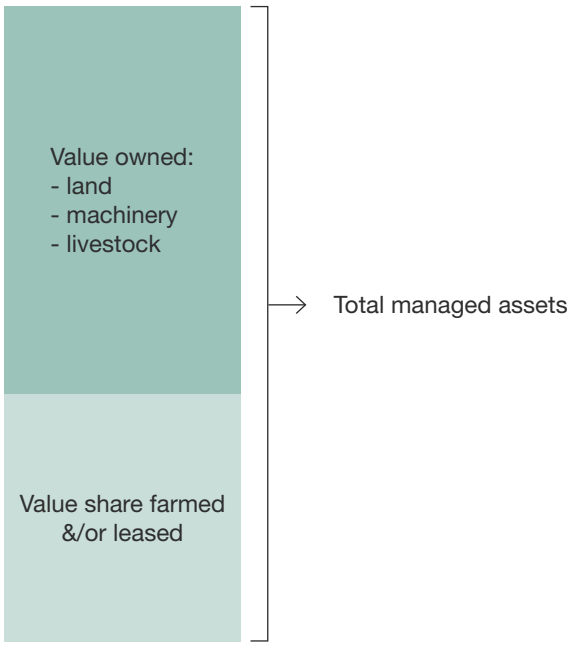
Source: P2PAgri P/L

Table 5.7: Specific calculations needed from 'Upndowns Farm' budgets

Profit and loss budget (Table 5.5, section **5.2.3, Module 2**)	1. Farm EBIT	$616,019
	2. Farm net profit (before tax)	$350,334
Balance sheet (Table 5.18, section **5.3.1, Module 2**)	3. Total assets managed	$13.9m
	4. Total assets owned	$11.1m
	5. Net worth	$8.2

Source: P2PAgri P/L

Figure 5.12: Total managed assets



Source: 'Agriculture in Australia', Bill Malcolm, et al, 2009

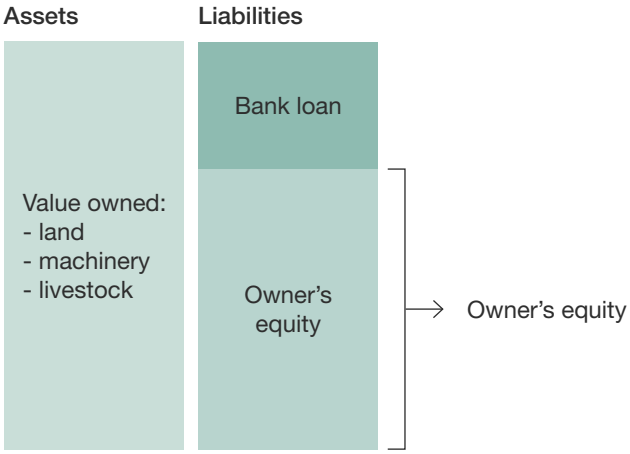
of room for improvement. The majority of dryland farm businesses in Australia are performing at a 1% – 3% ROMC. At this level, a business may be viable but not efficient. Figure 5.12 shows the various components of total managed assets.

2. **Return on owners' equity (ROE)** – This is the return on the owner's capital in the business. If we want to see if the business is earning more than bank interest for the owner, then this is the number for comparison. This number should be well above bank deposit rates, to reflect the reward from managing in a higher risk environment. This is calculated by Farm Net Profit (before tax) divided by Net Worth.

   ROE = FNP / Net worth

   Using **'Upndowns Farm'** data in Table 5.7, the calculation is $350k / $8.2m = 4.23%, which is above the current bank deposit rate of 4%. However, is the difference of 0.23% adequate compensation for the risks taken by the farm? Only the owner can answer this question. Figure 5.13 demonstrates owner's equity.

Figure 5.13: Owner's equity



Source: 'Agriculture in Australia', Bill Malcolm, et al, 2009

Capital gain of land

The efficiency measures above are an indication of the management performance of the business.

However, agricultural land in some parts of Australia has experienced a real (above inflation rate) capital appreciation over the last 20 years. In some regions, this rate has been measured up to 6% real compound growth. This rate of return should be added separately to the 'return on managed capital' as the owner's equity can also increase in this way. Using the example of **'Upndowns Farm'** with a return to total capital managed of 4.43% and a land growth of 6%, the combined efficiency measure would be 10.43%. This is well above 8%, so it shows an efficient return. However, the capital growth of land reflects the rural economic health rather than the manager's performance. It is recommend that you judge your business performance on 'return on managed capital' separately from land asset growth.

Action points

- Measure and record the business 'return on managed capital' every season. This will highlight trend in business efficiency.
- Keep a record of 'return to owner's equity', to ensure your business is performing better than bank deposit rates.
- Calculate these measures annually, at the end of each season once the results are known. This will highlight trends in business efficiency over time.
- When making business decisions, assess what effect the decision will have on business efficiency.

5.2.5 Enterprise gross margin budgets

Do you know the financial contribution of your farm enterprises?

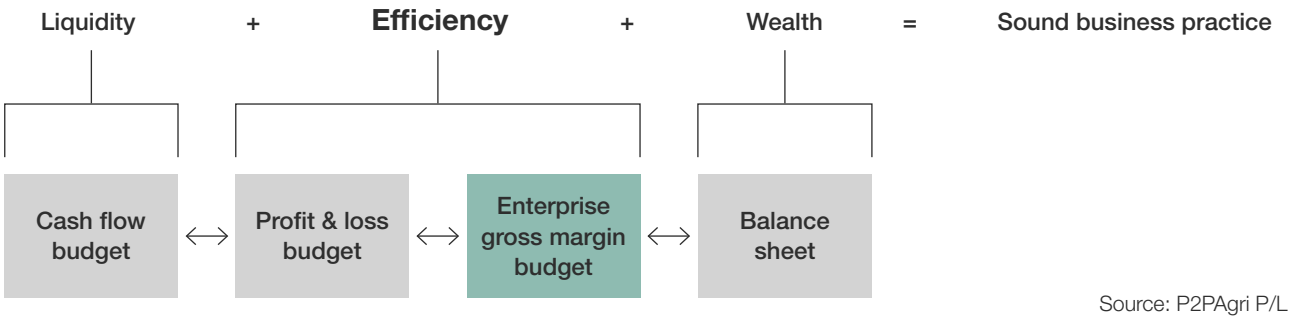
Many Australian farmers are involved in multiple enterprise farming systems, which means the contribution to cash and whole farm profit from each enterprise should be known. It is important to understand gross margin budgets and their role in farm financial analysis.

KEY POINTS

- Enterprise gross margin budgets indicate each enterprise's financial performance and contribution to the whole business performance.
- Enterprise gross margin budgets provide the basic 'financial building blocks' for the business.
- Enterprise gross margin budgets are useful when comparing the expected financial performance of different enterprises, rotations and different farming systems.
- Understanding the limitations of gross margin budgets helps when interpreting the results.

A co-contributor to this section is Chris Tuckwell, Rural Industry Developments.

Figure 5.14: Key management concepts: enterprise gross margin budgets



Source: P2PAgri P/L

What is an enterprise gross margin budget?

An enterprise gross margin budget is a simple budget that calculates the contribution from each enterprise to the business (refer to Figure 5.14). Enterprise gross margin is defined as the total income derived from an enterprise less the variable costs incurred in the production of that enterprise.

Gross margin = Gross income – variable costs

It is important to note that the enterprise gross margin indicates the contribution that enterprise makes towards covering the business overheads. The higher the enterprise gross margin, the more valuable that enterprise is to the business.

How are enterprise gross margins budgets used?

Enterprise gross margin budgets are useful for:

- **Comparing relative variable costs and returns** for similar alternate farm activities.
- **Comparing the historic performance of activities,** or to predict the performance of potential alternative activities.
- **Helping to plan** the whole farm enterprise mix and the expected contribution of different rotations to whole farm profit.
- **Developing a cash flow budget** is made easier if the estimated enterprise gross margins have been developed. Once the cropping and pasture plan is known, multiply the gross margins per hectare to calculate total fertiliser, chemical, seed cost etc.
- **Estimating the impact of changes** in expected yields, prices and variable costs, and hence the variability and risk associated with each enterprise.

How can gross margins be expressed?

Enterprise gross margins can be expressed as follows:

1. **The absolute contribution** made by the enterprise to the business, such as wheat having a gross margin of $157,081.
2. **The percentage relative contribution** the enterprise makes to the business. In this example, wheat is 13% of the total farm gross margin.
3. **Limiting resource:** gross margin budgets are most useful when they express the enterprise gross margin in terms of the most limiting resource. For example, if working capital is the most limiting resource, a gross margin expressed as % gross margin ($GM) per $ working capital may

Table 5.8: Options for measuring gross margins on 'Upndowns Farm'

Enterprise	1. Absolute contribution to total gross margin	2. Percentage Relative contribution	3. Limiting resource	
			3.1 Relative to area (Gross margin/ha)	3.2 Relative to DSE (Gross margin/DSE)
Wheat	$157,081	13%	$567	
Malt barley	$77,887	7%	$573	
Feed barley	$68,863	6%	$485	
Canola	$243,029	20%	$769	
Beans	$124,815	10%	$650	
Clover	$12,382	1%	$442	
Chickpeas	$19,835	2%	$331	
Prime lambs	$76,574	6%	$609	$44.52
Self-replacing merino	$405,310	34%	$768	$56.15
Cattle	$8,565	1%	$300	$21.96
Total	**$1,194,341**	**100%**		

Source: P2PAgri P/L

be appropriate. If labour is most limiting then $GM per labour unit would be informative. However, the two most commonly used measures are:

3.1 Relative to the area the enterprise uses when land is the most limiting resource. This is expressed as $GM per hectare, such as wheat $567/ha. Use this measure if you want to assess the performance of the enterprise in the business compared to other enterprises competing with wheat for land and which would play a similar role in the crop rotation. Most farmers tend to use this measure.

3.2 Relative to the feed supply expressed as 'dry sheep equivalents' (DSE's) used by the livestock enterprise, such as $44.52/DSE for prime lambs enterprise. Also, use this measure if you want to assess the efficiency of the enterprise in the business against other livestock enterprises competing for the same feed supply.

These options are shown for 'Upndowns Farm' in Table 5.8

What costs are not included in gross margin budgets?

Some costs cannot be easily attributed to particular activities because they are spread across all activities on the farm and cannot be readily apportioned between them. Some of these are fixed or overhead costs and are incurred irrespective of which enterprise mix is chosen, and include:

- Permanent labour
- Depreciation
- Accountancy fees
- Rates and taxes
- Interest payments
- General insurance
- Rent
- Family drawings

What is a DSE and how is it used?

When comparing livestock gross margins, it is useful to compare the gross margins on the most limiting resource, which is usually annual feed supply for livestock. In Australia, annual feed supply is usually measured in DSE (dry sheep equivalent).

All classes of livestock have a different feed requirement relating to their production, age, sex and size (e.g. a pregnant ewe needs more feed at certain times of the year than a wether that is the same weight and age). DSE ratings allow us to compare relative feed demand/grazing pressure of different groups of animals whether they are the same or different species.

There is much debate over DSE ratings and what is the base unit. Most commonly in Australia, it is described as the amount of feed energy required to maintain for one year a 45kg or a 50 kg live weight merino wether with a body condition score of 2. The basis of a DSE rating is the amount of metabolisable energy required for annual maintenance, measured in megajoules of metabolisable energy (MJ/ME/year). A DSE requires about 8 MJ/ME/day or about 3000 MJ/ME/year. DSE tables for different classes of livestock are commonly available.

1. How to calculate a crop gross margin

Steps to determine a crop enterprise gross margin budget are:

1. Calculate all annual production costs. The enterprise variable costs include all cash expenses (inputs) directly incurred in the production of the saleable enterprise output. Some typical costs that should be considered for crop enterprises are shown in Table 5.9.
2. Calculate the gross income of a particular crop enterprise. The gross income of a crop is determined by the yield and the price. For example, a wheat crop that yields 4.5t/ha and obtains a price of $200/t gives a wheat gross income of $900/ha. Crop income is counted regardless of whether the output is sold or stored, in which case it is valued at current market value.

   4.5t/ha x $200/t = $900/ha
3. Enterprise Gross Margin = Gross Income - Variable Costs.
4. Divide this by the number of hectares of crop planted to produce an enterprise gross margin/ha.

'Upndowns Farm' wheat gross margin

Table 5.10 gives a wheat gross margin from the sample farm. The farm gate price means freight and marketing costs have been taken off. As these costs are usually on a per tonne basis when calculating a gross margin, it is easier to deduct these costs per tonne from the price. The gross margin of $567.08/ha means that this is the amount per hectare of wheat that is available to cover overhead costs and contribute to farm profit.

'Recently, we've started inputting all our data into PAM (Paddock Action Management), which is just a computer program that keeps us up-to-date with all our stock numbers and gross margins. If we make sure we enter all our data, we can turn out our gross margin budgets on our different crops and on our sheep. We know how much area they're all running on so we try to grow the most profitable crops to reduce our costs if we can.'

Scott Nicholson,
'Bretton Estate', Campbells Bridge, Victoria

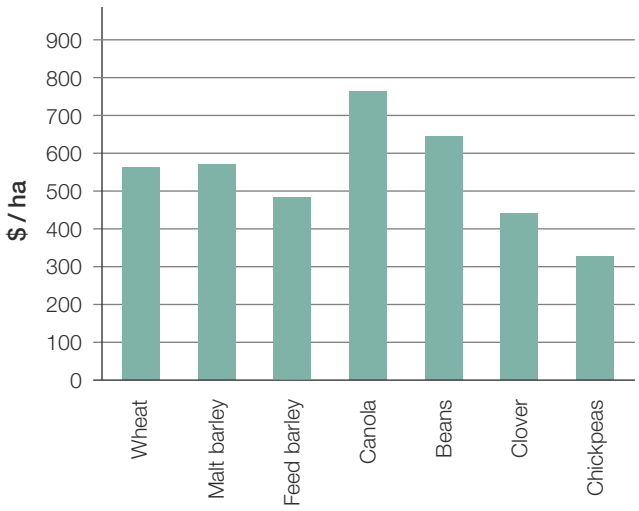
Figure 5.15 indicates the relative performance of different cropping enterprises on 'Upndowns Farm'. In this example, canola has the highest gross margin and chickpeas the lowest. It is important that these cropping gross margins are calculated for your business as results will vary between farms and between seasons. Your gross margin calculations should reflect the management levels, soil capability, rainfall expectation and pest and weed issues of your own farm.

Table 5.9: Crop enterprise variable costs

Land preparation • All machinery operations • Other procedures or requirements undertaken before a crop is planted
Pest, disease & weed control • All insecticide, fungicide and herbicide applications • Costs of spraying (ground or aerial) • Casual labour
Planting • Seed • Machinery running costs • Casual labour • Fertiliser
Irrigation • Water charges • Pumping and application costs • Electricity and maintenance costs • Licence fees
Harvest, storage and freight • Casual labour • Pest protection • Freight costs

Source: Rural Industry Developments

Figure 5.15: Estimated crop gross margins on 'Upndowns Farm'



Source: P2PAgri P/L

Table 5.10: 'Upndowns Farm' wheat gross margin budget

Crop: wheat _____	Total area: _____ ha			Year: _____				
Gross income (A):							$/ha	
Yield income	4.5	Tonnes/ha	x	200	$/tonne	=	900.00	(A)
Variable costs (B):								
Seed							$/ha	
Seed	60	kg/ha	x	0.20	$/kg	=	12.00	
Seed treatment	60	kg/ha	x	0.20	$/kg	=	12.00	
Levies								
GRDC levies		%	x		$ Gross	=		
EPR & State levies		tonnes sold	x		$/tonnes	=		
Fertiliser (bulk)								
18:20:00	120	kg/ha ÷1000	x	450	$/tonne	=	54.00	
Urea	90	kg/ha ÷1000	x	560	$/tonne	=	50.40	
Chemicals: herbicides								
Summer weed control	0 .5	litres/ha	x	5.00	$/litre	=	2.50	
Chemical 1		gm/ha	x		$/_____	=		
Pre-Emergents								
Chemical 2	1.5	litres/ha	x	8.00	$/litre	=	12.00	
Chemical 3	5	gm/ha	x	5	$/gm	=	25.00	
Post-Emergents								
Chemical 4	2	litres/ha	x	10	$/litre	=	20.00	
Chemical 5	10	gm/ha	x	7	$/gm	=	70.00	
Chemicals: fungicides								
		litres/ha	x		$/litre	=		
		gm/ha	x			=		
Freight								
Grain/t		tonnes	x		$/tonne	=		
Fertiliser/t		tonnes	x		$/tonne	=		

Operations	Total cost								
Fuel & oil	57,100	x	15	% crop area	÷	277	ha	=	30.92	
Repairs & maintenance	40,070	x	15	% crop area	÷	277	ha	=	21.70	
Contract work										
Aerial spraying								=		
Urea spreading								=		
Crop insurance								=	5.50	
Casual labour								=	5.60	
Harvesting			1		x	11.30		=	11.30	
							Variable costs/ha	=	332.92	(B)

Gross margin $/ ha (C):								
	900.00	(A)	-	332.92	(B)	=	567.08	$/ha (C)
Enterprise gross margin:								
	277	Total ha	x	567.08	$/ha (C)	=	$157,081	TOTAL $

Download a crop gross margin budget template from: **www.grdc.com.au/FBMtemplate-CropGrossMargin**

Source: P2PAgri P/L / Rural Industry Developments

2. How to calculate a livestock gross margin

Steps to determine a livestock gross margin budget are:

1. Calculate annual livestock reconciliation (below).
2. Calculate all annual variable costs. The enterprise variable costs include all cash expenses (inputs) directly incurred in the production of the saleable enterprise output. Typical costs that should be considered for livestock enterprises, but are not limited to, are shown in Table 5.11.
3. Calculate the gross income of a particular livestock enterprise e.g. livestock or wool sales.
4. Calculate the DSE requirements for the enterprise.
5. Enterprise Gross Margin = Gross Income - Variable Costs.

'Upndowns Farm' sheep gross margin

Table 5.12 gives a sample sheep gross margin for 'Upndowns Farm'. Income is earned from both wool and livestock sales and variable costs include pasture maintenance costs.

Livestock gross margins are best expressed as a gross margin per dry sheep equivalent (DSE) as feed availability is generally the most limiting resource for livestock in a farming business. In the example in Table 5.12, the $56.15/DSE can now be compared against other livestock enterprises. Figure 5.16 shows the comparison of self-replacing merino, prime lambs and cattle for 'Upndowns Farm'. These figures indicate that of all the livestock enterprises on this property, self-replacing merinos provide the greatest contribution to profits.

Livestock reconciliation

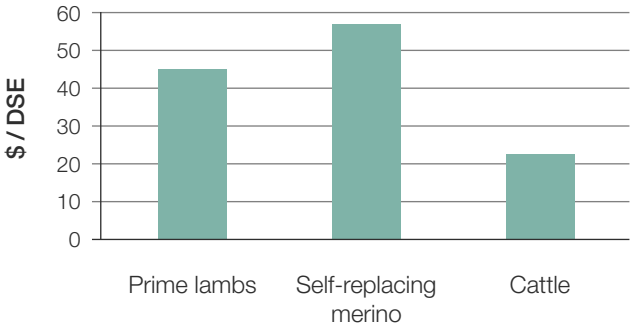
To accurately complete a livestock enterprise gross margin budget, a livestock reconciliation is needed to show the dynamics of the flock population through the year. Figure 5.17 illustrates the main seasonal events for the self-replacing merino flock in 'Upndowns Farm'. It shows when lambing, shearing and mating occurs. It also shows when wool and sheep are sold which helps to clarify the cash flow.

The aim of a livestock reconciliation is to measure the movement in livestock numbers through the year, which includes how many lambs are weaned and those that are not sold, how many rams are purchased, and how many animals die of natural causes. For a self-replacing merino enterprise, the start of the season occurs just before lambing, as any lambs kept over from the previous lambing will have turned into hoggets, so the season starts with no lambs. Table 5.13 shows the livestock reconciliation for the self-replacing merino flock of 'Upndowns Farm'.

This flock is known as a 'steady state' flock where the opening numbers of 4,065 are the same as the closing numbers. From this table, you can see what animals are being sold and purchased, what animals are in the different age groups and the number of animals that die. At the end of the year, it also shows what animals move up to the next age group (see transfer rows).

Importantly in a livestock gross margin, if an abnormally high number of sheep are retained due to the sheep numbers being increased, or larger than normal numbers are sold because

Figure 5.16: Estimated livestock gross margins for 'Upndowns Farm'



Source: P2PAgri P/L

Table 5.11: Livestock enterprise variable costs

Supplementary feed • Feed storage costs • Cost of feed (hay and/or grain)	**Animal husbandry costs** • Ear tags • Shearing costs • Casual labour
Animal health requirements • Drenches/dips/vaccines • Trace elements • Casual labour	**Pasture irrigation** • Water charges • Pumping and application costs • Electricity and maintenance costs • Licence fees
Fertiliser • Pasture fertiliser • Spreader or sprayer use	**Repairs and maintenance** • Percentage allocated to livestock enterprises
Livestock sale and purchases • Freight • Selling costs • Animal replacements	**Shearing and crutching** • Shearing costs • Crutching costs

Source: Rural Industry Developments

Table 5.12: 'Upndowns Farm' sheep gross margin budget

Enterprise type: Self-replacing merino	Total DSE: 7,218		Year: _____				
Gross income (A):						$	
Wool	31,862	kg	x avg. price	649	c/kg	= 206,783	
Lamb sales	2,460	hd	x avg. price	90.00	$/hd	= 221,400	
Cull livestock sales	1,023	hd	x avg. price	96.30	$/hd	= 98,520	
					TOTAL	**526,703**	**(A)**
Variable costs (B):							
Shearing						$	
Shearing sheep	7,604	hd	x	6.00	$/hd	= 45,624	
Shearing rams	45	hd	x	12.00	$/hd	= 540	
Wool packs	172	packs	x	10	$/pack	= 1,720	
Shed sundries		sheep	x		$/hd	=	
Shed labour		days	x		$/day	=	
Wool classer		days	x		$/day	=	
Wool marketing		%	x		$ gross	=	
Wool levy		%	x		$ gross	=	
Health	7,665	sheep	x	1.06	$/hd	= 8,112	
Crutching	6,525	sheep	x	1.60	$/100	= 10,440	
Lamb marking	3.600	lambs	x	0.30	$/hd	= 1,080	
Mulesing		lambs	x		$/hd	=	
Vet costs							
Livestock purchases	10	hd	x	2,000	$/hd	= 20,000	
Freight							
Livestock		hd	x		$/hd	=	
Wool		bales	x		$/bale	=	
Stock selling charges							
Commission		%	x		$ gross	=	
Yard fees		hd	x		$/hd	=	
Hand feeding							
Hay		tonne	x		$/tonne	=	
Grain		tonne	x		$/tonne	=	
Insurance							
Water						=	
Annual pasture						=	
Improvement						= 33,877	
Other						=	
					TOTAL variable costs	= **$121,393**	**(B)**
Enterprise gross margin (C):							
	$526,703	**(A)**	-	**$121,393**	**(B)**	= **$405,310**	**(C)**
Gross margin / DSE:							
	$405,310	**(C)**	÷	**7,218**	**Total DSE**	= **56.15**	**$/DSE**

Download a livestock gross margin budget template from: **www.grdc.com.au/FBMtemplate-LivestockGrossMargin**

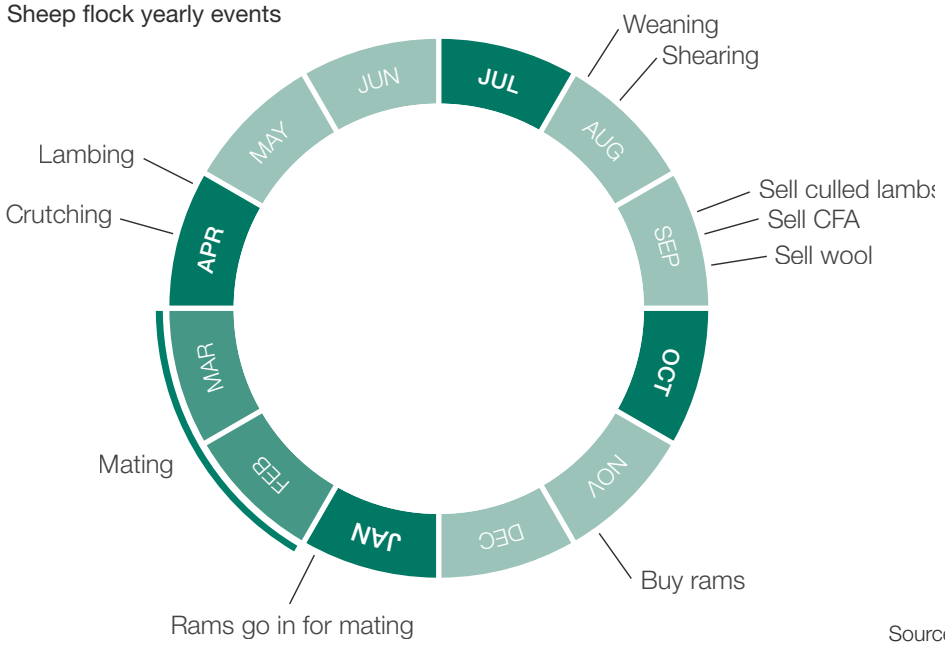
Source: P2PAgri P/L / Rural Industry Developments

Table 5.13: A self-replacing merino livestock reconciliation

Livestock age groups	No. at start	Weaned	Purchases	Sales	Deaths	Trans out	Trans in	No. at end
Ewes	2,880			599	87		686	2,880
Ewe hoggets	1,140			420	34	686	1,140	1,140
Ewe lambs		1,800		660		1,140		
Wethers								
Wether hoggets								
Wether lambs		1,800		1,800				
Rams	45		10	4	6			45
Total	**4,065**	**3,600**	**10**	**3,483**	**127**	**1,826**	**1,826**	**4,065**

Source: P2PAgri P/L

Figures 5.17: Sheep flock yearly events



Source: P2PAgri P/L

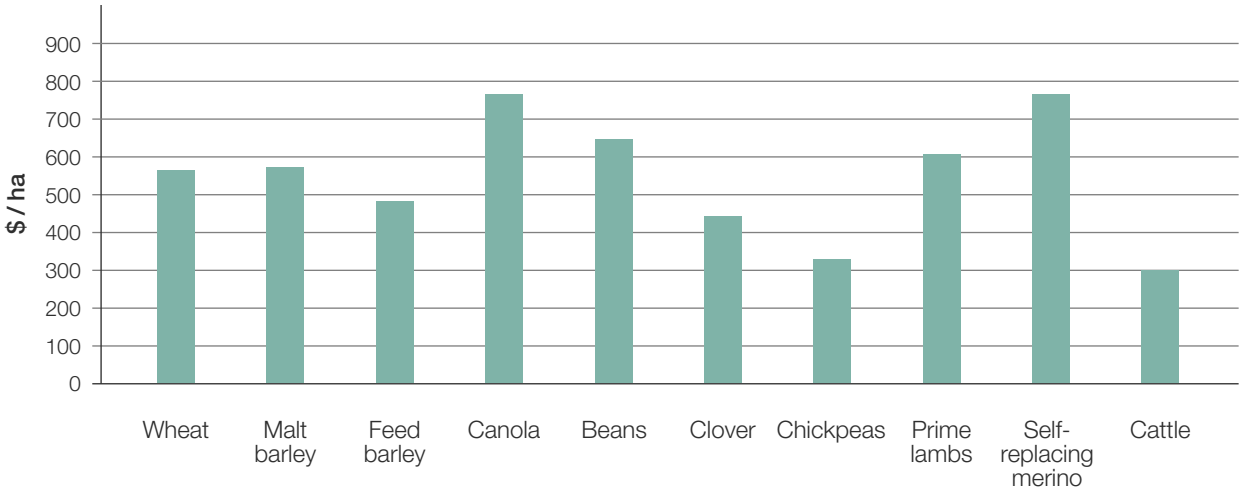
the flock numbers are being decreased, then this allowance needs to be recorded in the livestock gross margin. The increased numbers, over and above the numbers normally expected to be sold, would be deemed as capital sales. While they will be included in cash flow, they are actually assets being sold and should be recorded in the balance sheet and not as income in the livestock gross margin. Likewise, where a high number of sheep are retained, they are classed as assets to the business and should not be included in the gross margin. By doing this, a correct gross margin measure can be made and relative profit performances between seasons and other livestock enterprises can be compared accurately (Malcolm et.al, 2005).

Comparing cropping and livestock gross margins

The contribution one activity makes to another activity is difficult to quantify; for example, the clover pasture phase of a crop rotation contributes feed to the current livestock activity and also provides nitrogen to the next crop. This is why enterprise gross margins make the most sense when seen as combinations of activities that, together, produce farm total gross margin. Care needs to be taken when comparing annual cropping and livestock gross margins, as at different times during the season they can be either competitive or complementary. For example, at seeding time, these enterprises are competitive for both land and labour, but after harvest may be complementary as stubbles can be used for livestock feed.

Figure 5.18 compares 'Upndowns Farm' enterprises by gross margin per hectare. This example shows that the relative contribution of the self-replacing merino enterprise to total gross margin and ultimately to farm profit, is equal to the best of the crop enterprises. If we focus on the cropping period of the year to decide on enterprise mix, then a gross margin is useful. However, other strategies of supplementary feeding or livestock agistment during this period could change the size of the livestock enterprises and take advantage of surplus available feed at other times of the year.

Figure 5.18: Enterprise gross margin comparison for 'Upndowns Farm'



Source: P2PAgri P/L

Table 5.14: Canola gross margin sensitivity for 'Upndowns Farm'

	Original estimate	Price increase x 5%	Yield increase x 5%	Variable cost increase x 5%
Price ($/t)	$520	$546	$520	$520
Yield (t/ha)	2.2	2.2	2.31	2.2
Variable cost ($/ha)	$375	$375	$375	$394
Gross margin ($/ha)	$769	$826	$826	$750
Change from the original ($/ha)		$57	$57	-$19

Source: P2PAgri P/L

Rotation analysis with enterprise gross margins

Rotation selection can have a large impact on the farm's business performance. The use of enterprise gross margins is a good way to measure the relative financial performance of rotations. Using the enterprise gross margin example above, two rotations of the one paddock can be compared. The calculations below illustrate the comparison using gross margins (NB. these figures come from Table 5.8).

Rotation 1: Wheat / Canola / Malt Barley / Beans

$567/ha + $769/ha + $573/ha + $650/ha = $2,559 ÷ 4

= average $639.75/ha

Rotation 2: Wheat / Canola / Cattle / Cattle

$567/ha + $779/ha + $300/ha + $300/ha = $1,946 ÷ 4

= average $486.50/ha

In this example, the continuous cropping rotation provided a 31% increase in the rotational gross margin. This analysis was based on average seasonal expectations. To gain an understanding of the risk differences, this analysis could be undertaken assuming different seasonal outcomes were experienced.

While the individual gross margin/ha provides useful information, sometimes cropping sequence analysis is more useful as an individual crop cannot be grown continuously. For example, consider a wheat gross margin of $500/ha which is the result when grown on a fallow-wheat-fallow-wheat sequence. However, in a fallow year, the gross margin is $0/ha, which means that this rotation gross margin is $500 ÷ 2 = $250/ha. In farm planning, it is useful to look at an area of the farm over time and estimate the crop sequence GM/ha for that area of land.

Sensitivity tables

It is also useful to produce several gross margin budgets for an enterprise using different assumptions of yield, price, and cost scenarios.

Based on assumptions used, sensitivity tables can be used to test the impact of a good or bad year by comparing the impact of different yields and prices on overall gross

margins received from growing a particular crop. They allow comparison of 'average', 'best case', and 'worst case' outcomes for an enterprise so risks associated with that enterprise can be assessed.

Another use is to compare the impact of a change in yield, price and variable costs. This sensitivity analysis demonstrates where management could be focused in order to achieve higher gross margins. For example, the canola enterprise on 'Upndowns Farm' has the following:

Yield @ 2.2t/ha
Price @ $520/t
Variable Costs @ $375/ha

Therefore, this Canola Gross Margin = ($520/t x 2.2t/ha) - $375/ha = $769/ha

Table 5.14 illustrates the sensitivity of this Canola Gross Margin to a 5% change in each part of the equation.

Interestingly, yield and price have the greatest effect on the enterprise gross margin, both having a $57/ha increase with a 5% change in value. This example indicates that while costs are important, profitability is more sensitive to improved management of yield and price. Note that while this type of analysis is powerful, the adjustments of variable costs are also related to yield performance and sometimes grain quality, so it can be difficult to separate the effect of variable costs from yield and price.

Assumptions and probabilities

Like all budgeting techniques, enterprise gross margin budgets are built on assumptions when used for planning. It is important to understand the assumptions behind the calculations to correctly interpret a crop gross margin budget.

It is difficult to account for every possible potential cost item, even if it has a low probability of occurring.

Assumptions used in gross margin budgets must be realistic. If there is doubt about a cost or event that may influence an outcome, create an additional budget to see what impact a change to a particular cost will have on the enterprise gross margin.

For example, fungal infection of cereal crops may be a problem but not in every year. If fungal spraying is included in the gross margin budget, the budgeted outcome will be conservative as a cost is included for an event that is unlikely to occur every year. To account for such a scenario, allow for an appropriate proportion of spraying costs (e.g. 33%) to demonstrate the need to spray every third year.

Limitations of gross margin budgets

Annual enterprise gross margin budgets have limitations and should not be the sole analysis tool to determine farm enterprise mix, as they:

- Exclude overhead costs, so they do not supply enough information if a cost of production is required.
- Do not take into account the complementary effect of the farm enterprise mix and the need for rotations to control disease, weed and pest risks.
- Take no account of factors relating to risk management, such as market prices, crop failure and input cost volatility unless a sensitivity assessment is made.
- Do not allocate permanent labour costs to enterprises.
- Do not specifically take into account dual enterprise benefits e.g. stubble grazing value of crops.
- Do not take into account future benefits and interactions, as they are a single season analysis.
- Can be used for sensitivity analysis when the gross margin is calculated for different prices and costs. However, care needs to be taken when using this information. A positive gross margin does not guarantee it is profitable as a gross margin budget does not take into account overheads and finance costs.

Action points

- Calculate the annual enterprise gross margin budget for each of your farm enterprises last year and observe which provided the greatest contribution to the business' profits.
- Estimate the enterprise gross margin budgets for this year's expectations.
- Given this information, what would be the most likely profitable enterprise mix in your business?
- Which enterprise has the greatest variable income and risk?
- Download gross margin template for livestock at: **www.grdc.com.au/FBMtemplate-LivestockGrossMargin**
- Download gross margin templates for cropping at: **www.grdc.com.au/FBMtemplate-CropGrossMargin**

5.2.6 Cost of production

To be successful, a farm business needs to sell its production for more than it costs to produce. Knowing this information at the point of sale is useful, but estimating the various costs of producing a product is not straightforward.

KEY POINTS

- Understanding the costs involved in production, and the role different costs play, is critically important to managing and maintaining profitability.
- The challenge in calculating costs of production is the allocation of overhead costs and, before harvest, estimating production levels.
- Cost of production data can be used to drive selling decisions, improve profitability and reduce business risk.
- Focusing on strategies to reduce cost of production can improve your long-term financial sustainability.

Co-contributor to this section: Tony Hudson, Hudson Facilitation.

The nature of grain production is that there are more producers than purchasers of grain, making most producers price takers. So it is logical to want to measure business efficiency by assessing the cost of production (COP) for each commodity you produce. The most sustainable business models are those that are able to produce with the lowest cost of production. Minimising your cost of production is an important business management strategy.

What is cost of production?

Cost of Production (COP) is the total cost to produce a unit of that commodity, including both variable and overhead costs attributable to that enterprise. It is useful that a commodity is expressed in the same term for which the farmer is paid: $/t for cereal, grain legume or oilseed, $/hd or $/kg for beef or lamb, c/litre for milk etc.

The major components for calculating COP include:

- **Size of production** – area multiplied by productivity
- All **variable costs** to produce a unit of commodity
- An allocation of **overhead costs** to produce a unit of a specific commodity.

'In 2010, we worked out that if we were on our own, our cost of wheat production would have been $204/t, but now in 'Bulla Burra' (collaborative farm) we achieved $171/t - a huge significant difference in efficiency.'

John Gladigau,
'Bulla Burra', Allawoona, SA

Debate over the use of COP

There has been significant debate in farm business management academic literature about the benefits of knowing your cost of production. The argument is not that this information is not important; what is central to this argument is that there are different costs relevant to different decisions, making cost of production measures difficult to calculate accurately. Concern with using cost of production measures are based on the following arguments:

- The cost of production of a commodity cannot be measured without overhead costs being attributed to that particular enterprise. However, there is no scientific or objective method available to do this, so any subjective method could lead to incorrect conclusions.
- One of the most volatile numbers to predict in a farm business is production. That is, the final volume of grain production is not known until harvest is completed. Yet a cost of production cannot be measured until total production is known. If we are unable to confidently estimate the final production figures, then how can we estimate the cost of production for that enterprise prior to harvest when making grain selling decisions?

These are powerful arguments as to why the cost of production should not be calculated in advance of harvest. However, with the advantage of computer modelling and scenario analysis, ranges of possible costs of production can be estimated across a range of season types, and using various 'approximations' for allocating overhead costs. Knowing this range of information provides some direction to management when making selling decisions. Information of this nature, if modelled consistently and interpreted carefully, is better than none!

However, you be the judge and determine if and in what situations assessing cost of production is useful when making business decisions, such as deciding what sale price to lock in. At the very least, cost of production should be assessed at the end of each season so it can be monitored for business performance.

The challenges discussed above can be carefully managed by considering the following:

1. **Allocating overhead costs to specific enterprises** - There is no correct way to allocate overhead costs between the farm business enterprises. By definition, annual variable costs are the only costs that can be directly allocated to the annual production of a commodity. Annual overhead costs, such as accountant fees, rates and taxes, are difficult to allocate to specific parts of the farm business. However, to calculate a cost of production, overhead and finance costs also need to be allocated to the production of a commodity. A discussion on the options available for allocating overhead costs is given below. If you want to calculate your cost of production, the challenge is to select carefully which option you chose for allocating overheads and be consistent with this method across enterprises and whenever you undertake this calculation.
2. **Having a clear understanding of your production levels** – If a cost of production has been undertaken in a previous season, you know the production levels that have been achieved and so the calculation can be made with some certainty. However, if you are undertaking this analysis for the coming season, then you can only estimate the production levels. The challenge is that production levels are very sensitive to seasonal outcomes and so you could assess the range of costs of production given different seasonal expectations (poor, average and good).
3. **Cost of production does not allow for profits** – Cost of production generally does not have an allowance for profit. If the product is sold for the same price as it cost to produce, then the business is standing still. If you calculate your cost of production, it is important to also make a decision about the profit margin your business is aiming for.

How does knowing my COP help my farm business?

Knowing the COP for a commodity will help you to:

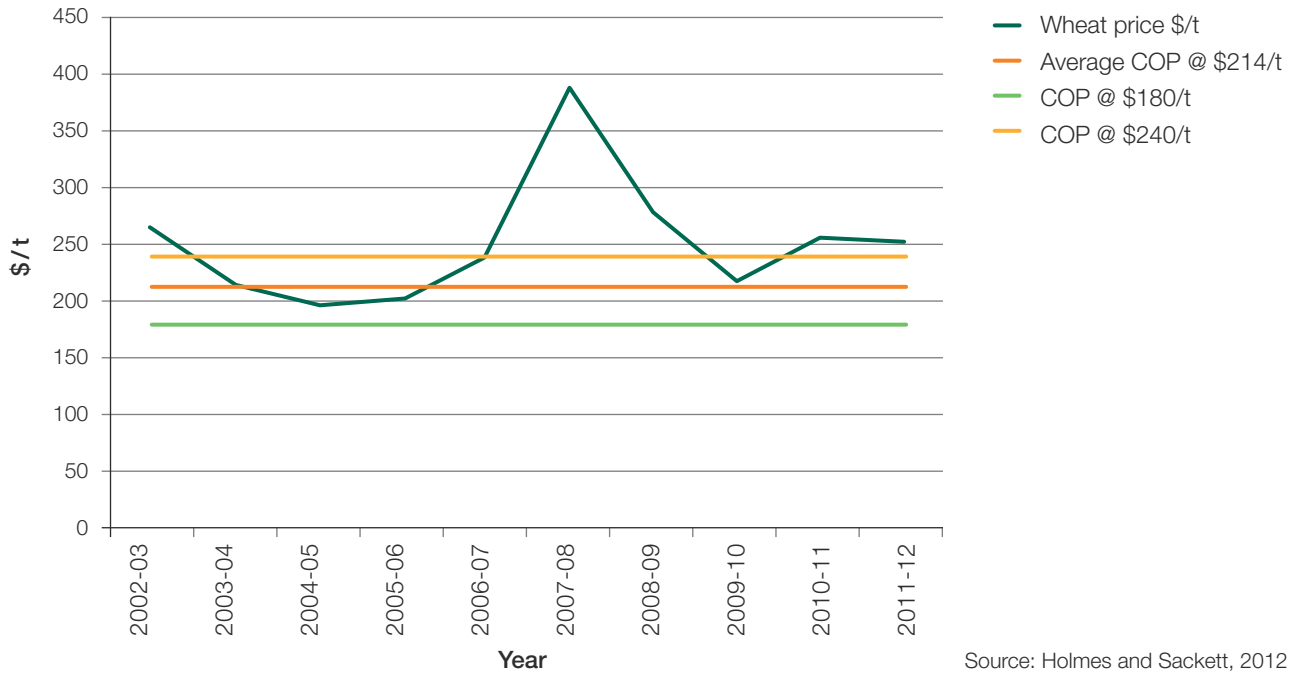
- Identify enterprises which consistently have a commodity price higher than your COP and so are consistently profitable.
- Identify enterprises with a commodity price which is consistently below COP and investigate cost savings, or changes to your enterprise mix.
- Use commodity price projections to enhance profitability in the medium term.
- Select a consistently profitable enterprise mix.
- Gain clarity around marketing decisions. It is easier to sell grain when you know the prices needed in order to generate profit.
- Decrease business risk.

For example, Figure 5.19 illustrates the average cost of production for the average of wheat growers in Australia for the last decade. This is the middle, bright **orange line** at $214/t. At this cost, for the average grower, wheat is break-even or profitable in 8 of the 10 years and significantly more profitable (more than $40/t over COP) in 4 of those years. However, if your COP is around the **yellow line** at $240/t, there are only 5 years in 10 when growing wheat has made you any profit, it has lost you money in several years, and on average over the decade, your profit has only been $12/t. Issues such as expansion, debt reduction and improving quality of life are a struggle at this COP, and you might be asking yourself:

1. How can I grow wheat more cheaply? or,
2. Are my odds of success better if I grow something else?

If, however, you are producing wheat on average at $180/t (the **light green line**), you are making profit every year and averaging $72/t profit over the period. It still requires comparison with alternative enterprises, but wheat is profitable for you most of the time.

Figure 5.19: Wheat price compared to COP



Source: Holmes and Sackett, 2012

Once you know how much it costs you to produce a unit of a commodity, you can analyse the likelihood of generating profit from your business, calculate break-even points and assess the risks in your enterprise mix.

Figures 5.20 – 5.23 below plot annual commodity prices from 2002-2012 for barley, wheat, canola and wool against the average COP for those commodities for an average farm over the years 1998-2010.

Given the average COP for an average farm over the decade, the results are clear. On average, growing wheat was more profitable than canola or barley, and growing wool was profitable each year for an average producer.

- How could you use this data to vary your enterprise mix towards greater profitability?
- Do you need to consider how to manage the riskier crops, especially in tight seasons?

It is worth interpreting this data. Analysis of the above data includes significant periods of drought where crop yields were low or zero. Under these conditions, barley is often the 'go to' crop, as it is seen by many as a lower risk, easier to grow and more tolerant of a dry spring than wheat or canola. The argument could be made, therefore, that the figures are giving barley a 'bad rap', due to it being the crop of choice when 'rolling the dice' in a tight season. Wool has the benefit of complementary lamb production and stubble grazing included in the figures and 'wipe out' yields are highly unlikely from sheep. You may ask how the sheep numbers would stack up if they didn't get the benefit of grazing failed cereal crops year after year!

Cost of production calculations are unique to each farming business and while the results in Figures 5.19 – 5.23 show industry trends, this would be very powerful business information if it were known for your particular farm. The use of trend data from a business is an essential tool to (1) demonstrate business performance to banks and (2) provide a 'big picture' view of the business performance, especially when a poor season is being experienced. In a poor season, it is important not to lose sight of the long-term trends, which will assist in managing the physical effects that a poor season brings.

Lhot: **'We're a good team together. I've got a Bachelor's Degree in Administration. I'll let him know what's going on, so he understands the whole operation, not only on the farm but also the financial aspect of the business. At the beginning of the year when we do our crop rotation with our agronomist, we sit down, we analyse the business and we work out our target. It is very important to know how much it costs us to grow the crop and how much we need in a year to operate the farm'.**

Steve: **'She tells me if I want to buy a new tractor, I've got to grow this (amount). Makes me pull my finger out!'**

Steve and Lhot Martin,
'Comfomabov' Minlaton, SA

How do you allocate overhead costs to an enterprise?

How you interpret the data is up to you. The important point is that you understand the need to calculate ***your*** Cost of Production and use it to help analyse input expenditure and guide production and marketing decisions in ***your business***.

There are three arbitrary ways to allocate overhead costs: on the basis of **land**, whole farm **gross revenue** or whole farm **gross margin**. Each option allocates costs based on a percentage of use or contribution:

Option 1: Percentage of Land Area - Calculates the % of the total usable hectares devoted to each enterprise, and apportions that percentage of total overhead costs to each enterprise.

Option 2: Percentage of Gross Revenue - Calculates the percentage of total gross revenue from each enterprise, and apportions overhead costs on the same percentage basis.

Option 3: Percentage of Whole Farm Gross Margin - As for (2) above, but allocates overheads on the percentage contribution of the enterprise to the Whole Farm Gross Margin.

'Upndowns Farm' COP options:

Each of the three calculation options are presented in Table 5.15 to illustrate the alternative overhead cost allocations and the effect that this has on the estimated cost of production for each commodity.

Which option should you use?

Option 1 (% Land Area) is probably the simplest and is appropriate if you have a single enterprise or a purely cropping business with predominantly one land class over most of the farm. However, for more complex businesses, which could include intensive enterprises such as chicken or pork production or those with varying land classes, options 2 or 3 above will to be more accurate.

For the example in Table 5.15, imagine most arable land (say 1,800ha) was cropped most years and the sheep grazed cropping paddocks in fallow and scrubby and rocky country, accounting for the other 1,700ha. To apportion overhead costs on a percentage of land area would unfairly bias against the sheep enterprise as the land they graze is generally less productive.

Options 2 and 3 tend to be more accurate. Option 3 can unfairly weight overheads toward the enterprise with the highest gross margin, which may not in fact be fair either. Using the figures in Table 5.15, overhead costs can be allocated proportionately according to total gross margin. The following formula can be used for this calculation:

$/t = (overhead cost x % whole farm gross margin) ÷ total tonnes

Using this formula, the overhead costs allocated to wheat and barley would be:

Wheat = ($350,000 x 27%) ÷ 1600t = $59/t

Barley = ($350,000 x 15%) ÷ 1600t = $33/t.

This option clearly apportions more overhead costs to wheat. In reality, this may be an unreasonable allocation.

Option 2 is recommended when calculating past COP for a commodity and estimating future COP. Overhead costs are unlikely to change greatly from year to year, although crop yield will. Chances are that if your wheat yield is down, so are the other crop yields, but their contribution as a percentage of gross revenue will likely be similar.

Allocating overhead costs: For a quick analysis Option 1 is fine, but for greater accuracy, use Option 2: Percentage of Gross Revenue. The important point is to be consistent with the option used for allocating overheads across years so actual COP results can be compared.

Figure 5.20: Decade canola price versus average COP

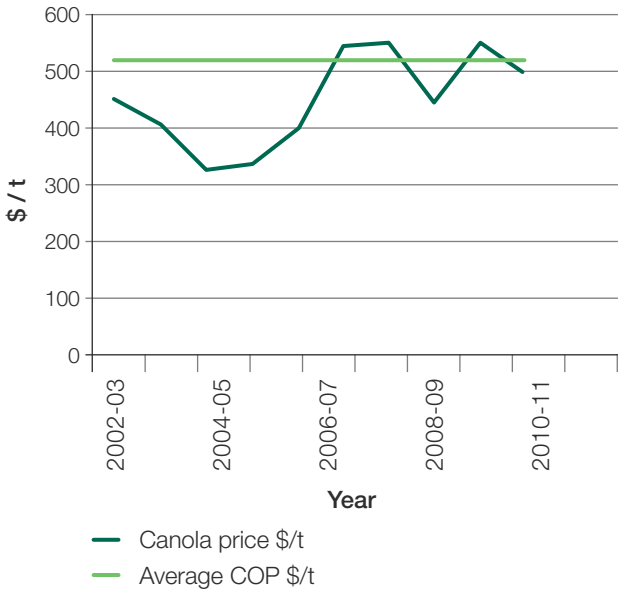


Figure 5.21: Decade barley price versus average COP

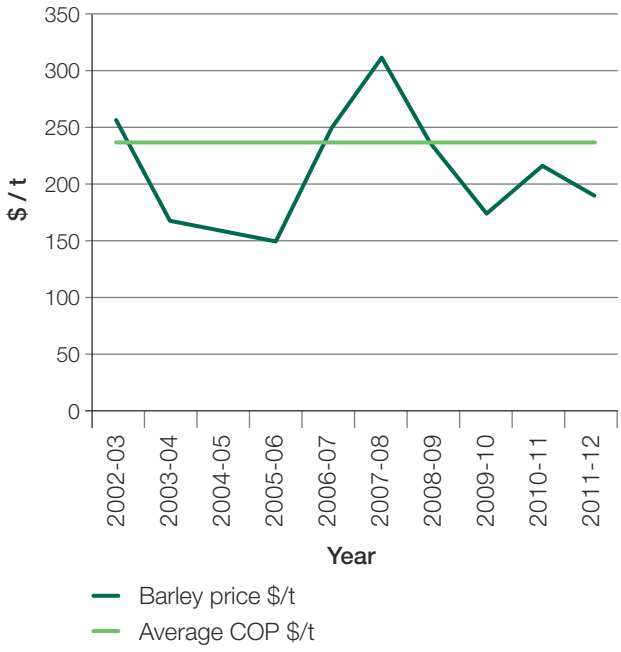


Figure 5.22: Decade wheat price versus average COP

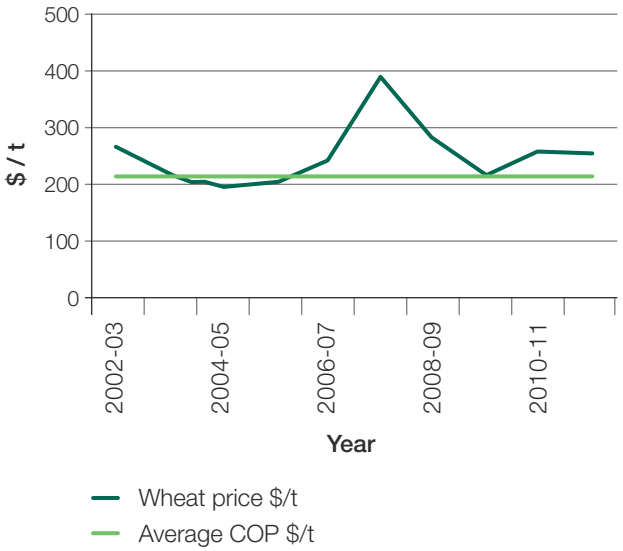
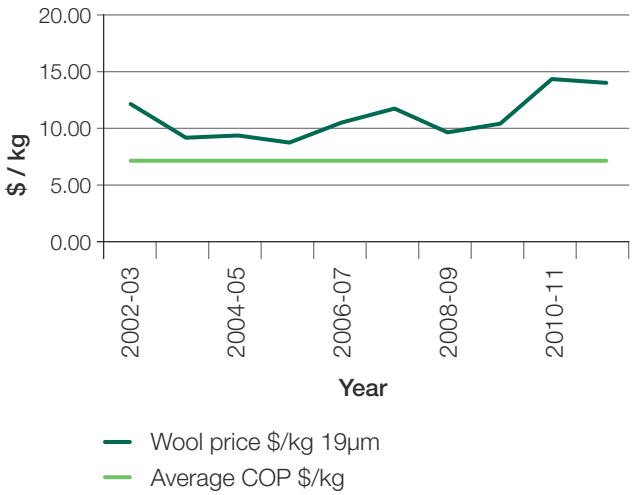


Figure 5.23: Decade wool price versus average COP



Source: Holmes and Sackett, 2012

How do you calculate your cost of production (COP)?

Calculating your expected cost of production (COP) is best done at the beginning of each season, when your cropping and enterprise plan for the year has been finalised. At this stage, it is also worth completing your estimated annual profit and loss and gross margin budgets, as these will inform your likely COP estimations. Although they can be complex to complete, following the steps shown below should help minimise difficulties. While these cost of production calculations are usually done annually, they can also be reassessed throughout the year as the season unfolds and you have a better understanding of your yields.

To highlight the differences in COP calculations between enterprises, templates are provided for the following sample enterprises:

1. Cropping (Table 5.16)
2. Prime lambs (Table 5.17)
3. Self-replacing merinos (Table 5.18)

Each table includes the sample enterprise from 'Upndowns Farm' as a guide to the correct calculation. Categories in all three templates have been given a letter to help illustrate the formulae used when calculating the different options.

Table 5.15: Options for calculating cost of production for a medium rainfall mixed farm

Enterprise	Wheat	Barley	Canola	Prime Lambs	SR Merino
Enterprise area	500ha	500ha	500ha	1,000ha	1,000ha
Yield	3.2t/ha	3.2t/ha	1.4t/ha	18 hd/ha	16.9kg
Total production	1,600t	1,600t	700t	1,800hd	16,898kg
Total income from wool ($)				$75,367	
Total income from livestock sales ($)					$80,250
Commodity price	$220/t	$180/t	$420/t	$90/hd	$5.56/kg
Variable costs	$150,000	$172,500	$195,000	$77,810	$22,306
Overhead costs	$350,000	$350,000	$350,000	$350,000	$350,000
Option 1: COP based on % land use					
Enterprise % of farm area	14%	14%	14%	29%	29%
Variable costs	$150,000	$172,500	$195,000	$77,810	$22,306
Overhead costs	$350,000	$350,000	$350,000	$350,000	$350,000
Less wool income				$75,367	
Less livestock sales income					$80,250
Other sheep sales income				$22,750	
Cost of production:	**$124.38 /t**	**$138.44 /t**	**$348.57 /t**	**$45.11 /hd**	**$2.58 /kg**
Option 2: COP based on % gross revenue					
Enterprise revenue	$352,000	$288,000	$294,000	$260,117	$93,878
Enterprise % of gross revenue	27%	22%	23%	20%	7%
Variable costs	$150,000	$172,500	$195,000	$77,810	$22,306
Overhead costs	$350,000	$350,000	$350,000	$350,000	$350,000
Less wool income ($)				$75,367	
Less livestock sales income					$80,250
Other sheep sales income ($)				$22,750	
Cost of production	**$152.81 /t**	**$155.94 /t**	**$393.57 /t**	**$27.61 /hd**	**-$1.98 /kg**
Option 3: COP based on % gross margin					
Enterprise gross margin	$202,000	$115,500	$99,000	$182,307	$151,822
Enterprise % of whole farm gross margin	27%	15%	13%	24%	20%
Variable costs	$150,000	$172,500	$195,000	$77,810	$22,306
Overhead costs	$350,000	$350,000	$350,000	$350,000	$350,000
Less wool income ($)				$75,367	
Less livestock sales income					$80,250
Other sheep sales income ($)				$22,750	
Cost of production	**$152.81 /t**	**$140.63 /t**	**$343.57 /t**	**$35.39 /t**	**$0.71 /kg**

Source: P2PAgri P/L / Hudson Facilitation

Discussion on each enterprise is also based on the sample farm 'Upndowns Farm'. Note: all machinery depreciation, living expenses (managerial allowance) have been included in the overhead cost figure of $350,000.

Remember to select how you wish to allocate the business overhead costs between the enterprises: % of land used by each enterprise; % of the gross revenue earned by each enterprise; or, % of the total gross margin earned by each enterprise. Refer to the earlier section as to which method to select, but pick one and use it each time you do these calculations.

You can do these calculations either by calculating per unit of production, such as t/ha (ie 3.5t/ha) or by using absolute numbers, such as total tonnes (i.e. 1,600t). The absolute method has been used in these examples as it is often easier to calculate.

(a) Cropping COP

Table 5.16 provides a template for three cropping enterprises and a wheat enterprise from 'Upndowns Farm' to illustrate the COP calculations. If you have more than three crops, just add the appropriate columns.

The calculations of each option for allocating overheads are:

1. **COP based on % Land Use:**

   h = ((g x f) + e) ÷ c
   = ((14% x $350,000) + $150,000) ÷ 1,600t
   = $199,000 ÷ 1,600t
   = $124.38/t

2. **COP based on % Gross Revenue:**

   k = ((j x f) + e) ÷ c
   = ((27% x $350,000) + $150,000) ÷ 1,600t
   = $244,500 ÷ 1,600t
   = $152.80/t

3. **COP based on % Total Gross Margin**

   n = ((m x f) + e) ÷ c
   = ((27% x $350,000) + $150,000) ÷ 1,600t
   = $244,500 ÷ 1,600t
   = $152.81/t

Table 5.16: Template for cropping COP calculations

Enterprise: wheat	**Example**			
a. Enterprise area	500ha			
b. Yield	3.2t/ha			
c. Total production	1,600t			
d. Commodity price	$220/t			
e. Variable costs	$150,000			
f. Overhead costs	$350,000			
Option 1: COP based on % land use				
g. Enterprise % of farm area	14%			
e. Variable costs	$150,000			
f. Overhead costs	$350,000			
h. Cost of production = ((g×f)+e)÷c	**$124.38/t**			
Option 2: COP based on % gross revenue				
i. Enterprise revenue	$352,000			
j. Enterprise % of gross revenue	27%			
e. Variable costs	$150,000			
f. Overhead costs	$350,000			
k. Cost of production = ((j×f)+e)÷c	**$152.81/t**			
Option 3: COP based on % gross margin				
l. Enterprise gross margin	$202,000			
m. Enterprise % of whole farm gross margin	27%			
e. Variable costs	$150,000			
f. Overhead costs	$350,000			
n. Cost of production = ((m×f)+e)÷c	**$152.81/t**			

A template to complete your cropping COP can be downloaded at:
www.grdc.com.au/FBMtemplate-CroppingCostProduction

Source: P2PAgri P/L / Hudson Facilitation

(b) Prime lambs COP

The added challenge in calculating a livestock COP is that income can come from more than one commodity within the enterprise. For example, in a prime lamb flock, income comes from both sheep and wool sales. This means there are two commodities which can be used to calculate COP and if you allow them both to be variable, the answers are a combination of two numbers, which makes interpretation very difficult.

This is even more complex if you are trying to separate prime lamb sales from 'cast for age' (CFA) sheep sales. To simplify this COP calculation, it is recommended that the commodity with the lower expected income be removed from the allocated costs. This means the major commodity, or prime profit driver, can be more easily calculated and interpreted. In this case, the sale of prime lambs is the major commodity.

Table 5.17 provides a template for a prime lamb enterprise and a sample enterprise from 'Upndowns Farm' to illustrate the COP calculations.

The COP calculations below show prime lambs as $/hd, but you could also do this calculation for $/kg by using either the average live or dressed weight. This example uses the absolute numbers from the example farm's estimates. The calculations of each option for allocating overheads are:

1. **COP based on % Land Use:**

   j = (((h x g) + f) - d - i) ÷ c

   = (((29% x $350,000) + $77,810)-$75,367-$22,750) ÷ 1,800hd

   = $81,193 ÷ 1,800hd

   = $45.11/hd

2. **COP based on % Gross Revenue:**

   m = (((l x g) + f) - d - i) ÷ c

   = (((20% x $350,000) + $77,810)-$75,367-$22,750) ÷ 1,800hd

   = $49,693 ÷ 1,800hd

   = $27.61/hd

3. **COP based on % Total Gross Margin:**

   p = (((o x g) + f) - d - i) ÷ c

   = (((24% x $350,000) + $77,810)-$75,367-$22,750) ÷ 1,800hd

   = $63,693 ÷ 1,800hd

   = $35.39/hd

(c) Self-replacing merinos COP

The self-replacing merino flock also has income from various commodities - wool and CFA sheep sales. In this case, the major commodity is wool, so the estimated income from the CFA sheep sales has been removed from the allocated costs. In this way, you can more easily assess the cost of wool production.

Table 5.18 provides a template for a self-replacing merino enterprise and a sample enterprise from 'Upndowns Farm' to illustrate the COP calculations.

This example indicates the COP for clean kg of wool expressed as $/kg. This calculation can also be done for $/bale or $/kg (greasy price). The structure of the calculation is the same; just take care when adjusting the units if you want another measure for COP.

Table 5.17: Template for prime lambs COP calculations

Enterprise: prime lambs	Example	
a. Enterprise area	1,000ha	
b. Yield	18 hd/ha	
c. Total production	1,800hd	
d. Total income from wool	$75,367	
e. Commodity price	$90/hd	
f. Variable costs	$77,810	
g. Overhead costs	$350,000	
Option 1: COP based on % land use		
h. Enterprise % of farm area	29%	
f. Variable costs	$77,810	
g. Overhead costs	$350,000	
d. Less wool income	$75,367	
i. Other sheep sales income	$22,750	
j. Cost of production = (((h×g)+f)-d-i)÷c	**$45.11/hd**	
Option 2: COP based on % gross revenue		
k. Enterprise revenue	$260,117	
l. Enterprise % of gross revenue	20%	
f. Variable costs	$77,810	
g. Overhead costs	$350,000	
d. Less wool income	$75,367	
i. Other sheep sales income	$22,750	
m. Cost of production = (((l×g)+f)-d-i)÷c	**$27.61/hd**	
Option 3: COP based on % gross margin		
n. Enterprise gross margin	$182,307	
o. Enterprise % of whole farm gross margin	24%	
f. Variable costs	$77,810	
g. Overhead costs	$350,000	
d. Less wool income	$75,367	
i. Other sheep sales income	$22,750	
p. Cost of production = (((o×g)+f)-d-i)÷c	**$35.39/hd**	

A template to complete your prime lamb COP can be downloaded at: **www.grdc.com.au/FBMtemplate-PrimeLambsCostProduction**

Source: P2PAgri P/L / Hudson Facilitation

Table 5.18: Template for SR merino COP calculations

Enterprise	Example	
a. Enterprise area	1,000ha	
b. Yield	16.9kg/ha	
c. Total production	16,898kg	
d. Total income from livestock sales	$80,250	
e. Commodity price	$5.56/kg	
f. Variable costs	$22,306	
g. Overhead costs	$350,000	
Option 1:COP based on % land use		
h. Enterprise % of farm area	29%	
f. Variable costs	$22,306	
g. Overhead costs	$350,000	
d. Less livestock sales income	$80,250	
i. Cost of production = (((hxg)+f)-d)÷c	**$2.58/kg**	
Option 2: COP based on % gross revenue		
j. Enterprise revenue	$93,878	
k. Enterprise % of gross revenue	7%	
f. Variable costs	$22,306	
g. Overhead costs	$350,000	
d. Less livestock sales income	$80,250	
l. Cost of production = (((kxg)+f)-d)÷c	**-$1.98/kg**	
Option 3: COP based on % gross margin		
m. Enterprise gross margin	$151,840	
n. Enterprise % of whole farm gross margin	20%	
f. Variable costs	$22,306	
gj. Overhead costs	$350,000	
d. Less livestock sales income	$80,250	
o. Cost of production = (((nxg)+f)-d)÷c	**$0.71/kg**	

A template to complete your SR merino COP can be downloaded at: **www.grdc.com.au /FBMtemplate-SelfReplacingMerinosCostProduction**

Source: P2PAgri P/L / Hudson Facilitation

The calculations below use the absolute numbers from the sample farm's estimates. The calculations of each option for allocating overheads are:

1. **COP based on % Land Use:**

   i = ((h x g) + f – d) ÷ c

   = ((29% x $350,000) + $22,306 -$80,250) ÷ 16,898kg

   = $43,556 ÷ 16,898kg

   = $2.58/kg

2. **COP based on % Gross Revenue:**

   l = ((k x g) + f – d) ÷ c

   = ((7% x $350,000) + $22,306)-$80,250) ÷ 16,898kg

   = -$33,444 ÷ 16,898kg

   = -$1.98/kg

3. **COP based on % Total Gross Margin:**

   o = ((n x g) + f – d) ÷ c

   = (((20% x $350,000) + $22,306)-$80,250) ÷ 16,898kg

   = $12,056 ÷ 16,898kg

   = $0.71/kg

Please note in this example, when assessing wool and allocating overheads according to the % of gross revenue, the answer is negative. This implies that wool does not have to have a value for this enterprise to cover its share of costs. This anomaly is due to the relatively low % of gross revenue that the wool income provides to the business and the relativity high proportion of gross revenue derived from the CFA sheep. In recent years within the wool industry, the proportion of sheep sales income for a self-replacing enterprise has increased as the values for sheep have significantly increased. This highlights that COP calculations need to be interpreted mindful of context and will vary over time as market prices change. This farm business example indicates that the market is paying prices well above the COP, which may not always be the case.

It is useful to do these calculations annually, both for projecting expected figures and calculating the actuals. Taking the time to put together the historical results of each year will significantly inform your business decisions into the future. You can elect to calculate COP by hand or you can use programs like P2PAgri to more easily obtain your COP figures.

What strategies can I use to reduce my COP?

One of the big challenges for a farming business is to monitor their COP and to continually assess ways to decrease these costs. As there are many farms producing agricultural commodities but fewer buyers, farmers tend to be 'price takers' and have little power over influencing the prices received for their commodities. There has also been a general trend across the world for 'declining terms of trade' for farmers. This means that prices received have not kept up with increases in the cost of production over time. While this trend has slowed recently, it does continually place pressure on farm businesses to reduce their COP.

Historically, farm businesses have adopted a strategy of increasing the size of their farms. This is evident when you look at paddock maps of farms as paddocks are generally named after the farmers who used to farm that paddock

years ago as their sole farm! As the total arable area in Australia is now finite (not growing), the larger farms have been buying smaller farms. However, as agricultural land values have significantly increased over the last 15 years, the expansion of land has become more reliant on the strategy of leasing and share farming than purchasing land. It should be noted that as farming businesses expand in area, the management system must also be developed to ensure new efficiencies are achieved.

As discussed earlier, the major components for calculating COP include:

- **Area** of production
- **Size** of production
- All **variable costs** and an allocation of **overhead costs** to produce a unit of commodity.

This means that if COP is to be decreased, each of these areas needs monitoring. Business strategies are addressed in Module 3 but some of the fundamental strategies for reducing costs are discussed here.

1. Expanding the area of production

The three major strategies for land expansion are: land purchase, leasing of land and share farming land. Some farming businesses use all three strategies and care needs to be taken to assess the benefits and costs to a farming business before any of these strategies is used to expand the business.

The most common business models that utilise these strategies for expansion are:

- **Family farm** – Farms that are owned and managed by a family. This business model is by far the most common in Australian agriculture.
- **Collaborative farming** – Where two or more farmers combine their resources to generate a larger farming operation. Again, all strategies of land acquisition are available to this model. The benefits of both family and corporate farming can be taken advantage of within a collaborative farming business model. So focus on efficiency and family values can be complementary aims of this farming model. An excellent example of this is the 'Bulla Burra' case study farm.
- **Corporate farming** – Where a corporate farm manages the business resources and the full selection of land acquisition is available. This business model is very focused on efficiency and the separation of management and assets ownership is clearly defined.

2. Increasing productivity by intensive agriculture

Increasing productivity of the same land area is a significant strategy adopted by broadacre cropping businesses in the last 20 years. Improvement to farming systems by rotation selection, timing of sowing, precision agriculture, nutrition management and weed control have provided significant improvements to productivity. However, over the last 5 years, this trend of increasing productivity has been slowing.

General intensification leads to specialisation and irrigation, which has an increased risk profile and requires specialised management skills.

3. Controlling variable and overhead costs

Cost control has been a strategy broadly adopted in Australian agriculture. More recently, advisory boards have increased in popularity to improve management accountability, especially on the cost control side of the business. This is where the projected cash flow and profit and loss are planned at the beginning of each season, and checks are made throughout the season to ensure the plan is being adhered to or adjusted where necessary.

› See section **12, Advisory boards, Module 3.**

The challenge for any farm business is to make sound decisions based on your individual strategic direction. All of the above strategies should be continually assessed as part of your business management process.

Action points

- Decide how you are going to allocate overheads.
- Use this same method each season to ensure the accuracy of your calculations for comparison.
- Calculate the COP for all your commodities.
- Calculate the COP given a range of seasonal outcomes.
- Get an expert to help if necessary.
- Download enterprise cost of production templates from:

  www.grdc.com.au/FBMtemplate-CroppingCostProduction

  www.grdc.com.au/FBMtemplate-PrimeLambsCostProduction

  www.grdc.com.au/FBMtemplate-SelfReplacingMerinosCostProduction

5.3 WEALTH

5.3.1 Balance sheet

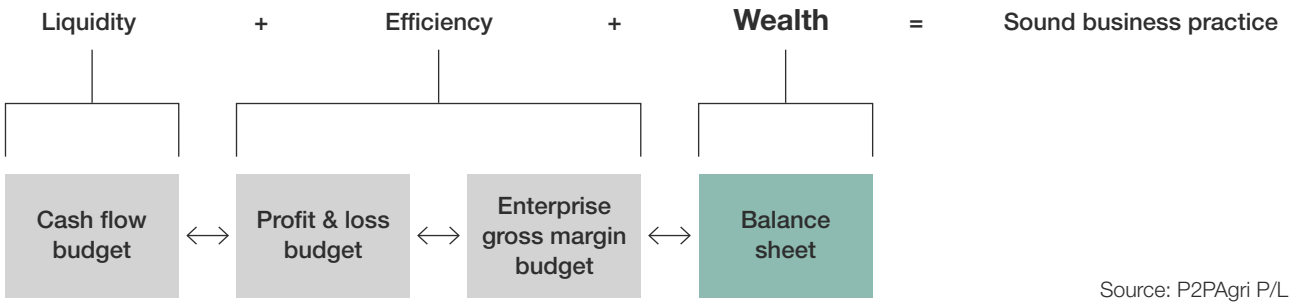
Am I improving the business' wealth position?

This section focuses on the balance sheet as a measure of the business' growth in wealth. Many farmers ask why they need to complete a balance sheet of their business as they are not selling any land.

KEY POINTS

- Even if you never intend to sell the farm, it is important to know what the business is worth and how this is changing over time.
- The balance sheet is one of the most useful financial tools for a business, as it measures net worth at any time.
- Net worth is the most important benchmark of a farm business.
- Undertaking the annual review of the balance sheet will give a greater understanding of the financial health of the business.

Figure 5.24: Key management concepts: Balance sheet



Source: P2PAgri P/L

A balance sheet records assets and debts at a given point in time and indicates a farming business' performance and its ability to cope with risk. While the profit and loss budget shows how profit is made in the business, the balance sheet shows how well this profit has been used. Information from the balance sheet and your quality of business management is important to your relationship with your bank. This will affect your business' ability to secure required finance and favourable interest rates from the bank. The reality is that a balance sheet provides information that **indicates the growth in wealth** of a business over time, and is one of the key financial measures of a farm business (Figure 5.24).

What is a balance sheet?

The balance sheet measures the wealth of a business by comparing all assets owned against debts owed. Importantly, the balance sheet lists the expected market value of the various business assets which include land, livestock and machinery. Liabilities are the debts owed by the business and include loans by banks and stock firms, as well as machinery finance and debts to other family members. The balance sheet's main aim is to measure the net worth of the business, which is the difference between the total assets and total liabilities.

Figure 5.25 illustrates the major components of a balance sheet. The key information from any farm balance sheet is its ***Net Worth,*** sometimes referred to as 'equity'. However, equity more commonly measures net worth as a percentage of the total assets. As a general rule, the smaller the total

Figure 5.25: A balance sheet

Source: 'Agriculture in Australia', Bill Malcolm, et al, 2009

liability is relative to the total assets, the more the business is able to manage fluctuating cash flows and servicing debt.

The formulae for net worth and equity are:

- Net Worth = Total Assets – Total Liabilities
- Equity = Net Worth ÷ Total Assets

'Upndowns Farm' balance sheet:

The sample farm 'Upndowns Farm' is used to illustrate a balance sheet in Table 5.19. This indicates that this farm has a total of $11,098,820 in assets and $2,862,868 in total liabilities. This means this farm has:

Net worth = $11,098,820 - $2,862,868
= $8,235,952

Equity (as a %) = 8,235,952 ÷ 11,098,820
= 74%

For dryland farmers, a sound equity is one that is above 70%, so the sample farm's equity is in the 'safe zone'.

Assets

The different classes of assets (most of which are shown in Table 5.19), and how they can be valued, include:

Current assets – These are assets that are easily sold or liquidated. Banks dislike taking security for lending against these assets. Examples of current assets are:

- ***Livestock*** – Livestock can be bought and sold easily, so their value is generally not difficult to determine. Recent market sales can be used as a guide to value livestock. It is important to value each class such as ewes, ewe hoggets and lambs. Note when valuing breeding ewes, prices will be higher than sale yard prices, as breeding ewes are generally not sold as they are needed for the farm's self-replacing flock.
- ***Cash*** – This asset is simply the farm's cash being held in a bank deposit, cheque account and/or farm management deposit (FMD).
- ***Other*** – These assets could include unsold grain or wool, the value of grain sold into grain pools but yet to be paid, and fertiliser on hand that can be sold. Value these items at market rates.

Non-current assets – These are assets that generally take longer to sell, and because of this, banks favour taking security for lending against these types of assets.

- ***Machinery*** – To estimate the value of all the machines that your business owns (including machines with finance loans), give them a 'clearing sale value'. If you haven't undertaken a recent machinery valuation, it is recommended that you take the time to list all the machinery and give them a sale value. Experience shows that if farmers have not done this recently, they tend to under-value their total machinery assets.
- ***Land*** – Land is generally the most difficult asset to value and there are three ways to go about obtaining a valuation for land:

  (1) Use council rates as a guide. However, these are generally based on official valuations of unimproved land from the respective state Valuer Generals Departments, and may not reflect recent changes in market values;

  (2) Employ a professional valuer who will use a variety of information to come to a valuation, or

  (3) Make your own judgement, taking recent land sales in the district and making an adjustment depending on the soil type and infrastructure benefits your land provides.

Whichever method you use, record the method so that a similar standard can be used each season to ensure consistency in assessing the total assets.

Liabilities

Liabilities are generally easier to assess as they are what is outstanding on the various business loans the farm has:

Current liabilities – These are loans that are expected to be paid back within 12 months, typically an overdraft and stock mortgage facility.

Non-current liabilities – These are loans that are expected to be paid back over a period of years, or could be interest only loans that may not get paid back for some time. Such loans include:

- ***Land related liabilities*** – These could be either interest only loans, or loans that are being paid back over a longer time period.
- ***Machinery related liabilities*** – These can be lease or hire purchase loans taken out to purchase large machinery items such as tractors, trucks, boomsprays and headers.
- ***Other liabilities*** – These could be a number of loans which include vendor finance (the person who has sold land but left some equity in the land to be paid back at a later time), or loans from sources outside lending institutions, such as solicitors or relatives

Table 5.19: 'Upndowns Farm' balance sheet

Current assets:	
Livestock	997,000
Cash	0
Other (grain pools & grain-on-hand)	139,800
Total current assets	**1,136,800**
Non-current assets:	
Machinery (written down value)	613,000
Land	9,349,020
Total non-current assets	**9,962,020**
A: Total assets (farm):	**11,098,820**
Current liabilities:	
Overdraft + stock mortgage	
Non-current liabilities:	
Land related	2,600,000
Machinery related	262,868
B: Total liabilities (farm)	**2,862,868**
C: Net worth (farm) (A-B=C)	**8,235,952**

A template to complete your balance sheet can be downloaded at: **www.grdc.com.au/FBMtemplate-BalanceSheet**

Source: P2PAgri P/L

When to use a balance sheet

By their nature, balance sheets reflect the time of the year they are undertaken. A balance sheet calculated after sowing when the overdraft is high will show a different result than one undertaken just after harvest, when most of the grain income has been received. It is how you will be using the balance sheet information that determines when you should complete one:

- ***To assess the net worth trend*** – If you are monitoring the business net worth movements over time, it is suggested you assess the farm business balance sheet a few months after harvest each season. For example, the start of the production year may be identified as the 1st March each year. This is because most of the grain payments should have been received and the overdraft will either have been repaid or will be low. Also, the trend over time will be a good reflection of the trend in net worth, as it was assessed at the same time each season.
- ***To show a bank there is capacity in the equity if further financing is required*** - If you are looking to refinance your loans or take out an additional loan, then the bank will want to assess the business balance sheet at the time of application. In this case, reassess the balance sheet and be proactive by giving it to the bank before it requires this information.

Balance sheet case study:
The benefit of recording over time

The balance sheet is perhaps seen by many farmers as the least important budget to complete, unless they are considering selling land. However, the benefit of using balance sheet budgeting is illustrated in this example of a mixed farm in a low rainfall zone through the prolonged poor seasons of 1999 - 2008. During this time, the average growing season rainfall was well below average (averaged decile 3 growing season rainfall), which included a number of droughts and only a few above average seasons. Figure 5.26 gives a unique view of the farm net profits before tax during this challenging period. While 2001 gave significant profits, most other seasons gave poor or negative profits. If the farm net profits before tax were the only measure monitored over this period, the farmer would no doubt have been experiencing considerable stress and concern. This, incidentally, was the experience of most farmers in the district throughout this period.

As is usual through these periods, it is only the support of the bank that allows farmers to continue to farm. Figure 5.27 shows the increase in debt through this period - when the previous season's crop had failed to deliver enough profits, the farm needed continual increases in overdraft to put in the following season's cropping program. From a starting debt in 1999 of $159k, by 2008 the debt level had increased to $801k, normally a significant cause for concern.

In the face of this run of poor seasons, why did the bank continue to extend the lending? Some of the answer lies in the bank's confidence that management was doing all it could to manage the risk, but also there was an unprecedented increase in land values at this time. From 1999 – 2008, the land value increased by about 90%, which had a significant effect on improving the land asset values in this farm's balance sheet. As banks like land as a security for lending, they were happy to extend the lending where they had adequate security. Figure 5.28 clearly illustrates that although the net profit performance was indifferent, the farm's net worth grew considerably through this period. That is, this growth was not from good net profit performance, but rather from the growth in land value which is reflected in the balance sheet.

As this farmer was focused on the important indicators of both net profits and net worth, the bank could see that the business was still viable, and capable of continuing to farm, even though the run of seasons through this period was unusually poor. Another very important point to note here is that this farmer had a significant history of correctly recording the business financial performance with cash flow, profit and loss and balance sheet budgets. This gave the farmer added confidence in the business performance, where other farmers in the district who did not keep these types of records suffered significantly with mental stress. The added value was that at no time through this period did the bank refuse the necessary increase in lending, as they had a clear picture of the whole business performance. This was not the case for many other farmers in the district who were experiencing similar seasons but had poor financial record keeping.

The management of equity through this period is shown in Figure 5.29. The starting equity was 79%, which increased to 91% at the end of the good 2001 season, but stayed generally above 70% throughout the remainder of this period, that is, the 'safe zone' for dryland farming. In the last year of this period, the equity level was 72%. These are important numbers to help keep the bank comfortable regarding its lending, and hence maintain business viability.

This farm example provides a valuable lesson of why it is important to keep sound financial records, including a record of the balance sheet. It also provides an essential example of how risk can be better managed.

Through the late 1980s, farmers in the Eyre Peninsula area of SA experienced a similar period of poor seasons and at the same time land values fell. In this situation, the banks were not happy with both the decline in profits and net worth, and foreclosed on a number of farm businesses. In very poor situations, it is difficult to maintain viability, but if the financial records are maintained, there is an improved chance the business can trade out of its difficulties.

Figure 5.26: Balance sheet case study farm net profit before tax (NPBT)

Figure 5.27: Balance sheet case study farm total liability trend

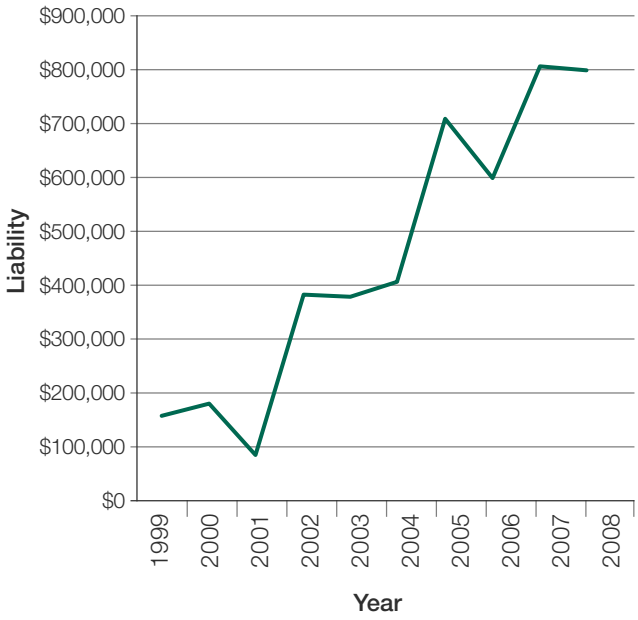


Figure 5.28: Balance sheet case study farm net profit and net worth record

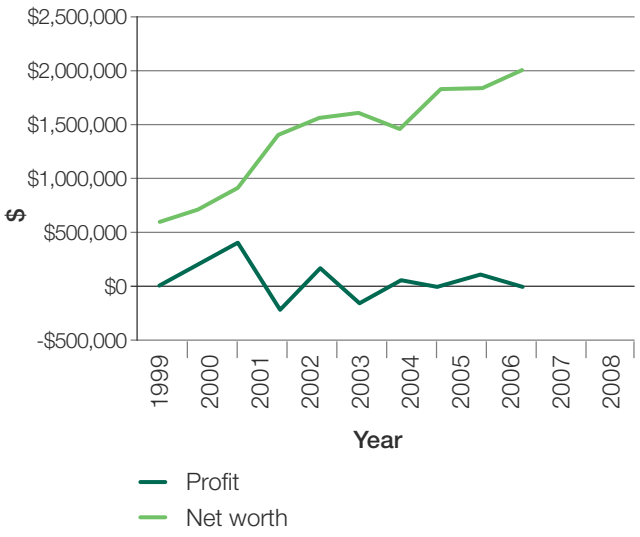
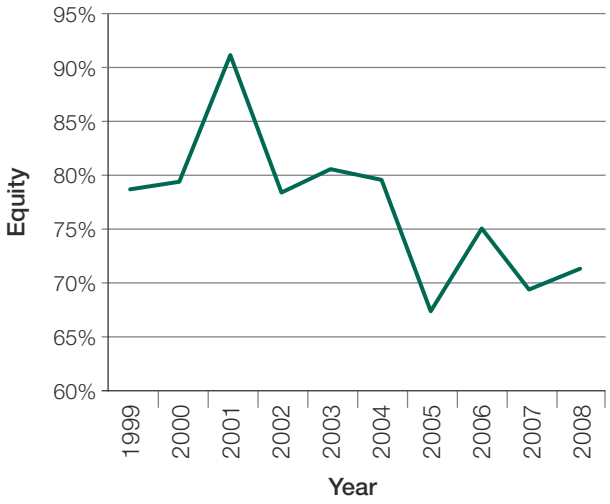


Figure 5.29: Balance sheet case study farm equity records



Source: P2PAgri P/L

Action points

- If you haven't already, calculate your farm business net worth with the use of a balance sheet.
- Calculate net worth yearly to track growth in business wealth over time.
- Be conservative with your valuation of assets so the net worth becomes a conservative measure.
- If you make assumptions when putting the balance sheet together, record these so that the balance sheet assessment from year to year is consistent.
- Download a Balance Sheet Template at: **www.grdc.com.au/FBMtemplate-BalanceSheet**

5.4 WHOLE FARM ANALYSIS: BRINGING THE FINANCIALS TOGETHER

Use all the key financial measures across the season to plan, monitor and evaluate your farm business management.

KEY POINTS

- Measure your business' financial performance at least once a year.
- Recording the business performance will show progress over time, even though you have had to manage the vagaries of the seasons, markets, professional advice and changes in the industry.
- Measuring your business performance will help keep you focused on your goals.
- Maintaining a sound set of farm business management records means you know where your business has been, and provides increased confidence with your management team and your bank. This will improve the management of business direction and decrease stress.

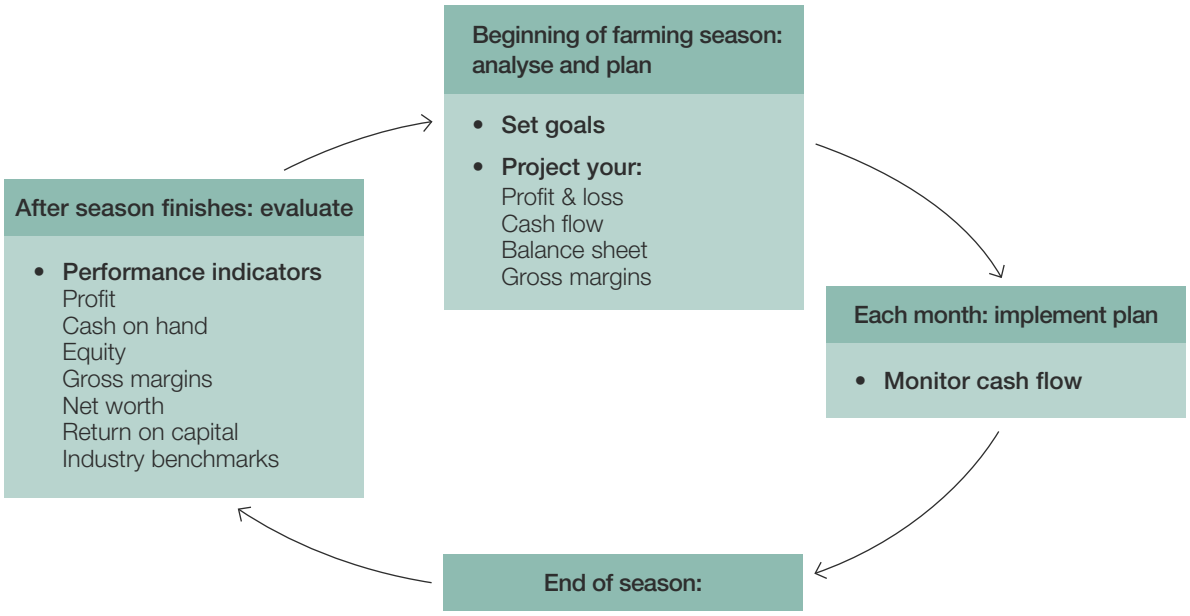
Information from the important key financial measures of liquidity, efficiency and wealth can be brought together for whole farm financial analysis. Just as the dashboard in a car provides up-to-date information on many relevant measures that can guide your driving, so too a financial 'dashboard' provides clarity for the business direction. This section demonstrates how to bring together information from the measures of liquidity, efficiency and wealth to evaluate the performance of the whole business over the season. Reporting on all these financial indicators is similar to developing a 'financial score-card' for your business.

Figure 5.30 shows the planning cycle introduced in Module 1. Adopt what you need from this planning cycle, and spend some time at the end of each season putting together records of those budgets listed under 'performance indicators'.

Effective farm business management encompasses periods of planning, monitoring and evaluation. Use cash flow, profit and loss and gross margin budgets and the balance sheet as planning tools prior to the beginning of the season. Monitor the cash flow throughout the season, and once the season is completed, record the actual results of these budgets.

(Also refer to section **3.4.2, Bringing it all together: cash, profit and wealth, Module 1** as a further guide to this yearly process).

Figure 5.30: Farm business yearly planning cycle



Source: P2PAgri P/L

Table 5.20: Financial dashboard for 'Upndowns Farm'

Financial measures		Projected figures		Recorded actuals	
LIQUIDITY					
• Cash flow budget		Peak overdraft estimated: $369k		Actual overdraft used: $448K	
		Expected to occur in: August		Actually occurred in: September	
EFFICIENCY					
• Profit and loss budget		Projected net farm profit (before tax) of: $350K		Actual net farm profit (before tax) of: $200K	
• ROMC (Return on managed capital)		2.5%		1.3%	
• Enterprise gross margins		$/ha	%TGM	$/ha	%TGM
	Wheat	567	13%	430	12%
	Malt barley	573	7%	473	6%
	Feed barley	485	6%	395	5%
	Canola	769	20%	561	17%
	Beans	650	10%	450	8%
	Clover	442	1%	422	1%
	Chickpeas	331	2%	329	2%
	Prime lambs	609	6%	616	7%
	SR merino	768	34%	775	40%
	Cattle	300	1%	307	1%

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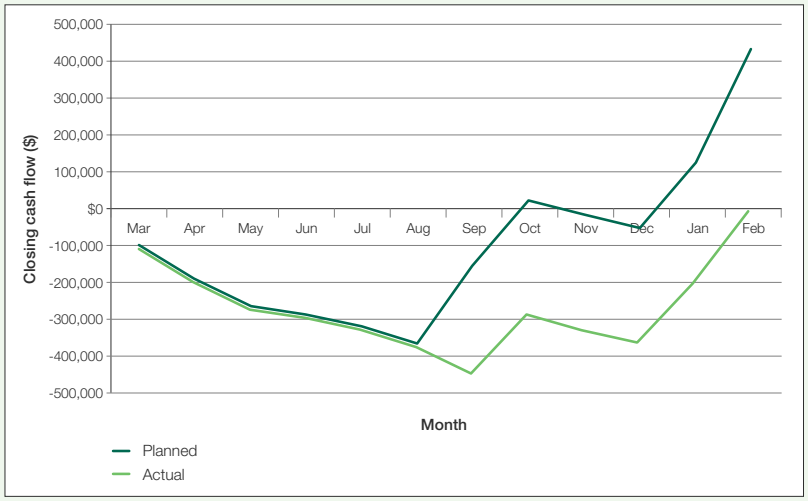
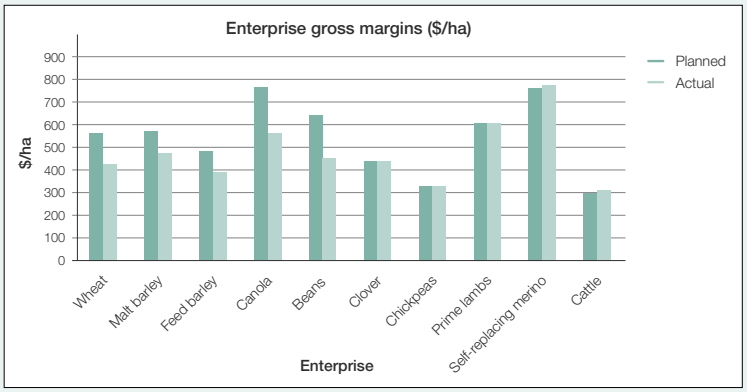
Evaluate planned vs actual budgets



Current assets:	Planned	Actual
Cash income:		
Wheat	164,250	138,690
Malt barley	72,450	62,400
Feed barley	115,020	90,880
Canola	312,312	247,248
Beans	150,575	100,125
Clover	21,000	16,800
Chickpeas	37,500	30,000
Prime lambs	171,819	171,819
Self-replacing merino	526,703	526,703
Cattle	10,500	10,500
Non cash income:		
Net livestock movements	0	0
Farm gross farm income	**1,582,129**	**1,395,435**
Cash production expenses:		
Cropping variable costs	309,436	312,736
Livestock variable costa	218,574	213,789
General overhead costs	256,800	256,800
Non cash production expenses:		
Managerial allowance	120,000	120,000
Depreciation*	61,300	49,653
Farm EBIT	**616,019**	**442,457**
Interest:		
Interest on existing farm loans	242,435	227,542
Interest on overdraft and stock mortgage	22,950	29,550
Bank fees	300	300
Farm net profit before tax	**350,334**	**185,065**



Comments and analysis

- The overdraft was estimated to peak at $369k, but due to a poor season and lower grain prices, it actually peaked at $448k.
- The bank was communicated with in late July and approved the additional overdraft.
- While the peak was projected to be in August, it actually occurred in September.
- Again, because the bank was alerted early to these requirements, they were satisfied with their increased risk.

- The projection of a $350k net farm profit (before tax) was significantly affected by a poor season and weaker commodity prices.
- The actual net farm profit of $200k still meant the farm had a viable season, as shown in the profit and loss budget.
- The poorer season meant efficiency was well down on the projected 2.5% and significantly below the 8% target, indicating there is room for improvement with efficiency.
- The grain gross margins were significantly affected by the poor season.
- The livestock enterprises showed their value in this season, contributing significantly in $/ha and total gross margin (TGM).
- This demonstrates the good risk management strategy provided by the livestock.

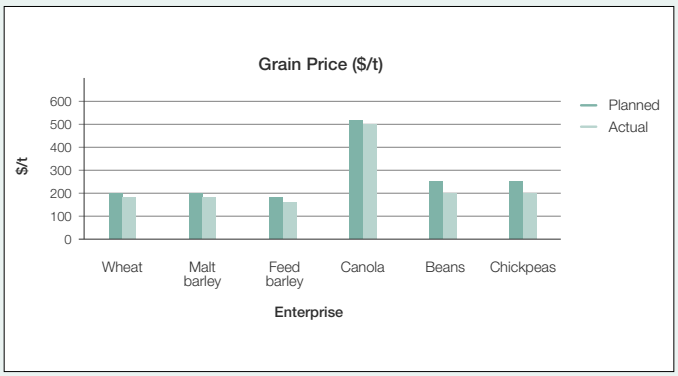
Table 5.20: Financial dashboard for 'Upndowns Farm' cont.

Financial measures		Projected figures	Recorded actuals
WEALTH: Balance sheet			
• Total assets		$11.1m	$11.2m
• Total liabilities		$2.9m	$2.8m
• Net worth		$8.2m	$8.4m
• Equity		74%	75%
KEY PRODUCTION AND PRICE DRIVERS			
• Commodity prices	Wheat Malt barley Feed barley Canola Beans Clover Chickpeas Prime lambs Self-replacing merino Vealers Wool	$200/t $200/t $180/t $520/t $250/t $2,500/t $250/t $110/hd $90/hd $450/hd $1,200/bale	$180/t $180/t $160/t $500/t $200/t $2,300/t $200/t $112/hd $91/hd $455/hd $1,200/bale
• Grain yeilds	Wheat Malt barley Feed barley Canola Beans Chickpeas	4.5t/ha 4.5t/ha 4.5t/ha 2.2t/ha 3.8t/ha 2.5t/ha	4.0t/ha 4.0t/ha 4.0t/ha 1.8t/ha 3.0t/ha 2.5t/ha
• Weaning rate • Average wool cut • Rainfall average mm • April - October mm		110% 6.5kg/hd 528mm 417mm	112% 6.4kg/hd 498mm 403mm

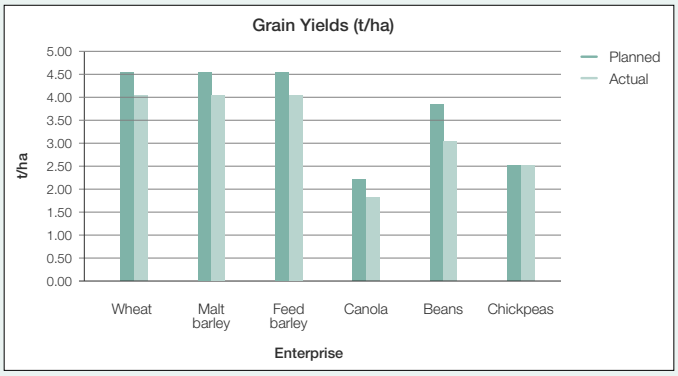
Evaluate planned vs actual budgets	Comments and analysis

Current assets:	Opening	Closing
Livestock	997,000	997,000
Off-farm	22,000	22,000
Cash	0	257,689
Other (grain pools & grain-on-hand)	139,800	0
Total current assets	**1,158,800**	**1,276,689**
Non-current assets:		
Machinery (written down value)	613,000	551,700
Land	9,349,020	9,349,020
Total non-current assets	**9,962,020**	**9900,720**
Total assets (farm)	**11,098,820**	**11,177,409**
Current liabilities:		
Overdraft + stock mortgage	**0**	**0**
Non-current liabilities:		
Land related	2,600,000	2,600,000
Machinery related	262,868	175,666
Off-farm related	0	0
Total liabilities (farm)	**2,862,868**	**2,775,666**
Net worth (farm)	**8,235,952**	**8,401,743**

- The asset levels are sound and the opening equity is 74%, above the minimum desired level of 70%. Even though a poorer year was experienced, the equity did improve to 75%, largely due to a slight decline in liabilities.
- The next few years should see some debt reduction to further improve equity.
- It was concluded that while the goal of achieving a $350k net farm profit did not occur (refer to profit and los budget), the farm's net worth did grow. This means the business is working toward achieving the long-term goal of financial security.



- Commodity farm gate prices were below the expected average for most grains.



- While the expected yields were slightly above district averages, this year's poor season resulted in poorer grain yields. This had a major impact on the reduced net farm profits experienced.

- Rainfall was a Decile 3 this season.

Table 5.20 lists what could be included in a 'financial dashboard' and uses the results of 'Upndowns Farm' to illustrate how this can be done. This checklist could also be used to develop a financial reporting format to guide reporting to a board.

Advisory boards are discussed in section **12, Module 3**.

It takes discipline to maintain an effective farm business management recording and reporting system, but you will gain the following benefits:

- Records developed over a period of seasons will show important trends in your business.
- You will have effective management data to assist you with your decision making.
- Your banker will have greater clarity of how your business is performing and so gain confidence in your management ability.
- Your management team can clearly see how the business is performing against the established goals.

Action points

- Make a list of the financial budgets you will record.
- Create a financial 'score card' tailored to your business and its goals.
- Develop a recording system that makes reporting of these results as simple as possible.

5.5 OTHER PERFORMANCE INDICATORS

The major financial measures of ***liquidity, efficiency*** and ***wealth*** provide the most important view of any farming business, as they provide a whole farm analysis (refer to section 5.4). Once you understand the whole business picture, you can then look into the areas that need strengthening. Financial ratios and benchmarks may provide insight into specific areas of the business that need improvement.

5.5.1 Financial ratios

Understanding your key financial ratios helps manage your farm business and may give insight into different components of the business. This section covers the most commonly used financial ratios.

KEY POINTS

- Ratio trends over several years are a more valuable tool than looking at one year in isolation.
- Context is very important – compare apples with apples!
- Monitoring your business' financial ratios does not guarantee greater profit, but will help to improve your understanding of your business over time.
- Accuracy of data is essential.

Co-contributor to this section: Tony Hudson, Hudson Facilitation.

The use of financial ratio and benchmark analysis has become increasingly common. Banks, for example, calculate most of their financial ratios from information in a tax return, and use these to assess the financial strengths and weaknesses of a farm business.

Note however, that these ratios look at only specific parts of the business, rather than the whole. While they may provide an improved understanding of parts of the business, they may not necessarily provide a solution, and are therefore **no substitute for completing the whole farm financial analysis.**

What are financial ratios?

Financial ratios are used to assess specific areas of the business.

These measures are expressed as a ratio (number of times) or a percentage. As such, they are no more than one number expressed as a percentage or fraction of another number. No one ratio can give an absolute picture of business performance, but in combination, their trends over time can be used to identify areas of strength and weakness within the business.

In many respects, financial ratios are like a soil test. They identify that you have a high or low level of a certain element compared with established standards, but they will not tell you why you have it, how much it will affect yield, or how to manage the problem. Once an area of concern is established, you need to get behind the figures to see what is causing the problem, so physical production **benchmarks** (section **5.5.2, Module 2**) will be closely linked to the financial ratios.

The value of financial ratio analysis as a method for comparing farm business performance depends on the accuracy of the data and on how the data is used to generate the ratio. Make sure that you are comparing 'like with like' if you use a range of data to make comparisons. For example, to compare the profitability of your farm in this season with a neighbouring farm's performance two years ago is of little value – variation in climate, yields, prices and so on mean you are likely comparing 'apples with oranges'!

Financial ratios for a farm business

Whilst there are numerous ratios quoted by finance analysts, for the purpose of this manual, the focus will be on ratios covering five key areas of the farm business. Some of these areas, like **liquidity** (section **5.1, Module 2**) and **efficiency** (section **5.2, Module 2**) have been covered; a broader list has been given to cover the majority of ratios used by banks to assess farm businesses in the following areas:

1. Liquidity
2. Solvency
3. Profitability
4. Financial Efficiency
5. Repayment Capacity

A list of 17 of the more useful ratios assessing a farm business across these five areas is provided in Table 5.21. All of the ratios to measure these areas of your business can be calculated from two budgets detailed in earlier sections of this manual: **Profit and Loss Budget** (section **5.2.3, Module 2**) and a **Balance Sheet** (section **5.3.1, Module 2**).

Please note a sub-set of these ratios, will provide most of the insight into your business across the five key areas. So you can either calculate all 17 ratios or just analyse the subset of 7 key ratios listed in Table 5.22.

Table 5.21: List of 17 financial ratios for farm business assessment

Liquidity	**Liquidity** - Cash, the short-term picture: 'Do we have enough cash to pay the bills this year?' Liquidity considers the availability of cash assets to cover short-term obligations without disrupting normal business.		
	1. Current ratio:	Current assets/current liabilities:	Times covered
	2. Working capital:	Current assets - current liabilities:	Dollars
Solvency	**Solvency** - Business stability/risk: 'How much of this business is really ours and how much belongs to the bank?' Solvency ratios measure the gearing of the business, the amount of debt, leasing and other financial commitments, relative to the owner's equity/assets. Can it withstand an economic downturn? Can it borrow to stay afloat or expand?		
	3. Equity/assets ratio:	Total farm equity/total farm assets:	% equity
	4. Debt/assets ratio:	Total farm debt/total farm assets:	% debt
	5. Debt/equity ratio:	Total farm liabilities/total farm equity:	% debt
Profitability	**Profitability** - Are we making enough money? 'We've got a lot of capital tied up in this place; how is it performing?' Profitability ratios tend to measure the ability of the business to generate profit from its land, labour and capital resources. They remove the effect of scale of operations so comparison can be made between businesses of any size. They provide a useful means to compare businesses in different industries.		
	6. Return on managed assets (ROA):	EBIT/total managed assets:	% of assets
	7. Return on equity (ROE):	NPBT/total equity:	% of equity
	8. Operating profit ratio:	EBIT/total revenue:	% gross revenue
	9. Net profit ratio:	NPBT/total revenue:	% gross revenue
	10. Debt to income ratio:	Total liabilities/gross revenue:	% gross revenue
	NB. EBIT – Earnings before interest and tax NPBT – Net profit before tax		
Financial efficiency	**Financial efficiency** - Tracking the costs: 'We work hard to maximise production; where does all the money go?' Financial efficiency ratios measure how efficiently the business uses its productive capacity. They generally consider the percentage of gross revenue which is spent on costs for inputs, overheads, finance and machinery.		
	11. Asset turnover ratio:	Gross revenue/total assets:	% gross revenue
	12. Input cost ratio:	Variable costs/gross revenue:	% gross revenue
	13. Overhead cost ratio:	Overhead costs/gross revenue:	% gross revenue
	14. Finance cost ratio:	Finance costs/gross revenue:	% gross revenue
	15. Depreciation ratio:	Depreciation expense/gross revenue:	% gross revenue
Repayment capacity	**Repayment capacity** - Ability to service debts: 'Can we actually reduce our debts? Would the bank let us borrow to expand?' Repayment capacity ratios measure the capacity of the business to meet interest/leasing costs and to repay debt. The business needs to provide for living expenses/family drawings and payment of taxes after covering all its costs. At the end of the day, what is left after paying input, overhead, finance, tax and living costs is all that is left to reduce debt, reinvest in the business, invest off farm or improve lifestyle.		
	16. Interest cover ratio:	Operating profit/finance costs:	Times covered
	17. Term debt & lease cover:	(NPAT + finance costs + depreciation) / (total principal and interest payments plus leasing costs):	Times covered

Source: P2PAgri P/L / Hudson Facilitation

Table 5.22: Subset of 7 key financial ratios

2	Working capital:	Current assets - current liabilities	Dollars
3	Equity/assets ratio:	Total farm equity/total farm assets	% equity
6	Return on managed assets (ROMA):	EBIT/total managed assets	% assets
7	Return on equity (ROE):	NPBT/total equity	% equity
11	Asset turnover ratio:	Gross revenue/total assets	% gross revenue
13	Overhead cost ratio:	Overhead costs/gross revenue	% gross revenue
16	Interest cover ratio:	Operating profit/finance costs	Times covered

'Upndowns Farm' financial ratios demonstrated

A profit and loss budget (Table 5.23) and balance sheet (Table 5.24) are used from the sample farm business 'Upndowns Farm'.

The figures from the profit and loss and the balance sheet are used as the reference point for all calculations of the financial ratios in Table 5.25 and for the following interpretation of the figures.

Table 5.23: 'Upndowns Farm' profit and loss budget

Income	$	Formula	
Cash sales	1,582,129	A	
Movement in inventory		B	
Gross revenue	**1,582,129**	C =	(A+B)
Variable costs	528,010	D	
Whole farm gross margin	**1,054,119**	E =	(C-D)
Overhead costs	256,800	F	
Depreciation	61,300	G	
Family drawings/managerial	120,000	Gg	
Operating profit (EBIT)	**616,019**	H =	(E-F-G-Gg)
Finance costs	265,685	I	
Net profit before tax (NPBT)	**350,334**	J =	(H-I)
Taxation	35,003	K	
Net profit after tax (NPAT)	**315,331**	L =	(J-K)

Table 5.24: 'Upndowns Farm' balance sheet 2012-13

Formula		Assets		Liabilities		Formula	
		Current assets	**$**	**Current liabilities**	**$**		
		Cash on deposit		Overdraft			
		Debtors		Creditors			
		Livestock	997,000				
		Grain on hand	139,800				
		Fodder					
	M	**Total current assets**	**1,136,800**	**Total current liabilities**	**0**	P	
		Non-current assets		Non-current liabilities			
		Plant and equipment	613,000	Bank loans	2,600,000		
		Land and buildings	9,349,020	Machinery loans	262,868		
	N	**Total non-current assets**	**9,962,020**	**Total non-current liabilities**	**2,862,868**	Q	
(M+N)	= O	**Total assets**	**11,098,820**	**Total liabilities**	**2,862,868**	R =	(P+Q)
				Owner's equity:	**8,235,952**	S =	(O-R)

Source: P2PAgri P/L / Hudson Facilitation

Table 5.25: Calculation of ratios for 'Upndowns Farm'

	Ratio	Formula	Calculation						Result	Weak range	Strong range
Liquidity ratios:											
1.	Current ratio	M ÷ P	1,136,800	÷	0	x	100	=	Very good	< 1 time	> 1.5 times
2.	Working capital	M - P	1,136,800	-	0	x		=	$ 1,136,800	Negative	Positive/ stable
Solvency ratios:											
3.	Equity/assets ratio	S ÷ O x 100	8,235,952	÷	11,098,820	x	100	=	74.2%	< 70%	> 90%
4.	Debt/assets ratio	R ÷ O x 100	2,862,868	÷	11,098,820	x	100	=	25.8%	> 30%	< 10%
5.	Debt/equity ratio	R ÷ S x 100	2,862,868	÷	8,235,952	x	100	=	34.8%	> 40%	< 20%
Profitability ratios:											
6.	Return on assets	H ÷ O x 100	616,019	÷	11,098,820	x	100	=	5.6%	< 2.5%	> 6%
7.	Return on equity	J ÷ S x 100	350,334	÷	8,235,952	x	100	=	4.3%	< 2.5%	> 5%
8.	Operating profit ratio	H ÷ C x 100	616,019	÷	1,582,129	x	100	=	38.9%	< 15%	> 30%
9.	Net profit ratio	J ÷ C x 100	350,334	÷	1,582,129	x	100	=	22.1%	< 20%	> 30%
10.	Debt to income ratio	R ÷ C x 100	2,862,868	÷	1,582,129	x	100	=	181.0%	> 300%	< 100%
Financial/cost efficiency ratios:											
11.	Asset turnover ratio	C ÷ O x 100	1,582,129	÷	11,098,820	x	100	=	14.3%	< 15%	> 30%
12.	Input cost ratio	D ÷ C x 100	528,010	÷	1,582,129	x	100	=	33.4%	> 40%	< 25%
13.	Overhead cost ratio	(F+G+Gg) ÷ C	438,100	÷	1,582,129	x	100	=	27.7%	> 40%	< 30%
14.	Finance cost ratio	I ÷ C x 100	265,685	÷	1,582,129	x	100	=	16.8%	> 15%	< 5%
15.	Depreciation ratio	G ÷ C x 100	61,300	÷	1,582,129	x	100	=	3.9%	> 20%	< 10%
Repayment capacity:											
16.	Interest cover ratio	H ÷ I	616,019	÷	265,685			=	2.3 times	< 1 time	> 2 times
17.	Term debt & lease cover	(L+I+G)/XX*	(315,331 + 265,685 + 61,300)			÷	352,887	=	1.8 times	< 1 time	> 1.5 times

XX* equals total annual principal and interest payments, plus any leasing costs (assumed here as $352,887).

A template to complete your financial ratios can be downloaded at: **www.grdc.com.au/FBMtemplate-FinancialRatios**

Source: P2PAgri P/L / Hudson Facilitation

Interpreting the figures:

Liquidity: The business is well positioned as it currently has no short-term debt. This has been the result of this business experiencing some good financial seasons. It would be helpful to know what overdraft limits the bank would approve, so that any short-term shocks can be managed.

Solvency: This is towards the risky end for debt and equity position. The business may have recently borrowed to expand. No cause for alarm, but would like to see several years' results and analyse this trend over time.

Profitability: This business has reasonable profitability, within a reasonable range for all ratios in this section. Reducing debt (if possible) will improve all ratios. Again, these ratios may reflect a business which has recently geared up, like recently purchasing additional land.

Cost efficiency: Costs are generally well managed. The poor asset ratio indicates that gross income is poor compared to total assets. Use of production benchmarks will quickly isolate whether the issue is yield or price related. The poor finance cost control means a focus on decreasing debt would help in the medium term.

Repayment capacity: These results indicate that this business is quite well placed to meet its financial commitments and reduce debt, or invest in efficiency gains to improve profitability.

In summary, the 'Upndowns Farm' has performed at reasonable levels in the year under analysis. While it can meet its financial commitments, there is room to improve profits. Increasing gross revenue at the same cost base is a simple remedy to almost every financial ratio – it reduces the cost of production.

What areas of the business need improvement?

The two financial ratios showing a weak result for 'Upndowns Farm' (highlighted in **orange** in Table 5.25) are:

11. Asset Turnover, and

14. Finance Costs.

Given gross revenue is a simple function of yield and price, either of these two issues can be quickly confirmed or dismissed with some district benchmarking comparison. If neither is identified as being poor, then there may be a need to look more closely at management performance. Is production at sound levels and are the borrowings well structured? Checking with local production benchmarks and talking with a finance broker may help improve these areas of weakness.

Remember, looking at one year in isolation can be of limited value. You should compare a number of years' ratios and look for trends over time. Is equity eroding, is cash becoming increasingly tight, generally are the ratios improving or deteriorating? Poor ratios are not necessarily a cause for concern, as long as they can be explained. Most businesses would see equity and likely return on equity reduce for a few years after an additional land purchase, but if after 3-5 years, things had not improved, there may be real concern. Context is critical!

It is very difficult to score well on all ratios and the important observations come when assessing these results over time. Complete these ratios annually and develop historical data, so that you can target business weaknesses early.

Action points

- From last year's business results, calculate the 7 key financial ratios listed in Table 5.22.
- Analyse these results. What areas are doing well and what are not doing so well?
- Write down specific actions for your business this year that come from this analysis.
- Share your observations with the management team, accountant and banker.
- Download the Financial Ratios template from: **www.grdc.com.au/FBMtemplate-FinancialRatios**

5.5.2 Benchmarks

Defining your goals will help clarify which benchmarks are the most important to measure for your farm business.

KEY POINTS

- No two businesses – or business people - are the same, so care is needed when comparing your business to others, as you may not be comparing 'apples with apples'.
- Benchmarking figures are averages and used in isolation are of little use without understanding their context.
- Benchmarking figures may be best used to identify the correct questions to ask of your business - they cannot provide solutions! You may need to use the liquidity, efficiency and wealth tools to get those answers.
- In practice, the best comparison to make is against your own business – its performance over a number of years and its progress towards achieving your business goals.

Co-contributor to this section: Tony Hudson, Hudson Facilitation.

Benchmarks are other commonly used performance indicators and are sometimes referred to as ratio benchmarks. The benchmarking process is commonly used for comparative analysis to inform decisions about improving business performance. Benchmarking services are provided by an increasing number of farm consultants, advisers, banks, accounting firms, rural industries research and development corporations and other extension providers. Some farmers like to consider a variety of comparative performance indicators to support their decision making and help identify key 'drivers' to improve their business performance.

Understandably, business operators are often reluctant to discuss publicly the performance of their own business. Using anonymous benchmarking data has provided valuable information for many farmers to begin assessing their own business performance.

What are benchmarks?

Benchmarks are generally average physical ratios of a farming business such as grain yields, water use efficiency, weaning rates, wool cuts and livestock weight gain. Measuring, monitoring and interpreting these average physical benchmarks can add to the production and financial understanding of a farm business (refer to Figure 5.31).

While there are benchmarks for just about anything that can be measured, some of the more common and most useful ones for a farm business are listed in Table 5.26.

Typically, benchmarks are often used as an indicator to compare a farm business with:

- the performance of the same farm in prior year/s or against a budget/plan;
- other similar businesses in the same district; or,
- the performance of many producers across an industry segment.

A number of benchmarking service providers publish their results annually and distribute the results amongst their member businesses. Some also offer their published results for sale to the general public. The results of such benchmarking services typically seek to categorise performance as good, average or poor in a variety of areas. They may also be expressed as falling within a percentage range of other businesses, such as the 'Top 20' percent of similar farms.

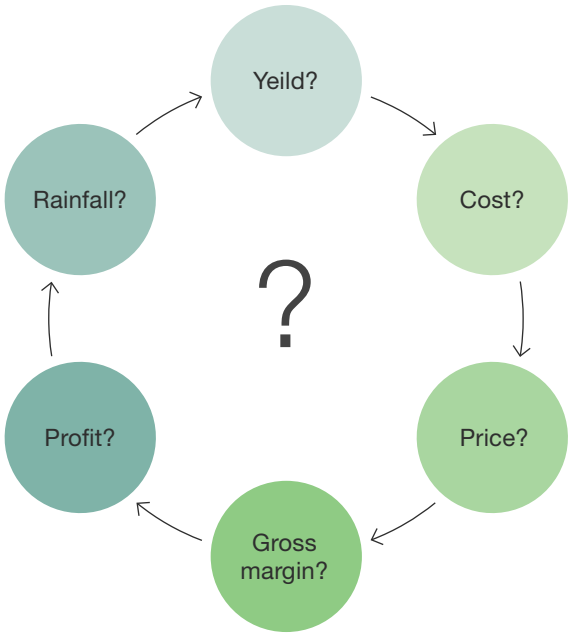
Limitations in using benchmarks

Benchmarks are usually easily calculated and readily available. However, one of their limitations is that they commonly focus on components of the business rather than the whole farm and it can be difficult to interpret such indicators in isolation. A more complete business profile will be gained through an understanding of profit, cash flow, balance sheet and return on managed capital.

Over the years, strong debate has ensued about the role of benchmarking in agriculture. Table 5.27 details some of the arguments over the limitations of benchmarking.

A good example illustrating these challenges is using the benchmark of machinery value per hectare across farm businesses. This will vary greatly depending on whether the farmer runs a continuous cropping business, has a mixed crop/livestock farm or does contract machinery work for neighbours. Each can be a valid and profitable strategy when applied to the right situation and structured correctly. The machinery requirements are different for each farm business and average industry numbers rarely take this into account.

Figure 5.31: What should you measure?



Source: P2PAgri P/L

Table 5.26: Common physical benchmarks

Parameter	Units
Yield (crop)	t/ha
Yield (livestock)	kg/ha
Stocking rate	DSE/ha
Labour (cropping)	ha/labour unit
Labour (livestock)	DSE/labour unit
Labour	$ Revenue/ labour unit
Price received	$/t or $/kg
Production system	$Income/100mm
Machinery investment ratio	$/ha
Fertiliser cost as % of gross income	%
Chemical cost as % of gross income	%

Source: P2PAgri P/L / Hudson Facilitation

Table 5.27: Limitations of benchmarking

Inconsistencies	• Some financial ratios are not consistent with farm business management standards. • Terminology can be confusing and inconsistent, particularly if considering figures from two different data providers. • Data collection methods may not be consistent or accurate. • Unrelated businesses are used for comparison – benchmarks do not take into account variances in physical resources and managerial impact on each business. • When average benchmarking figures are used: for example, for appropriate farm decision making, information about marginal effects of changes is required. It should be unique to your business and not based on averages. ➤ Section **3.1.2, Production Economics, Module 1** discusses marginal effects.
Information they do not provide	• It is difficult to quantify management impact on outcomes. • Good physical or financial performance may not reflect sustainable practices or long-term viability of agricultural systems. • Benchmarks say very little about the subject business' appetite for risk. • Using whole farm benchmarks may tell you that you are performing well or poorly, but will not tell you why, or what to do differently. • Often take no account of debt/leverage within the business. • May vary on whether or not off-farm income is included. • Generally based on historical data - there is concern that this information is used to direct future business decisions, when the likely impact of these decisions on the whole farm business is not well known.
Validity of comparisons	• No two farm businesses or farm operators are the same, but comparing data assumes much similarity. • Numbers mean little unless you truly understand them. • Benchmarking is only one tool, not the panacea that some suggest. Benchmarks of another business may have very little relevance to your business. • Involves an implied cause and effect - in practice, the actual response to inputs should be assessed on a case-by-case basis.

Source: P2PAgri P/L / Hudson Facilitation

Potential benefits in using benchmarks

Table 5.28 outlines a number of benefits in using benchmarking figures in agricultural businesses. These, as well as the limitations, need to be taken into account when considering benchmarking the performance of your own business, either against itself or against others.

There is certainly some value in the approach of 'compare and contrast': in knowing benchmarks for basic performance (such as the ranges of crop yields, stocking rates and lambing percentage) to give context within your district, if for no other reason than to gain an understanding of what is possible. What *could* be achieved is not necessarily the same as what *should* be achieved. Benchmarking may tell you that something is wrong, but it may not accurately identify where the problem lies or what is most profitable for your business.

Similarly, there can be valuable learning from others on the physical production aspects of the business – what is 'best practice' and what might be achieved if it is implemented? However, such information should be used in context. There is no other farm quite like yours – they are all different in terms of size, soil type, subdivision, enterprise selection, debt levels and management, and each business will have different goals and attitudes to risk. Benchmarking production parameters about other businesses do not tell you how well they are achieving their broader objectives, whether they are successfully creating wealth, generating profit or achieving a variety of other goals. So although they may be of some use, you must remember that they represent numbers which are achieved on someone else's land und`er someone else's management towards achieving someone else's goals.

Of far greater value to your business is using benchmarks to compare your business against its own historical and budgeted whole farm performance i.e. measure the performance of **your land** under **your management** towards achieving **your goals**.

Using benchmarking in this way will largely eliminate the vagaries of data collection, accuracy and interpretation, as long as you collect and measure your own data in the same way every year.

A set of farm business benchmarks is provided in Table 5.29 which demonstrates the last four years of a farm's performance against its 10-year average. This is based on a continuous cropping farm in a low rainfall area and was recorded through a period of lean seasons.

Obviously, context is still useful and the numbers you generate may tell only part of the story. However, done in this way, benchmarking can be a useful analytical tool for many farm businesses.

For example, from the benchmarks in Table 5.29, a farmer may ask specific questions of his business that in turn lead to further questions in a search for solutions:

Q: Is my farm viable (Net farm profit)?

A: Just! Over this ten year period, it made an average annual profit of only $45,517 which does not provide much leeway for risk.

> What do I need to focus on to improve profitability?

Q: Is the business wealth growing (Net worth)?

A: Yes. However, as profit levels have not been excellent, this growth in business wealth may be due to increased land values.

> Is this growth sustainable? If land values do not continue to increase at this rate, how does my business generate wealth?

Q: Am I over-capitalised in machinery (Machinery value/cropped ha)?

A: Yes, at $290, slightly. $260/ha is viewed by industry as being the average.

> How do I improve this? Do I increase productivity (area of production) or decrease machinery capital costs?

Table 5.28: Benefits of benchmarking

Individual farm assessment	• Provides useful additional information to whole farm analysis. • Provides a useful matrix for self-assessment. • Helps build a profile of strengths and weaknesses within a business. • Provides a framework to test accepted beliefs.
Physical information	• Physical benchmarking can support improved enterprise management.
Financial information	• Helps identify and focus efforts on key 'business drivers'.
Comparative information	• Comparison of your business performance to similar businesses (within limits). • May provide motivation to improve your own business performance. • Compare your business against itself each year which will highlight trends over time.

Source: P2PAgri P/L / Hudson Facilitation

Table 5.29: Actual farm benchmarking data from a low rainfall sample farm.

Years	1	2	3	4	10-year average
Individual farm analysis					
Net farm profit:	-$36,078	$60,056	-$4,975	$82,976	$45,517
Gross farm income:	$195,313	$340,401	$398,855	$645,836	$312,441
Net farm profit as % of gross farm income:		17.6%		12.8%	30.4%
Net worth	$1,098,090	$1,422,828	$1,461,165	$1,554,334	
Closing equity	85.2%	88.5%	87.6%	87.4%	
Gross farm income from cropping %	71%	90%	88%	91%	81%
Gross farm income from livestock %	28%	10%	12%	8%	18%
Total overhead costs/gross farm income	18.1%	10.4%	7.4%	6.6%	16.6%
Total financial costs/gross farm income	5.7%	6.2%	4.7%	5.4%	4.2%
Cash flow return per dollar spent	$1.26	$1.69	$1.27	$1.35	$1.94
Machinery value/cropped ha ($/cropped ha)	$270	$319	$306	$209	$290
Average overdraft interest paid		7.42%	9.17%	7.22%	7.94%
Total chemicals ($/cropped ha)	$13.39	$18.23	$21.88	$24.77	$16.18
Fertiliser ($/cropped ha)	$16.57	$15.24	$22.87	$46.96	$20.48
Holidays per labour unit (days)	9.1	9.1	13.6	9.1	12.8
Training days per labour unit (days)	4.5	4.5	36.4	3.6	8.8
% Arable land cropped	66%	100%	78%	90%	65%
Land value ($/ac)	$96	$181	$202	$222	
Cropped land/labour unit (ha)	760	854	912	1,307	773
Hard wheat farm gate price ($/t)	$200	$163	$365	$301	$226
Feed barley ($/t)	$110	$121	$228	$198	$167

Source: P2PAgri P/L

Using your own benchmarks

In order to benchmark the performance of your own business against itself, you must first establish clearly defined goals, both at a whole farm/business level and then at an enterprise level. Business performance can only be judged against goals. Business drivers fundamental to achieving these goals must be identified, then used to determine specific and measurable objectives which will propel the farm towards achieving *your* goals. What the neighbours do is of far less relevance to you than identifying your own goals and striving to achieve or surpass those goals year after year.

The role of benchmarking information can therefore be seen as an important supporting source of background information. It is not a replacement to the proper whole farm business analysis of **specific questions** for **specific businesses** based on the specific resources available and the **owner's goals**.

Keys to maximising benefits from benchmarking:

Focus on your goals:

- Establish clearly defined and measurable goals for your business.
- Know what questions you want answered and remember benchmarking may not give you those answers.
- Focus on issues which your management can influence or control.
- Ensure that your use of benchmarking leads to changes for the better in how things are done on the farm.

Data analysis:

- Focus on your own performance – it is much more important than the neighbours. Compare 'apples with apples' – make sure data is relevant to your business.
- Analyse what is really being measured and how it is being measured.
- Make sure you understand the numbers and how they are calculated.
- Remember, benchmarking has significant limitations.

Record keeping:

- Develop a robust physical and financial recording system.

Develop budgets:

- Calculate the cost of production for the commodities you produce – these could be of more value to your business than any other benchmark.
- Undertake good farm budgeting and business planning.
- Track budget to actual performance.
- Combine benchmarking with sensitivity analysis when making decisions.
- Your best long-term financial benchmark is growth in net worth.

No amount of benchmarking information about other farms will be as valuable as good budgeting, business planning and excellent record keeping based on your own business. There are dozens of things that can be measured, but ultimately, whole farm profitability is the key.

Farm business analysis focuses on the balance sheet, profit and loss, enterprise gross margin analysis and cash flow. Preparing sound budgets for each of these reports and using them as a starting point for whole farm benchmarking is fundamental to good farm business management.

Action points

- Develop a list of financial indicators and benchmarks to monitor the progress of your business toward achieving its goals.
- Create a yearly recording system, so that this valuable information is recorded over time and used to assess trends in your business.
- Review the business financial indicators and benchmarks, and record needed business and management actions.

5.6 FARM BUSINESS MANAGEMENT VERSUS TAX ACCOUNTING

Are you getting the most out of your tax return? What does it tell you about your business?

KEY POINTS

- If you do nothing else with your finances, at least understand what your tax return is telling you!
- If you don't understand your tax return, at least know what questions to ask your accountant about your tax return.
- What key business information does your tax return not tell you?
- If you want a better business, move your financial understanding beyond your tax return.

The annual tax return

As with any Australian business entity, farm businesses are legally required to complete an annual tax return, so by default, tax returns remain the number one financial record of an Australian farm business. For some farm businesses, this means numerous tax returns as they can have a partnership, a number of trusts and maybe a company structure, each requiring a tax return. Usually, a qualified accountant is used to complete the annual tax returns.

Prior to the advent of the Goods and Services Tax (GST) in 2000, many farmers would take their 'shoe box' full of receipts to the accountant annually for the tax return to be completed. Now, having to submit the Business Activity Statement (BAS) at least quarterly means farm business finances are being recorded better than ever, usually with an accounting software package.

The benefit of a tax return being a legal requirement is that it compulsorily sets up a sound financial recording discipline in a business. The main problem with tax returns is that they are completed using the Australian Taxation Office (ATO) guidelines and rules, and so do not provide a good set of accounts needed to more effectively manage the business. Tax returns are undertaken to assess tax liability only, not vital business information such as management profit, business equity and efficiency.

With some further effort, the information collected for tax returns can be turned into a set of farm management budgets, which provide the fundamental measure of farm performance and sustainability. As tax returns have to be completed, we might as well understand what they are telling us about our business!

Different levels of business understanding

There is a chronic need for farmers to understand the financial performance of their business. If you're not measuring business performance, how do you know how well you are doing?

The annual tax return, while not the best source of financial information on your business, provides at least a start in understanding parts of your business.

Unfortunately, few farmers know how to 'read' their tax returns, as illustrated by the following examples:

Two farming businesses, different in both size and location, had taxable losses in each of the last 5 years and yet had not grasped the financial difficulties they were really facing. No, this does not mean that they had used good accountants who had structured the losses to allow them to pay 'no tax'. This is a dated way of thinking how well your accountant is performing!

Five taxable losses in a row mean that these businesses are not travelling well financially. Yet the business owners appeared to have little understanding of the significance of this result, and what is even more concerning is that accountants had apparently not brought this 'downward financial spiral' to their clients' attention!

The really challenging question is who is responsible for this lack of understanding? Part of the answer may be that many accountants are compliance driven, rather than providing good management advice. So the answer isn't 'totally the accountant's fault'. After all, someone in the business had to sign off for the tax returns to be submitted! Perhaps the business owners did not ask the right questions of their accountant, but as owners, they must accept final responsibility for keeping track of their farm business viability.

Your tax return shows only part of the financial picture of your farm business.

Source: P2PAgri Pty Ltd

What information is in a tax return?

Simply, a tax return tells you what tax, if any, has to be paid to the ATO.

However, tax returns can also provide other useful information. Banks value the information in tax returns because they are legal documents, and are expected to be accurate. Two other specific sources of information are the farm business management profit and loss budget, and the balance sheet. These two budgets are covered in sections **5.2.3** and **5.3.1, Module 2**. As they are not fully reported in a tax return, the tax return should not be relied upon as the sole measure of business viability or performance.

Table 5.30 highlights what your tax return **does** and **does** not tell you about profit and loss, and balance sheet.

What additional information can a good accountant or financial adviser get from your tax return?

- Business trends

The main question arising from Table 5.30 is whether you or your accountant track profit and loss and the balance sheet information from year to year in order to understand the trends in the business. As a prudent business manager, you should be actively seeking this information. With some added effort, a farm business management profit and loss and balance sheet could be compiled from the completed tax return. The following questions can then be answered:

> Was my business profitable in the last financial year?

> What is the business net worth and equity at the end of the financial year?

> How did my farming business perform compared to other forms of investment?

> What was the growth in net worth of the business?

> Given these performance results, what could I learn from last season to help improve my management in the coming season?

A good accountant or financial adviser should be able to assist with developing sound farm business management information from the tax return to provide answers to these vital questions.

If your accountant or financial adviser cannot answer these questions and/or do not consider this information vital to the running of your business, then find an accountant or financial adviser who can help you.

- Financial ratios

All 17 financial ratios outlined in section **5.5.1, Financial Ratios, Module 2** can be calculated from the management profit and loss and balance sheet developed from your tax return.

Do not ignore recording the poor seasons

It is psychologically easier to measure a good financial performance rather than a poor one. So, the temptation is to only record the business performance in good seasons. The challenge is to do the recording regularly, so the trends can be assessed.

Value of recording both poor and good seasons:

In the early 2000s, a benchmarking activity was conducted with farmers in South Australia, and at one stage, over 160 farms were submitting their business data. At the time this recording began, a number of good seasons ensued. When a poor season eventuated, the number of participating farms dropped to 20.

Most farmers did not want to record the financial outcomes from poor seasons as they would show losses. It would have been like being handed back your maths test with a fail written over it!

The 20 farmers who remained were involved in two farmer discussion groups being run at that time. They kept recording their financial and benchmarking results through the run of poor seasons and that was when the real learning occurred. The focus was firmly on strategies to minimise losses. This highlights the benefit of recording the business performance through good and bad seasons, as your business needs to improve its management in both.

Table 5.30: Quality of information reported in a tax return

	What your tax return DOES tell you	What your tax return DOES NOT tell you	What gives the BEST picture of your business
Profit and loss	• The **profit and loss** in the tax return only reports tax liability. • If the business is making taxable 'losses', then this is an indication the financial performance in that financial year may *not be* good! • They can indicate financial trends in the business. For example, if taxable losses have occurred over the last few seasons, then these indicate the business could be heading in the wrong direction to maintain financial viability.	• The **profit and loss** does not take into account the **family drawings** on the business because these are not tax deductable business costs. • In a financial year where the farming business showed taxable losses, the financial performance could be far worse as family drawings have not been taken into account. • Note with dryland farming, the use of a financial year means income of one season is lined up against the costs of the next season. So, tax profits are not representative of the same season.	• Calculate your own profit and loss budget for the farming year (section **5.2.3, Profit and loss budget, Module 2**) and include family drawings expenses. This gives a more complete picture of the profitability of your business.
Balance sheet	• The **balance sheet** in the tax return does show what the **total debt** is on the 30th June each year. • Again, if total liability is increasing from year to year, it indicates an increased reliance on the bank to maintain the business. This *may* also not be a good sign for the business, depending on the reasons why the debt is increasing.	• The balance sheet does not have the most valuable capital items, land, livestock and machinery, included at the current market value. • So, the business's **true net worth** is not measured by a tax return's balance sheet. • Net worth is the most valuable benchmark that needs to be accurately measured each year in a farming business, to see if real progress is being made. It is certainly important to your banker – just ask them!	• Calculate your own balance sheet at the beginning of each farming year (section **5.3.1, Balance sheet, Module 2**). • This gives a more complete picture of the wealth position of your farm business. If completed over time, this will show what wealth is being generated in the business.

Source: P2PAgri P/L

Benefits of using farm management budgets over tax return information

For many, the temptation may be to 'go the easy route' and rely just on tax returns for recording business financial performance. If you want a mediocre business, then a tax return is all you need, and your business may be making decisions 'blindly'. However, if you wish to take control of the business financial performance, then develop a set of liquidity, efficiency and wealth measures to help assess your business performance.

Information that tells you the relative profitability of each enterprise on the farm, the efficiency of the whole farming business, the state of the cash flow and balance sheet of the farm, and an understanding of profitability, will help you to assess how well risks are being managed. A sound set of farm management budgets will give you this information. A tax return at best can only provide an approximation of business profitability, an understanding of the total liabilities at the end of the financial year, and that is all!

So to clearly steer your business toward continual success and sustainability, it would be better to see all the instruments clearly on the 'business dashboard'. This is what a sound set of farm management budgets will give you. Relying solely on tax return information is like steering your business with a 'fog affected' windscreen, with only two gauges visible on the ten gauge dashboard!

Should my goal be to increase profits or go for a lower profit to decrease tax?

This is an old 'chestnut' where some farmers say a 'good accountant is one who manages the books so you don't have to pay tax'!! This however, is misguided because if you haven't paid tax in the last few years, it is highly unlikely you have made any money and the business is going backwards.

Your goal should be to make as much profit as you can. In this way, you can build the business financial wealth and improve its ability to weather poorer seasons when they occur. Once you have made profits, look at ways with your accountant to minimize the tax you need to pay. This is a legitimate and sound business strategy.

How do I find a good accountant?

Before you answer this question, you will need to identify what you need your accountant to do. Understanding the main goals for running the business will guide what accountant and/or farm adviser you should use. An accountant's core skill is in completing tax returns and assessing tax liability. If that is all you want your accountant to do, then any qualified accountant will fulfil this need. If you wish to have the improved farm business management information outlined earlier in this module to guide better management decisions, then ask your current accountant if they can provide these services. If they can't, then seek out other accountants who can provide this service. It may be a matter of inquiring of enough accountants until you find one who does.

Why do I have so many legal entities to run my farming business?

Some farming businesses have a number of legal entities such as partnerships, family trusts and maybe a company to run the business. If you are one of these businesses and do not understand why you have so many, then the answer may be that you have too many! A business structure needs to be understood for it to be well managed. Ask your accountant to help you understand the need for these entities. Accountants help farmers set up these multiple business structures to assist with tax planning and family succession, and in some cases, to protect the farm assets from the impact of divorce. Just remember, the more legal entities you have, the more you will pay in accountancy fees to complete the necessary tax returns.

What does the tax return tell me about the future?

By definition, a tax return is an historic record of what has happened in that particular financial year. So it is directly influenced by the season and the commodity prices experienced in that financial year. As a financial tool to help predict the future, its usefulness is restricted, and depends on how well it models the seasonal and commodity price outcomes for the coming seasons. For predicting possible outcomes, it is far better to use a good set of farm management budgets with conservative expected yields and commodity prices. You could also go one step further and model both a poor and good season, which will give the range of possible results and help judge the financial risks to the business. This approach is called scenario analysis which is covered in section **11, Analytical tools, Module 3**.

Action points

- Challenge your accountant to help turn your tax return into sound management information.
- Assess your business trends over the last 5 years in terms of:
  - Taxable profits
  - Liabilities
- Evaluate whether these results indicate the business' goals are being met.

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GRDC RESOURCES

Other information relating to the topics covered in Module 2 can be found in the following GRDC Fact Sheets and resources:

Balance Sheet (P2Pagri P/L, 2014)
http://www.grdc.com.au/GRDC-FS-FFT-BalanceSheet

Benchmarking (P2Pagri P/L, 2014)
http://www.grdc.com.au/FBM-Benchmarking

Cash flow budget (P2Pagri P/L, 2013)
http://www.grdc.com.au/GRDC-FS-FFT-CashFlowBudget

Cost of production (P2Pagri P/L, 2013)
http://www.grdc.com.au/GRDC-FS-CostOfProduction

Crop gross margin budget (P2Pagri P/L, 2013)
http://www.grdc.com.au/GRDC-FS-FFT-CropGrossMarginBudget

Farm business costs (P2Pagri P/L, 2014)
http://www.grdc.com.au/FBM-FarmBusinessCosts

Farm gross margin and enterprise planning guide (Rural Solutions SA, 2014)
http://www.grdc.com.au/FarmGrossMarginGuide

Filling the farm labour gap (ORM, 2013)
http://www.grdc.com.au/GRDC-FS-FarmLabourGap

Improving time management and labour efficiency (ORM, 2013)
http://www.grdc.com.au/GRDC-FS-FarmLabour-TimeManagement

Key financial ratios (P2Pagri P/L, 2014)
http://www.grdc.com.au/GRDC-FS-KeyFinancialRatios

Livestock gross margin budget (P2Pagri P/L, 2013)
http://www.grdc.com.au/GRDC-FS-FFT-LivestockGrossMarginBudget

Machinery investments and costs (ORM, 2014)
http://www.grdc.com.au/FBM-MachineryInvestmentAndCosts

Profit and loss budget (P2Pagri P/L, 2013)
http://www.grdc.com.au/GRDC-FS-FFT-ProfitLossBudget

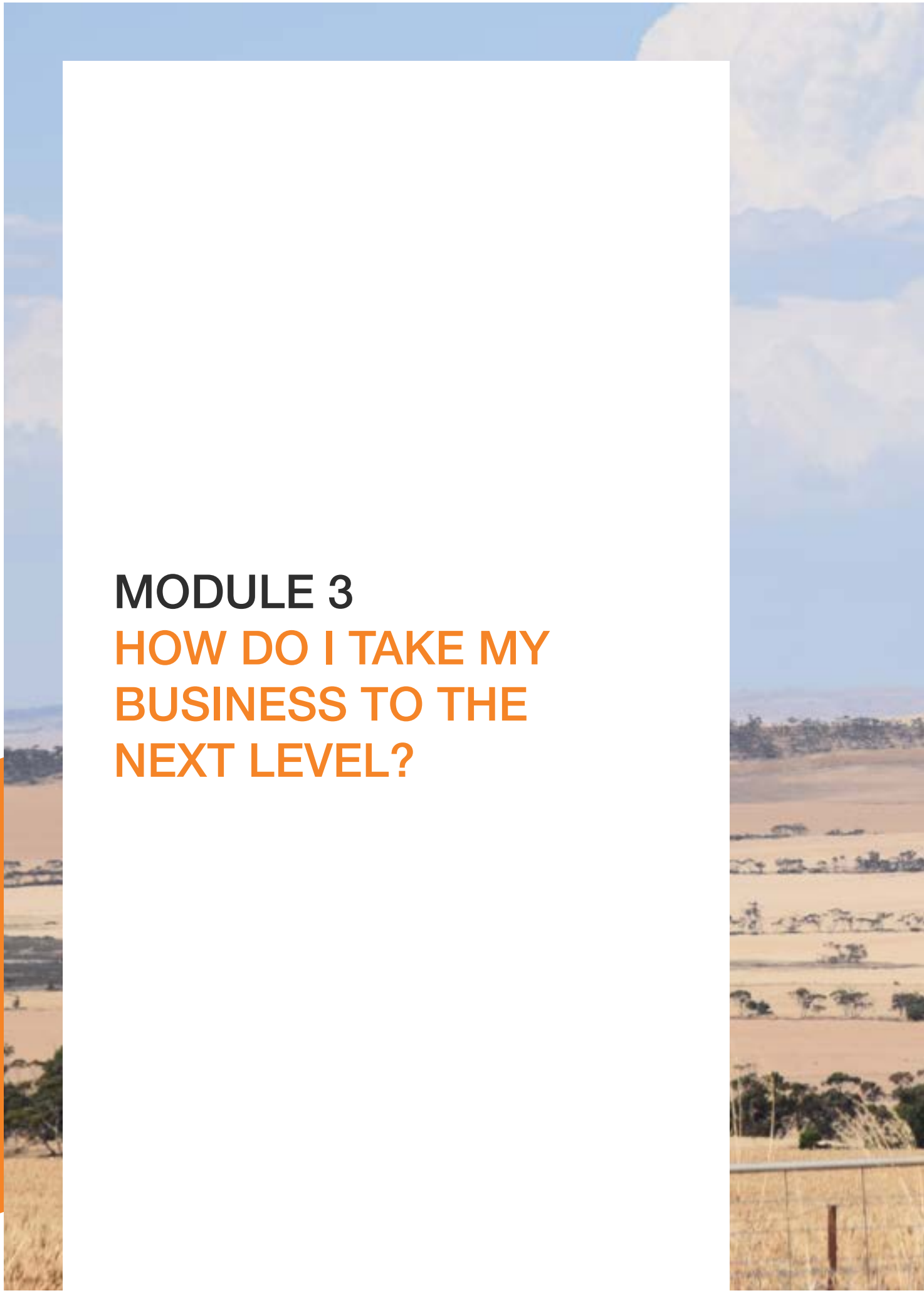
Recruiting and inducting new employees (ORM, 2013)
http://www.grdc.com.au/GRDC-FS-FarmLabour-Recruiting

Simple and effective business planning (ORM, 2014)
http://www.grdc.com.au/FBM-SimpleEffectivePlanning

The benefits of separating land assets from the operating costs (ORM, 2014)
http://www.grdc.com.au/FBM-LandAssetsVsOperatingBusiness

Valuing family drawings and your management (P2PAgri P/L, 2014)
http://www.grdc.com.au/GRDC-FS-ValuingManagement

What your tax return tells you (P2Pagri P/L, 2013):
http://www.grdc.com.au/GRDC-FS-TaxReturn



MODULE 3
HOW DO I TAKE MY BUSINESS TO THE NEXT LEVEL?

MODULE 3

HOW DO I TAKE MY BUSINESS TO THE NEXT LEVEL?

The aim of Module 3 is to introduce some of the more advanced topics of farm business management. The first two modules give an overview of farm business management principles and their practical application. They show how to develop the various farm business management budgets, and how to complete a set of financial ratios and performance indicators to gain greater financial insight into your farm business. Module 3 helps take your business to the next level of performance to further strengthen business resilience and sustainability.

Module 3 covers sections 6 to 12. These sections focus on specific areas of the farm business that can be further developed to improve the financial capacity and resilience of your farm business.

You may have already focused on some of these in your business management. If not, these sections provide a starting point to begin considering areas of your farm business that can be further developed and strengthened.

Some of the key questions addressed in each section include the following:

6 HOW BANKS LEND TO FARMERS

- How do you best communicate with your bank?
- What key information is the bank looking for from your business?
- How does the bank assess your business in order to set your interest margin?

7 RISK MANAGEMENT

- What risks have the greatest impact on the profitability of your farm business?
- What are the major strategies you can use to manage risks?
- Have you ranked your business risks?

8 GRAIN SELLING VERSUS MARKETING

- What strategies are available to improve your grain selling?

9 POSSIBLE BUSINESS MODELS AND ASSOCIATED STRATEGIES

- Long-term business sustainability may require different business models. Is the business model you are currently using the best option for your farming business?

10 SUCCESSION PLANNING

- Do you have a succession plan for your farming business?
- Succession planning is one of the biggest risks to farm business. How well are you managing this process?

11 ANALYTICAL TOOLS

- What tools are available to help answer your business questions?
- Are you using the correct tools to support your decision making?

12 ADVISORY BOARDS

- Advisory boards are becoming more popular as a management tool for farming businesses.
- Would an advisory board help your farm business management?

6 HOW BANKS LEND TO FARMERS

Banks have their own methods for assessing farm business performance. It is useful to understand how they think so that you can also talk their language of risk assessment.

6 HOW BANKS LEND TO FARMERS

Are you getting the best deal from your bank?

KEY POINTS

- Sound, well-managed businesses should pay lower interest rates.
- Your lending interest rate includes an additional 'customer margin' especially for you!
- While the rate of interest is important, there are other bank services that may be important to your business. Be sure not to overlook these in your negotiations.
- Banks need your business and are prepared to negotiate for it.
- Customer margins and fees are negotiable, except for government fees.
- Knowing how banks determine lending margins will assist with bank negotiations and assist you in managing your finance costs.

Co-contributor to this section: Tony Hudson, Hudson Facilitation.

While your banker is not your legal partner in the business, they have a common interest in your business success and so could be considered a business partner. The better you communicate your business performance with your banker and involve them in any major decision making, the greater confidence they are likely to have in your business, which should lead to improved service and interest rates.

Without access to bank lending, growing your business and even accessing adequate working capital can be very difficult. Reducing your finance costs by trying to pay as little as possible in interest and fees to your financier is good business practice.

6.1 BANK CALCULATIONS

6.1.1 Interest rates

The language used to explain how banks calculate their interest rates can be complicated. In simple terms, banks obtain funds at wholesale rates and lend them to borrowers at retail rates. They quote a "base rate" which banks have a legal obligation to advertise weekly in major newspapers – to keep their customers informed. This covers their costs of funds, operating costs and shareholder dividends. It will be affected by decisions made by the Reserve bank of Australia (RBA) on the cash rate, the state of the economy and demand for money. Base rates are even differentiated on the basis of the loan – a fluctuating facility such as an overdraft tends to have a higher 'base rate' than a long-term fully drawn loan.

6.1.2 Customer margins

Understanding how banks calculate your 'customer margin' may save your business significant money.

The interest rate which applies to your business borrowing is calculated using the quoted 'base rate' with an added **'customer margin'**. The customer margin is a reflection of the level of risk the bank perceives in lending money to your business – i.e. the likelihood that the bank may lose money out of the deal. The higher the perceived risk, the higher the 'customer margin' charged.

When calculating your 'customer margin', banks consider the 'Five Cs':

1. **Cash flow:** Cash (also often referred to as 'capacity') is king and always will be! The business must be able to demonstrate capacity to generate adequate cash to meet all costs, including interest payments. Revenue calculations need to be determined using reasonable and achievable assumptions for yields, commodity prices and costs. Historical averages are a great place to start – any significant variation should be justified.
2. **Character:** Your management expertise, integrity and honesty. Previous and future conduct with the bank is important here. What kind of person are you to deal with? A poor credit history makes you a much higher risk. Proven ability to handle difficult times and capitalise on opportunities reduces perceived risk. Sound profit results and improving equity figures year-on-year are the best support you can offer.
3. **Capital:** The financial position of yourself and the business - your assets, liabilities, net worth, equity position and debt ratios. The higher your equity, the lower the risk.
4. **Conditions:** What is happening at a macro level to the industry in which you operate? Global markets for rural commodities are generally strong at present and demand for land is sound. How does the business manage external risk: interest rates, exchange rates, variation in climate and commodity prices? You cannot control them, but good management can reduce the downside risk. For example, consider the change in perceived risk by a bank who had loaned funds to a live beef exporter when the federal government banned live exports to Indonesia.
5. **Collateral:** The quality and adequacy of the assets you provide as security for the loan. Quality is determined by saleability - are there potential purchasers and how likely are prices to fluctuate? Adequacy is simply the amount of

security, and banks express this as Loan to Value Ratio (LVR). A loan of $600k against a farm worth $1m gives an LVR of 60% - the lower the LVR, the lower the risk. Banks will then equate this LVR to a Security Category (A-E).

While your overall equity position is important, banks are more focused than ever on the value of the real estate assets they hold as collateral and this is what the LVR is calculated on. Assets such as livestock, grain and machinery tend to be less appealing forms of security, as they are more risky and therefore attract a higher interest rate when used as collateral.

The first four 'C's – Character, Cash flow, Capital and Conditions - tend to be considered collectively, to arrive at a number or Customer Rating (1 to 10) assigned to you as a borrower.

Collateral (expressed by banks as loan to value ratio, or LVR) tends to be considered in isolation. If the business fails in all other areas, collateral is all the bank has to rely on to recoup your debts. Your LVR will be given a Security Category.

Table 6.1 is an example of how a customer margin is calculated. It assumes the following Loan to Value Ratios apply to each security category:

Security Category A: LVR: < 30%
Security Category B: LVR: 30 - 50%
Security Category C: LVR: 50 - 70%
Security Category D: LVR: > 70%
Security Category E: No security offered

It illustrates a borrower with very good security, denoted as Category A, and a very good Customer Rating, say Rating 1, receives no additional interest rate margin beyond the quoted Base Rate. However, a borrower with less security, say Category C and with little proven experience in their industry, may have a Customer Rating of 6 and an additional margin beyond the Base Rate of 3.5%. This can amount to substantially greater interest costs to your business if you have a significant level of debt!

Case Study:

A farmer who has an existing debt of $700k and a farm worth $2m which is held by the bank as collateral, is given an LVR of 35% - a 'Category B' security level. If the other 'C' factors taken into account arrived at a Customer Rating of 4, the 'customer margin' applied would be 1.8%. So if the Base Rate was quoted at 9%, for example, the total lending rate for the farmer would be 10.8%.

Now consider the situation where the same farmer has additional real estate assets, such as other farm land or off-farm assets worth $400k, which do not form part of the security for the farm debt. By offering this to the bank, the security category then becomes Category A and with all other factors being equal, the customer margin becomes 0.3%, making a total rate of 9.3%. This would result in a saving of 1.5%, or $10,500 per year on the $700k loan.

Table 6.1: Customer margin calculator

		Customer margin				
Customer rating	10	0.9	2.4	3.9	5.4	6.9
	9	0.8	2.3	3.8	5.3	6.8
	8	0.7	2.2	3.7	5.2	6.7
	7	0.6	2.1	3.6	5.1	6.6
	6	0.5	2.0	3.5	5.0	6.5
	5	0.4	1.9	3.4	4.9	6.4
	4	0.3	1.8	3.3	4.8	6.3
	3	0.2	1.7	3.2	4.7	6.2
	2	0.1	1.6	3.1	4.6	6.1
	1	0.0	1.5	3.0	4.5	6.0
		A	B	C	D	E
		Security category				

This chart is an example only. The numbers contained within it are fictitious, designed only to illustrate the concept of calculating 'customer margin.'

Source: Hudson Facilitation

6.2 STRATEGIES TO REDUCE YOUR CUSTOMER MARGIN

Now you know how interest rates and particularly customer margins are calculated, there are a number of things you can do to reduce them:

- Be open and honest with your bank – 'surprise' lending requests count against your character.
- If you have additional collateral, offer it as a negotiating tool.
- Ask what your customer rating is and how you can improve it.
- Negotiate hard, but recognise the value of relationships with lenders. If banks don't lend money, they don't make profit.
- Make it known you will shop around for the best deal - it's a competitive market. However, also consider the costs involved in moving facilities between banks.
- Target a fee reduction as well as lower interest rates – many fees can be negotiable for the right borrower.
- Be familiar with your cash flow projections. Don't provide information to the bank on the basis it was prepared by your consultant. It is your business; you have to deliver on the numbers.
- Understand clearly your historical financials. Your accountant may have prepared them, but you need to know your own business.
- Be aware of your trading environment – what is happening at a trade and policy level?
- Mitigate external risks where possible – this means have strategies to manage these risks.

- Know your cost of production and price projections.
- Have a medium term plan for your business (3-5 years), understand what to show in terms of costs and returns, and present it to the bank.
- If needed, employ expert support – use your consultant, agronomist or accountant to help sell your plan if you need it. Take them to the bank with you.
- Always remember, banks need customers and it's easier for them to keep a customer than to replace one. This is your negotiating strength!

6.3 OTHER IMPLICATIONS FOR YOUR FARM BUSINESSES

Banks attitude to farm business during tough times

Observers of the way different banks manage financially troubled clients state that there are differences between banks' approaches. These can change over seasons depending on each bank's view of the future of agriculture, their current exposure or debt to any given sector and region, and empathy of the staff in the region. It is difficult to say which banks are the hardest on farmers who find repayments difficult. The best strategy that a farmer can use is to communicate with the bank through both good and bad times. This will help the bank to understand that the farmer is doing their best to manage the risks to both the farm and the bank.

Significance of interest rates to business viability

The media often focus on the interest rates charged by banks but, as a general observation, most farmers do not freely share this information between themselves. Essentially, the less equity a farmer has in the business, the greater the impact of interest rates on farm net profits. However, modelling of farm businesses indicates that yield per ha has the greatest effect on the cost of production, followed by cash costs. Of less impact is interest rate expenses.

Prior to banking deregulation in the late 1980s, the bank manager was seen to be the trusted farm business adviser and the relationship with the banker was important. At that time, there were monthly limits on how much credit could be lent and you wanted to be the farmer that the manager had great confidence in. However, since banking deregulation, competition between banks has intensified, farmers tend to switch between banks more, and some state a long-term banker relationship has become less important. It is also crucial to understand that the front-line banker you know and developed a relationship with may not be the bank officer making the final lending decision on your loan request. So, the long-term relationship with a banker has become less important, but it is still in your best interests to maintain clear and honest communication with your banker, as they represent your best interests to their higher banking management.

Communication with your banker

There are no hard and fast rules here in communicating with your bank. However, banks do not like to be kept in the dark about your business, especially when things get tight. Remain proactive with your bank and demonstrate you are in control of your business by keeping them updated with your business developments and strategies. Ask your banker how often they would like to hear from you and then follow through by contacting them more than what they suggest! Use the following guidelines to help you form a communication strategy:

> If all is going well, then twice a year is recommended: Once at planning time prior to the season starting and then 6 months later once the season is in full swing.

> If a poor season seems to be in the making, then talk to the banker 2 months before harvest as their life will probably become busier after that as more clients report they are experiencing difficulties.

> If financial difficulties are occurring, then monthly up-dates on how the farm business is going would help your banker to understand your circumstances.

> It is really important to remember that banking is about taking risks: the better you are able to communicate with the bank and demonstrate you are in control of your financial affairs, the lower the perceived risk of lending to your business and consequently, the lower interest you will pay.

Use of professional advisers

A banker's requirements for business performance data can be different to those of a farm manager. Most of the financial ratios outlined in section **5.5.1, Financial ratios, Module 2** are used by banks when assessing farm businesses. However, it can be a challenge to determine what data requirements a bank views as adequate for their needs. Two main strategies that may help the farm manager in this area are to:

> Hire a professional adviser who understands banking requirements to put together reports needed for improved communication with the bank, or

> Attend training activities to improve your own management skills in financial monitoring, planning and reporting.

Both strategies are legitimate and depend on the personal preference of the farm manager. However, the bank is very interested in the management capacity of the farm manager. If a professional adviser develops the reports, these need to be fully understood by the farm manager and actively used to guide the business before a bank will also gain confidence in the reports.

It does not matter how professional the reports appear; if the farm manager has no understanding and ownership of the information, the bank will not value the reports and their confidence in the manager's ability will not be improved. As a general rule, the higher the confidence the bank has in the farm manager, the lower their lending margin and interest rate will be.

Changing banks

While the competition between banks has increased since deregulation of the banking sector, care needs to be taken when considering shifting between banks as there can be considerable expense in the form of government and bank charges. While bank charges can be negotiated, government charges are fixed. In talking to the bank you are proposing to change to, ask them what costs you will incur in shifting. Depending on how keen the new bank is to have your business, they may offer to absorb some or all of the cost of shifting, but it is wise to know this up-front.

You should note that banks find it cheaper and easier to retain customers than to gain new customers to replace the customers they lose. So you have some negotiation power to ask your current bank if they can offer you a better deal. Before you follow through and leave a bank, it is a good strategy to test your current bank and see if you have their best offer. If they can match or better other bank offers, it may be cheaper and easier to stay with your current bank.

Some farming businesses put their finance business up for tender every 3 to 4 years as standard management practice. In this way, the banking relationship can be regularly checked to see if the business still has the best financial deal. When comparing tenders, be careful to compare the interest rate and all fees, so that an accurate comparison can be made.

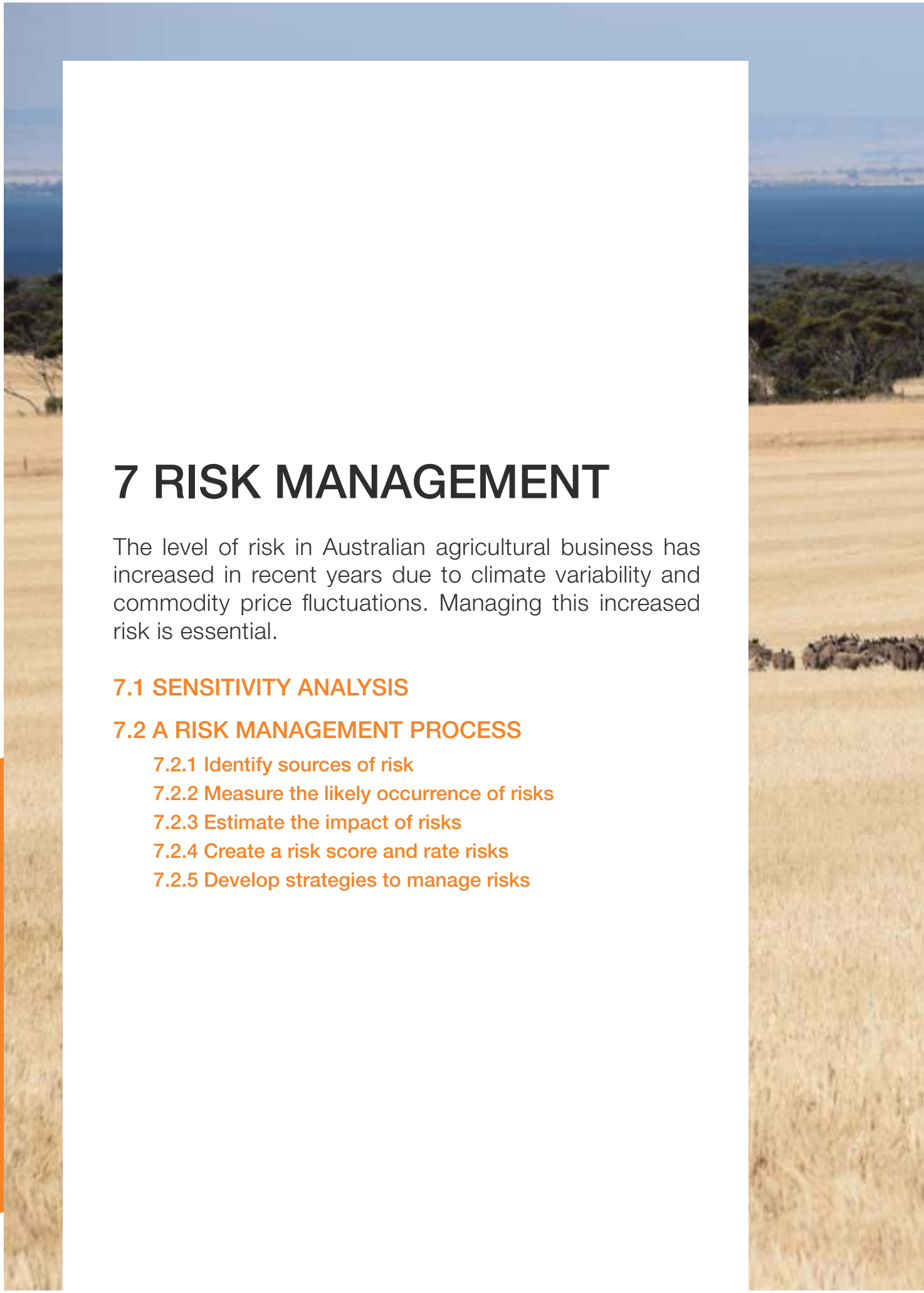
You may also compare other services banks provide which may better suit your business requirements:

- Flexibility in lending which includes fixed and variable interest rate loans.
- The ability to use swaps for grain and wool trading.
- Access to a business banker, which may improve communication between the bank and your business as it moves forward.
- The ability to be flexible with the security that you are offering.
- The number of meetings and reviews that are required.
- The internet services they provide to aid in managing accounts and loans.

Some of these other services may be as important to consider as savings you may gain from reduced interest rates and banking fees.

Action points

- Using the LVR ratio and the 5 Cs, assess your ‘Customer Margins’.
- Test your Customer Margin with your banker.
- Review the number of times a year you should be communicating with your banker.
- Ask your banker what information they would like reported about your business.



7 RISK MANAGEMENT

The level of risk in Australian agricultural business has increased in recent years due to climate variability and commodity price fluctuations. Managing this increased risk is essential.

7 RISK MANAGEMENT

All farm businesses need to manage risks. In fact, all businesses in the Australian economy, regardless of their industry, experience risks. Economists would say the profit that you make is the reward for managing the risks you take. The challenge is to balance the risks with the rewards.

KEY POINTS

- Risks to a farming business can seem overwhelming, especially in difficult times; the key is to focus on those risks that you can influence.
- Sensitivity analysis helps assess the impact of different risks on your farm business.
- A risk management process has the following steps:
  1. List the business risks.
  2. Assess the likelihood of occurrence against the size of the financial impact.
  3. Prioritise the risks.
  4. Focus on strategies to manage the major risks.

Historically in farm business management, risks have been classified as either (1) business risk or (2) financial risk (Malcolm et al, 2005):

Business risk is defined as any risk a business faces regardless of how it is financed. Most of these risks are beyond the influence of the business, like commodity prices, production levels, costs and climate.

Finance risk, on the other hand, is significantly influenced by management and relates to the level of borrowed funds in the business. One of the biggest risks in farming is the amount of debt the business has to manage. If not managed well, unmanageable debt may lead to bank foreclosure, which would be catastrophic.

The management of risk in your business can be helped by having a process in place. A generic risk management process for business was developed by Australian/New Zealand Standards in 'Risk Management' (1995). This process has been adapted by the author Mike Krause and is provided in this section for the assessment and management of risks to farming businesses.

7.1 SENSITIVITY ANALYSIS

When focusing on risk, it is useful to assess what effect some of the significant risks have on business profit. Section **5.2.3, Profit and loss budget, Module 2** shows how to calculate the 'net farm profit (before tax)' to indicate business profitability. By modelling the impact of prices, yield and cost changes, the direct impact on the farm's net farm profit (before tax) can be analysed. This is a form of whole farm sensitivity analysis.

The sensitivity analysis in Table 7.1 highlights the effect on the sample farm 'Upndowns Farm' net profit (before tax) of a 5% change in each of the individual factors listed, with all other factors held at their existing levels. Each factor has been changed independently (of the other factors) by 5%, the change in net profit has been calculated and the factors ranked in order of importance. For example, a 5% shift in the $A/$US exchange rate from $US0.90 to $US0.86 caused profits to increase by $51,464. This is largely because

'We've been here about 25 years. When we came here, it was a wool and beef operation. Over the years, that's evolved to what it is now, which is 50% livestock and 50% cropping and irrigation. It is probably considered to be fairly high risk farming country because we're on the flood plain. We do get severe flood inundation at different times, and you can't stop that. You can put up levee banks if you want to, but the strength of this country on this floodplain is the fact that it floods. So you've just got to learn ways to manage that. As far as droughts go, you know that they're going to happen in this country – you've just got to plan for them. When we started developing the irrigation here, (we've got three pivots and some flood irrigation), the ideal was to set that up as part of our drought management strategy, and during the 2002-2010 drought, we were able to grow feeds like corn and barley under irrigation. So we were able to tap into markets that weren't available to other people.'

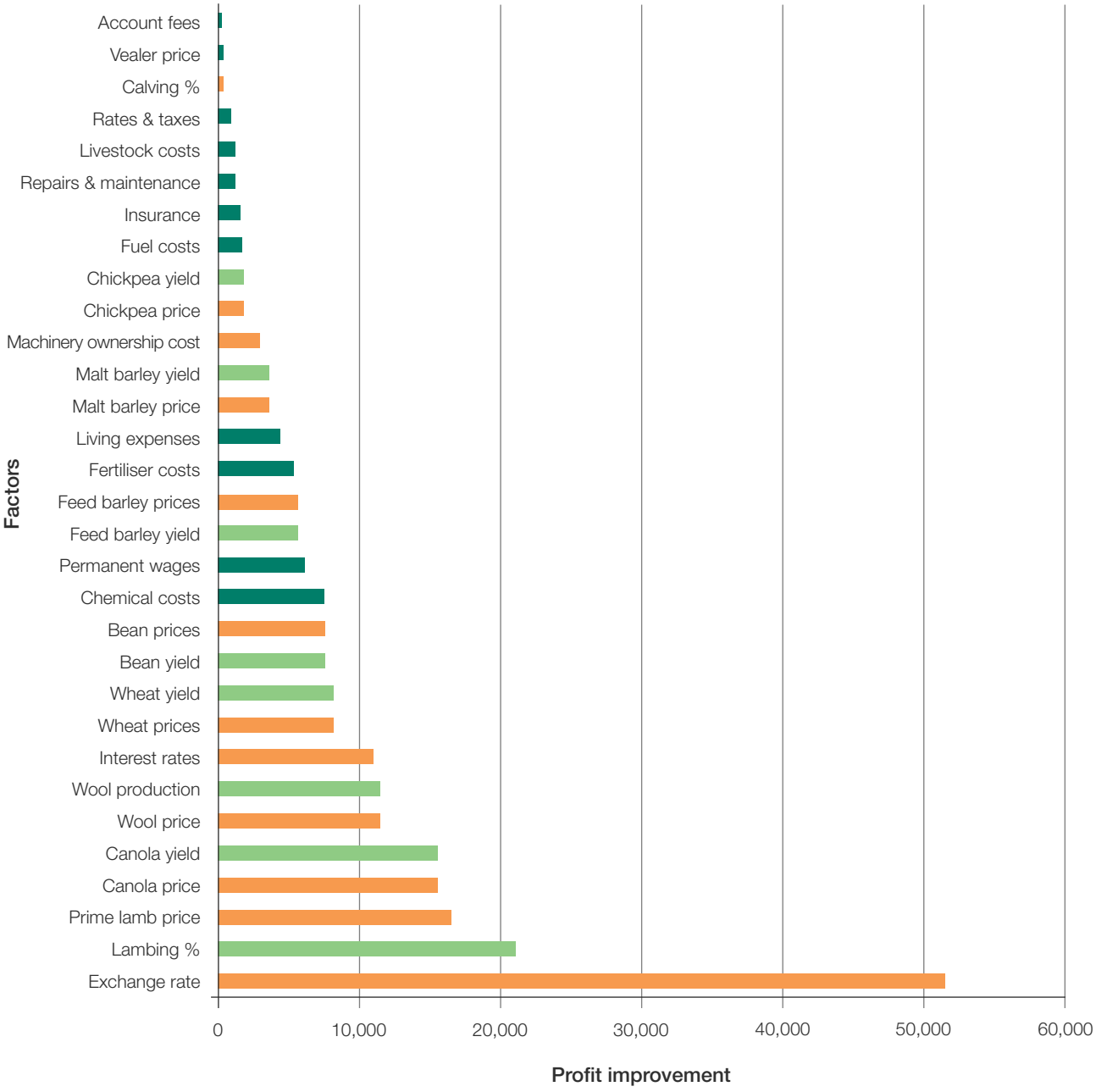
David Mott,
'Berryjerry Station', Wagga Wagga, NSW

Table 7.1: Sensitivity analysis: effect on net farm profit (before tax) of a 5% change in value

Factors		Original value	New value	Change in value	Net profit increase	Rank
Exchange rate	$US/$A	0.90	0.86	0.04	51,464	1
Lambing %	%	100	105	5	20,980	2
Prime lamb prices	$/hd	110	115.5	5.5	16,581	3
Canola price	$/t	520	546	26	15,616	4
Canola yield	t/ha	2.0	2.1	0.1	15,616	5
Wool price	$/bale	1,200	1,260	60	11,642	6
Wool production	kg	37,234	39,096	1,862	11,642	7
Interest rates	%	8.5	8.075	0.425	11,050	8
Wheat price	$/ha	200	210	10	8,213	9
Wheat yield	t/ha	4.5	4.725	0.225	8,213	10
Bean yield	t/ha	3.8	3.99	0.19	7,529	11
Bean prices	$/t	250	262.5	12.5	7,529	12
Chemical costs	$	149,055	141,602	7,453	7,453	13
Permanent wages	$	124,600	118,370	6,230	6,230	14
Feed barley yield	t/ha	4.5	4.725	0.225	5,751	15
Feed barley prices	$/ha	180	189	9	5,751	16
Fertiliser costs	$	108,841	103,399	5,442	5,442	17
Living expenses	$	87,000	82,650	4,350	4,350	18
Malt barley price	$/t	200	210	10	3,623	19
Malt barley yield	t/ha	4.5	4.725	0.225	3,623	20
Machinery ownership cost	$	61,300	58,235	3,065	3,065	21
Chickpea price	$/t	250	262.5	12.5	1,875	22
Chickpea yield	t/ha	2.5	2.625	0.125	1,875	23
Fuel costs	$	35,000	33,250	1,750	1,750	24
Insurance	$	31,331	29,764	1,567	1,567	25
Repairs & maintenance	$	26,000	24,700	1,300	1,300	26
Livestock costs	$	25,335	24,068	1,267	1,267	27
Rates and taxes	$	22,500	21,375	1,125	1,125	28
Calving %	%	100	105	5	450	29
Vealer price	$/hd	450	472.5	23	405	30
Account fees	$	6,000	5,700	300	300	31

Source: P2PAgri Pty Ltd

Figure 7.1: Sensitivity analysis: effect on net farm profit (before tax) of a 5% change in value



Source: P2PAgri Pty Ltd

exchange rate movements have a direct impact on grain and wool prices, as these commodities are traded in $US in the international market. As exchange rate shifts have the greatest effect on profits, they have been ranked number 1 when compared to other factors.

The analysis shows those factors, in order of importance, that have the most influence on this business's profits. Study these results, as some of the rankings might surprise you, such as fuel costs only ranking at number 24 and accounting fees at 31. It puts into perspective the important factors affecting 'Upndowns Farm'. While this analysis is not specific to your farm, the relative **ranking** of your farm's risk factors would be similar to these results. The more important enterprises in your business would appear toward the top of the list.

It is also informative to view these results in a graph, as shown in Figure 7.1. Here production factors like yields are in light green, price related factors in orange and cost factors in **dark green**. It is interesting to note that the factors which have the greatest influence on profit are yields and prices. Interestingly, cost factors which focus on cash flow control, have a lesser impact on profit. These results highlight the sensitivity of profitability to both production levels and price.

This sensitivity analysis focuses on one thing at a time, yet its combined effects that have the biggest impact. It does indicate the greatest potential individual risks to this farm's profits, and therefore highlights where initial effort into risk management needs to be placed.

In reality, although highlighting some significant risks, this analysis proves to be too simplistic for the following reasons:

- Not all of these factors vary by 5% in a year. Some factors like yield and price, could vary by up to 100%, while cost factors are more in line with inflation at 2.5%. This means that production and price factors have a far greater impact on profits than the cost factors.
- Not all risks that affect farm profitability can be measured as easily as those shown in Table 7.1. For example the impact of divorce and partnership break-up on a farming business can be catastrophic, with the final effect difficult to determine prior to the event.

7.2 A RISK MANAGEMENT PROCESS

The topic of risk management started to become popular in the early 1990s when the influence of deregulation on the Australian economy became more apparent. The freeing up of the $A and interest rates created significant increased business risk. Deregulation of the wool industry and more recently the grains industry has also provided increased risk to farming business in Australia.

When considering risk management, differences in the following concepts need to be understood (Malcolm B. 2009):

- **Risk** – This is where the probability of occurrence is knowable. Prior experience with a risk means that the probabilities are understood. An example is the likelihood of drought occurring. Most regions of Australia have over 100 years of rainfall data, so the probability of drought occurring can be reasonably estimated. This could be expressed as drought occurring 2 years in 10.
- **Uncertainty** - This is where the probability of an event occurring is unknowable. A good example is the destructive earthquake experienced in Christchurch in 2011 when there was no prior knowledge of a destructive earthquake occurring in the area. Consequently, there was limited risk mitigation in place and the earthquake caused significant devastation.

An important principle in risk management is to focus on those events that have a knowable probability of occurring: we know it can occur and have some understanding of the likelihood of its occurrence. Effective risk management should focus on those events of which there is some prior knowledge.

To manage risks, follow the process below:

1. Identify sources of risk.
2. Measure the likelihood of that risk occurring.
3. Estimate the effect on profit and/or asset value over time in the event of that risk occurring.
4. Create a risk score and rate the risks.
5. Determine the strategies to be adopted to manage the major risks.

This process will lead you through thinking about all the risks facing your business, help you to rank the risks so that you focus only on the major risks, and then look at ways to manage those risks. You will not be able to manage all the risks in your business, but the aim is to manage those that could have the greatest impact on your business's ability to achieve your goals. Since most of your goals will probably be measured in terms of profits and assets, the likely impact of these risks will be measured against these financial indicators.

7.2.1 Identify sources of risk

In section **3.4.3, Bringing strategic thinking to management, Module 1,** risks were broadly defined as either business or financial risks. It is useful to fine tune these categories so that the full profile of risks is considered. The main risk categories are shown in Figure 7.2. Some of the categories concern risks within the business and others are risks that occur outside the business.

The seven categories of risk are:

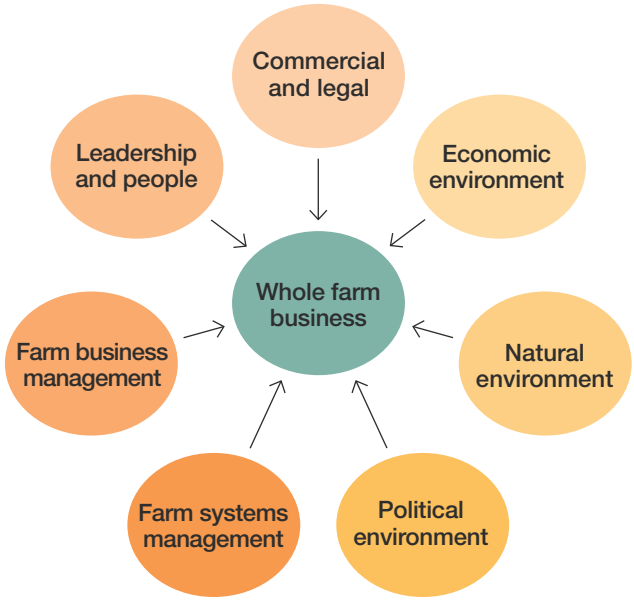
1. Commercial and legal relationships

This category covers any risk that occurs due to formal relationships from individuals through to institutions.

Contract and leasing arrangements – This includes contractual arrangements such as with banks where a mortgage has been arranged, an agreement with land owners where the land is leased or share farmed and the relationship with grain traders where contracts to deliver have been agreed. Failure to reach these obligations may result in substantial consequences and hence have risk.

Business structures – This includes the legal arrangements of a marriage or a partnership. If these break down, the consequences can be substantial, even catastrophic if the business needs to be wound-up.

Figure 7.2: Risk categories



Source: P2PAgri Pty Ltd

2. Economic environment (domestic and international)

The economic environment encompasses a broad range of factors, such as commodity markets through to the purchase of inputs. They are affected by supply and demand of commodities, money (lending) and inputs like fertilisers.

Exchange rates – The change in the $A/$US exchange rate has a direct impact on the farm gate price of exported commodities. Generally, a high $A/$US exchange rate means it is more difficult to export as prices are higher, but easier to import as prices of imported goods, such as machinery, are cheaper. The opposite occurs when the $A/$US is lower.

Interest rates – If your business equity is at 70% or below, the movement of interest rates can have a significant impact on the business. While interest rates have been historically low in recent years, the probability of them rising is high, resulting in potential risk to your business.

Market regulation/deregulation – Market deregulation usually means increased risk as prices respond to changes in demand and supply. With this increased risk comes increased opportunity, but the challenge is to manage this opportunity.

Marketing environment for products (supply and demand) – Generally all inputs to the farming business such as fuel, fertiliser and chemicals, are subject to the world's supply and demand for these products. Price shifts for these inputs can be significant, but it is the lack of supply for inputs such as chemicals to cover disease and pest outbreaks that can create significant risks.

Economic environment for inputs and services (supply and demand) – This topic covers the use of genetically modified organisms (GMO) and whether they are accepted by the market. There are both risks and uncertainty surrounding the use of GMOs, which makes the management of this risk very challenging.

3. Natural environmental

The variability of Australia's natural environment has always been a significant risk to farm businesses. In recent years, debate surrounding climate change itself has increased levels of uncertainty.

Weather events – The Australian climate is characterised by drought, frost, floods, windstorms, excessive rain, flood, low and high temperatures, tides and hail. These events all cause financial risk.

Fire – The effect of fire can be devastating.

Earthquakes – This risk is at low levels in Australia and its effect is mainly on infrastructure.

Biological pests and diseases – These risks can be significant and at times unpredictable.

Current environmental conditions – Each season has its own characteristics and the beginning of the season sometimes has no relationship to the end of the season. A good start to a season can actually increase risk if the season ends poorly or in drought as all the input costs have been committed.

4. Political environment

The Australian political environment is generally quite stable which helps reduce risks from political instability.

Government assistance – This relates to any government assistance available to farming businesses. It could be in the form of drought assistance, interest rate subsidies or subsidised training. The risk of these programs is that they can be stopped or changed with little warning.

Political environment of foreign countries – This continually provides risks to Australian agriculture as our industries often compete with subsidised international industries. As these subsidies tend to be stable and long-term, their effects are already built into the international commodity prices.

Government policy – This relates to government policies in areas such as live animal exports, biosecurity, financial arrangements with industry research bodies, federal and state government budgets, and import duties. If changed quickly, these can provide an element of risk.

Lobby groups – These groups can be particularly disruptive to specific rural industry groups. For example, People for the Ethical Treatment of Animals (PETA) campaign against chicken cage sizes, livestock slaughter in other countries and mulesing of sheep.

5. Farm systems management

The adoption of technology can provide significant improvements in labour, productivity and operational efficiency to the farming system. This could include Guidance Systems (GPS), mobile communication, telemetry, plant variety selection, fertiliser application and quality of livestock. However, failure of this technology can contribute significant risk to production.

Information provision – We live in an age where information is readily available, but the challenge is authenticity and accuracy. There are real risks in acting on misleading information. The use of professional advisers does not necessarily mean that risks are decreased. As a manager, you need to balance their advice against the goals of your business.

Information accessibility – This includes access to the internet, GPS and mobile communications. If this technology is not available in the rural community or is not reliable, it may add to business risks.

Equipment and machinery reliability – This risk is very real when mechanical break-downs occur in peak periods like seeding, spraying and harvesting.

Maintenance accessibility – One challenge of using improved technology generally is that when things go wrong, it can be more difficult to gain the specialist services needed for support. This can significantly increase risks associated with timeliness of operations on the farm.

6. Farm business management

Farm business managers face a wide range of demands on their time and management skills including compliance issues regarding chemical use, occupational health and safety standards and responsibilities to the Australian Taxation Office (ATO). As with financial and physical management, sometimes one of the biggest risks to a farm business is the quality of management.

Management's experience – With the decline of formal farm business education, it is more difficult for new entrants into agricultural businesses to gain knowledge and experience. This challenge, as well as advancements in technology, makes it difficult for managers to remain up-to-date and increases risk in the business.

Management's strategic and tactical skills – This section is covered in greater detail in section **4.2, The strategic planning process** and **4.3, The tactical planning process, Module 2**. Both strategic and tactical management skills are important in running a long-term business and their absence can add significant financial risk to the business.

Financial management systems – With the advent of quarterly GST, reporting has meant financial management systems need to be maintained in each farm business. There are legal obligations that come with reporting to the Australian Taxation Office (ATO), which does not come without risk. There are also risks associated with not managing the broader financial performance of the business and the associated risks are significant, especially if default on loans occurs.

Occupational health and safety – This is a significant risk to the farming business if machinery standards fall and infrastructure is not maintained. There are significant legal risks if accidents occur due to poor occupational health and safety standards.

Quality Management – If the quality of produce is not maintained to industry standards, significant financial risk can result.

Security – This risk relates to theft and arson, which can occur in a farming business.

7. Leadership and people

A challenge for all businesses, and farming is no exception, is the management of human resources in and outside the business. Risks occur as a result of poor communication, leadership or team work.

Owner/manager – The management skills of the owners and/or managers of the farming business are one of the most significant risks to the business, and may actually magnify other risks that exist. One strategy to help minimise this risk is to follow a 'balanced wheel' of life where breaks or holidays away from the business are taken.

People management – The heart of any farming business is the people involved with the business. If members of your team are not well managed or led, significant risks can occur.

› This issue was addressed in section **2, Leadership and people management, Module 1.**

Employees – Risks associated with employees can be broad. Some have been covered above in OHS. This area of risk focuses on how well the employees manage their own risks of being involved in the farming business. There is a 'two-way' responsibility of employer and employee and this should be encouraged by management to help manage employee risk.

Professional assistance – Professional advice is becoming more available to Australian farm businesses, such as from accountants, financial advisers, bankers, agronomists, livestock advisers and farm business management advisers. Advice from these professionals can help manage risk but may also increase risk. To minimise the risk of poor advice, managers of the business need to communicate their key questions to advisers as clearly as possible and then be able to understand and implement the advice.

These seven areas of risk provide a list to identify and rank risks to your own farm business.

7.2.2 Measure the likely occurrence of risks

Essential to assessing each risk is to rate the likelihood of it occurring. If a risk has some historic measurement, these records can be used to assess the likelihood of occurrence. For example, when assessing the risk of drought for 'Upndowns Farm' in a medium to high rainfall area, records may indicate a 1 in 10 year drought, or a 10% probability. However, other risks like the incidence of divorce in the farming family would be very hard to quantify. It could occur but may have never occurred before, so it is difficult to assign a probability. In this case, the likelihood could be described as 'unlikely'. Although this measure is subjective, it can provide a likelihood 'score' as shown by the scale provided in Table 7.2.

Table 7.2: Likelihood of occurrence

Description	Rating
Rare	1
Unlikely	2
Moderate	3
Likely	4
Almost certain	5

Source: P2PAgri Pty Ltd

Each risk can be assigned a likelihood score, from 1 being 'Rare' through to 'Almost certain' having a score of 5. The 10% probability of drought for 'Upndowns Farm' could be rated as 'Unlikely', so has a score of 2.

7.2.3 Estimate the impact of risks

The next part of the process is to assess the effect on profit and/or asset value over time if a risk were to occur. Using the 'Upndowns farm' again, the estimated net farm profit (before tax) is estimated to fall from $350,334 in an average season to $133,900 in drought conditions. This is a decrease of about $216,400, or 61.8%. While significant, the business remains viable, indicating it can manage the financial challenge of one drought. The impact of drought on this business could therefore be classed as 'moderate'.

Table 7.3 shows that the impact of a risk can be expressed as 'Insignificant' with a score of 1, through to 'Catastrophic' which has a score of 5. This impact score is also subjectively applied, but in most cases, this is the only option when determining the impact of a risk.

Table 7.3: Impact of a risk

Description	Rating
Insignificant	1
Minor	2
Moderate	3
Major	4
Catastrophic	5

Source: P2PAgri Pty Ltd

Two things to keep in mind when scoring the risks faced by your business:

- **Level of impact** – When viewing these impact scores, rate them relative to the impact they would have on the cash flow, profits and equity. 'Catastrophic' means the business would be deemed as no longer viable, so this is the ultimate impact. For example, the divorce of the business owners could result in assets needing to be halved. In most farm businesses, this would mean the business would not survive. 'Insignificant' means the impact of the risk would be virtually unnoticeable. For example, if interest rates increased and the business had 100% equity, there would be negligible financial impact.
- **Current risk management strategies in place** – Some of the risks to your business will already have a risk management strategy in place. For example, the effect of fire damage to a standing wheat crop can be covered by crop insurance. If a fire damages the wheat crop, the insurance is triggered and the insurance pay-out covers the financial loss. In this case, the financial impact of the fire would be 'Insignificant'. When considering each risk, keep in mind the current risk management strategies that are already in place.

7.2.4 Create a risk score and rate the risks

The next step is to use the risk assessment matrix in Table 7.4 to rate and rank the risks. The risk scoring system uses the following formula:

Likelihood score x Impact score = Risk score

Using 'Upndowns Farm' and the risk of drought, the risk score would be 6:

2 x 3 = 6

Table 7.4 shows the risk matrix completed for 'Upndowns Farm', with strategies outlining actions needed to minimise each major risk.

Table 7.4: Risk matrix completed for 'Upndowns Farm'

Risk categories			Impact	Likelihood	Risk index	Ranking	Strategy
1. Commercial and legal relationships	1. Contracts and leasing arrangements	a. land leasing					
		b. machinery leasing	2	1	2		Read and understand the agreement
		c. share farming	3	4	12	4	Negotiate longer agreement
		d. contract to supply	4	3	12	2	Look at contracts other than physical
		e. employment contracts					
		f. bank mortgages	4	2	8		Keep bank better informed
		g. other agreements					
	2. Business structures	a. partnership	5	2	10		Have holidays and more family time
		b. company					
		c. trusts	2	2	4		Question the accountant about trust arrangement
2. Economic environment	1. Exchange rates	a. exchange rates	4	2	8		Monitor
	2. Interest rates	a. interest rates	3	2	6		Consider more fixed interest rates
	3. Marketing environment/deregulation	a. regulation					
		d. deregulation	3	2	6		Monitor selling choices
	4. Marketing environment for products	a. prices	4	3	12	3	Monitor grain selling plan
		b. supply situation	4	3	12	10	Monitor
		c. quality issues (QA)	2	2	4		Understand the changing QA environment
		d. competitors					
		e. substitutes					
		f. stability					
	5. Environment for inputs and services	a. prices					
		b. supply situation	2	2	4		Understand supply issues for fertiliser and chemicals
		c. quality issues (QA)					
		d. competitors					
		e. substitute					
		f. stability					

Risk categories			Impact	Likelihood	Risk index	Ranking	Strategy
3. Natural environment	1. Weather events	a. low rainfall & drought	3	2	6		Assess strategies to include more livestock in the system
		b. frost	4	3	12	9	Spread cropping program
		c. flood					
		d. hail	3	1	3		
		e. windstorm	4	1	4		Improve monitoring of weather forecasts
		f. extreme temperatures					
		g. excessive rain	4	2	8		Assess use of more gypsum
		h. high tides					
	2. Fire	a. assets	2	2	4		Check insurances
		b. crop/livestock	1	2	2		Check insurances
	3. Earthquake	a. earthquake					
	4. Biological	a. pests - crops	3	2	6		IPM (integrated pest management)
		b. pests - livestock	2	1	2		Improve monitoring of stock
		c. diseases - crops	3	2	6		IPM management
		d. diseases - livestock	2	1	2		Improve monitoring of stock
	5. Current environmental conditions	a. salinity					
		b. erosion					
		c. water table	2	2	4		Monitor water quality and table changes
		d. soil suitability					
4. Political environment	1. Government assistance	a. natural disaster relief					
		b. financial assistance					
	2. Foreign country political environment	a. suppliers	3	2	6		Assess forward purchase
		b. buyers					
	3. Domestic government policy	a. taxation and levies	2	2	4		Manage with accountant
		b. fiscal policy	2	3	6		Manage with banker
		c. monetary policy					
	4. Lobby groups	a. environmental					
		b. animal welfare	2	2	4		Pay industry levies
		c. land rights					

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Table 7.4: Risk matrix completed for 'Upndowns Farm' cont.

Risk categories			Impact	Likelihood	Risk index	Ranking	Strategy
5. Farm systems management	1. Information provision	a. professional	3	2	6		Attend relevant workshops
		b. public domain					
	2. Information accessibility	a. professional	3	2	6		Source improved FBM advice
		b. public domain					
	3. Equipment & machinery reliability	a. machinery	3	3	9		Maintenance program
		b. fixed structures	2	1	2		Maintenance program
		c. electrical/electronic equipment					
	4. Maintenance accessibility	a. machinery					
		b. fixed structures					
		c. electrical/electronic equipment					
6. Farm business management	1. Management	a. experience					
		b. strategic	3	4	12	7	Organise an advisory board
		c. tactical	3	4	12	8	Work with agronomist
		d. financial	3	4	12	5	Organise an advisory board
	2. Occupational health and safety	a. electrical					
		b. gas					
		c. mechanical (standing)					
		d. mechanical (moving)					
		e. mechanical (power tools)	3	2	6		OH&S practices
		f. chemical	3	2	6		OH&S practices
		g. fixed structures					
	3. Quality management	a. quality procedures					
		b. quality standards					
	4. Security	a. theft	2	2	4		Check insurance wording
		b. arson	2	1	2		Check insurance wording

Risk categories			Impact	Likelihood	Risk index	Ranking	Strategy
7. Leadership and people	1. Owner / operator	a. personal expenditure	3	3	9		Budget personal expenditure
		b. family relationships	5	2	10		Plan quality family and couple time
		c. personal goals	4	1	4		Revise goals regularly
		d. other income					
		e. succession planning	3	5	15	1	Start succession planning process
		f. people management internal	4	3	12	6	Attend people management workshops
		g. people management external	2	2	4		Regular communication with accountant and banker
	2. Employees and contractors						
	3. Professional assistance	a. accountants	2	1	2		Review accountant responsibilities
		b. bankers	4	2	8		Have biannual bank meetings
		c. advisers (financial and physical)	3	2	6		Develop practical questions
	4. Other off-farm personnel income						

A template to complete this risk assessment can be downloaded at: **www.grdc.com.au/FBMtemplate-RiskManagementAssessment**

Source: P2PAgri Pty Ltd

Table 7.5: Major risks and strategies for 'Upndowns Farm'

Risk categories			Impact	Likeli-hood	Risk index	Ranking	Strategy
1. Commercial and legal relationships	1. Contracts and leasing arrangements	c. share farming	3	4	12	4	Negotiate longer agreement
		d. contract to supply	4	3	12	2	Look at grain supply contracts
2. Economic environment	4. Marketing environment for products	a. prices	4	3	12	3	Monitor grain selling plan
		b. supply situation	4	3	12	10	Monitor
3. Natural environment	1. Weather events	b. frost	4	3	12	9	Spread cropping program
6. Farm business management	1. Management	b. strategic	3	4	12	7	Organise an advisory board
		c. technical	3	4	12	8	Work with agronomist
		d. financial	3	4	12	5	Organise an advisory board
7. Leadership and people	1. Owner / operator	e. succession planning	3	5	15	1	Start succession plan process
		f. people management internal	4	3	12	6	Attend people management workshops

Source: P2PAgri Pty Ltd

Once the risk matrix has been completed, select the risks with the highest scores and focus the risk management plan in these areas. The strategies used for 'Upndowns Farm' risk management plan are listed in Table 7.5. The succession planning risk has been identified as the biggest risk to this farm.

7.2.5 Develop strategies to manage risks

The business focus should now be on developing strategies as part of the business risks management plan. Possible risk management strategies are listed in Table 7.6. However, your farm and its management skills are unique, so the development of a risk management plan will be unique to your business.

This risk management plan should be reviewed annually as circumstances will change and the plan should respond to these changes.

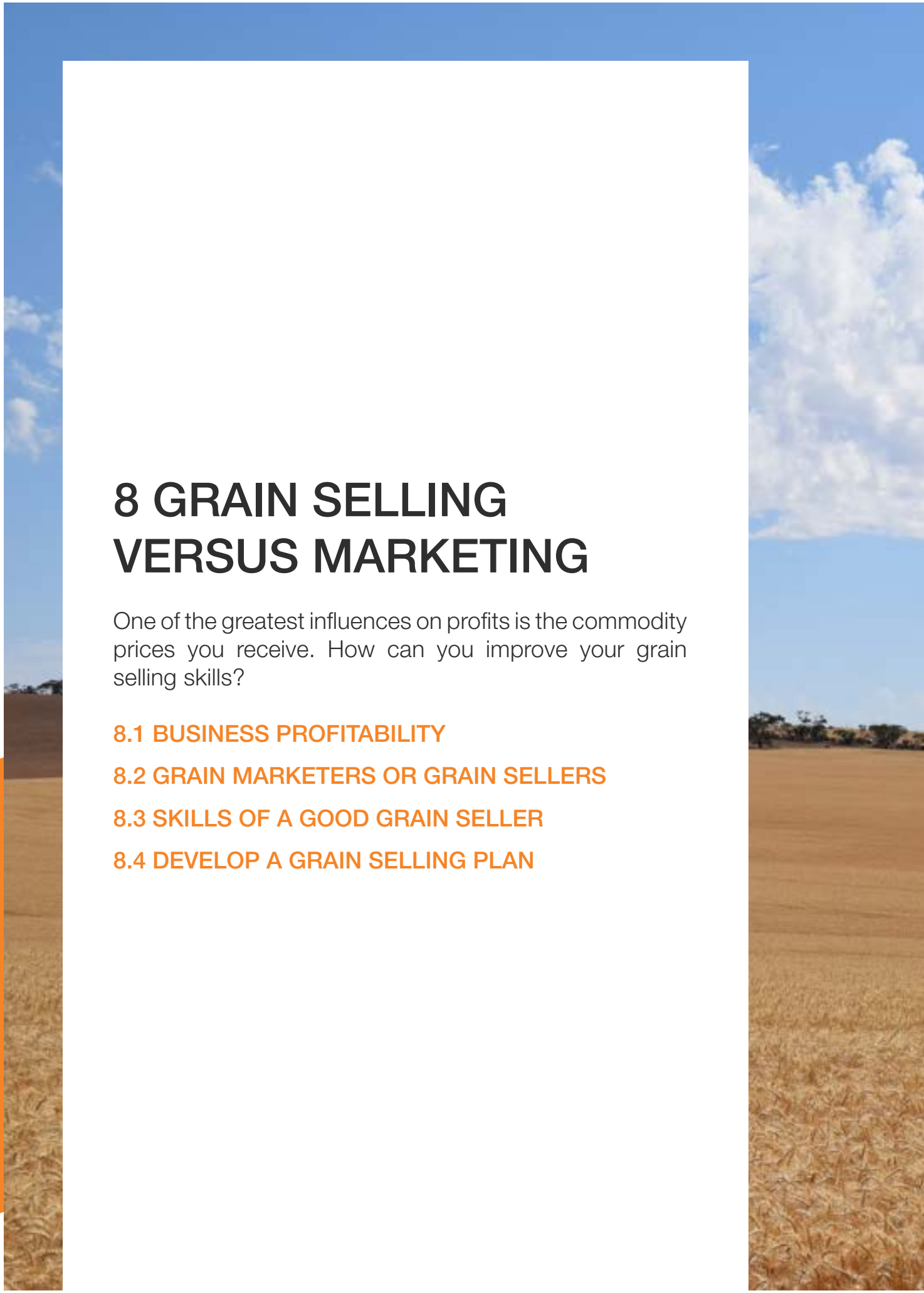
Action points

- Undertake a risk assessment of your farming business and list the 10 biggest risks that require improved risk management.
- Complete an action list of the risk management strategies you will implement over the next 12 months.
- Re-evaluate risk management strategies yearly.
- Download a risk assessment template at: **www.grdc.com.au/FBMtemplate-RiskManagementAssessment**

Table 7.6: Possible risk management strategies

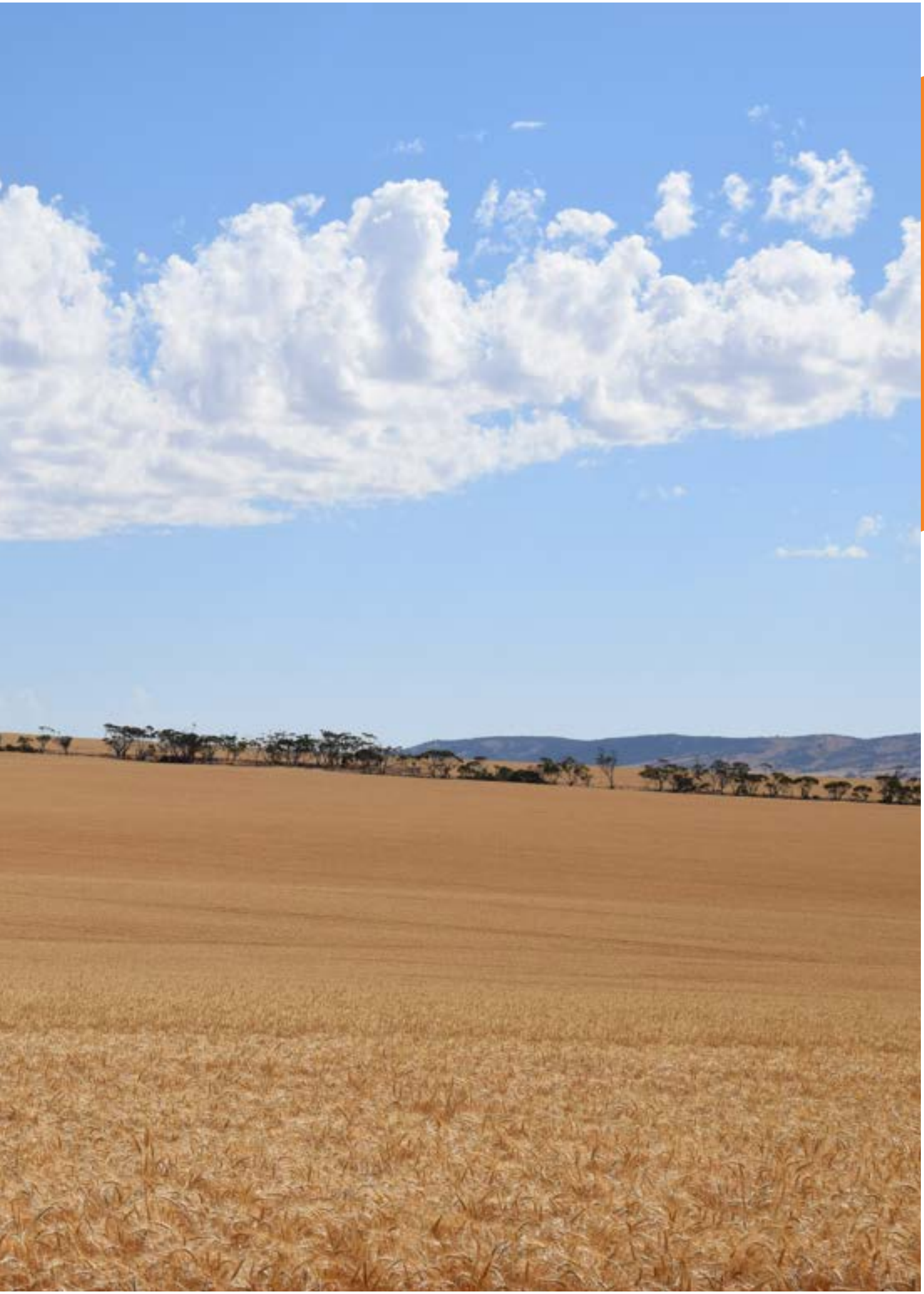
Risk categories	Risk management strategies
Commercial and legal relationships	• Fully read and understand any contract before signing • Re-structure debt if required • Use legal advice before agreeing to any contract • Maintain good communication with any party with whom you have legal and contractual arrangements • Have a written agreement for land lease and share farming
Economic environment	• Subscribe to market reporting and indicator services • Attend relevant seminars, discussion groups and conferences • Monitor market trends • Consider value adding products • Diversify with off-farm enterprises • Consider marketing contracts and continuity of supply • Improve quality control as best quality sells • Consider forward selling contracts • Have storage to diversify markets and service alternate end users • Set trigger prices for forward selling • Consider seasonal price fluctuations • Use the various interest rate products offered by the banks • Obtain independent marketing information • Sell to domestic markets
Natural environment	• Use crop monitoring • Use agronomic advice to ensure herbicide weed resistance is managed • Select rotations with break crops • Balance the advantages and disadvantages of burning or not burning • Use seed dressing and cleaning • Use certified seed • Use correct livestock management for health care • Be aware of land suitability issues • Use an agronomist for advice • Conduct your own trials within your farming program
Political environment	• Contribute to an industry lobbying organisation • Consult with your sitting member of parliament
Farm systems management	• Use Insurance and assurance policies • Have a proactive repairs and maintenance program • Have a network of service support people • Be aware of emerging technologies • Monitor GRDC conferences and website
Farm business management	• Monitor gross margins • Have a yearly financial monitoring system of cash flow, profit and loss, and balance sheet • Use a professional farm business management adviser • Attend professional seminars to improve knowledge • Use an advisory board • Brief accountant on their expected role
Leadership and people	• Schedule holidays • Have a succession plan • Develop a vision and mission statement for the business • Utilise superannuation • Use a professional financial planner • Attend people management courses • Develop job descriptions • Provide regular staff reviews

Source: P2PAgri Pty Ltd



8 GRAIN SELLING VERSUS MARKETING

One of the greatest influences on profits is the commodity prices you receive. How can you improve your grain selling skills?



8 GRAIN SELLING VERSUS MARKETING

One of the most important drivers of farm business profit is the price that commodities achieve each season. Farmers need a number of skills to achieve good prices, but are these skills in grain marketing or grain selling? Marketing involves a range of activities whereas selling refers to obtaining a price.

KEY POINTS

- Most grain producers are sellers, not marketers.
- Know your cost of production to determine your target sale price.
- Know your strategies for grain selling.
- Volatility in price is good for grain selling.

8.1 BUSINESS PROFITABILITY

Put simply, the equation for farm profit is:

(Production x Prices) – Costs = Profit

This equation might seem to imply that price received and levels of production have equally important roles in determining profit. In reality, seasonal variability has a greater impact on profits than does price variability. A survey by PlanFarm, a farmer benchmarking service in WA, indicates that production variation accounted for almost all the profit variability in farmer results. Dr Ross Kingwell (Dept. Ag WA) (per com), clarified this difference as 70% of profit impact coming from productivity variations and 30% from price variations, as in recent times there had been a significant increase in price volatility. Management of production clearly has a greater impact than price. However, it is worthwhile for managers to put significant effort into both the sale of grain as well as its production in order to generate reliable profits.

Regardless, farmers often find it easier to focus on production rather than selling. This preference could be the result of recent market deregulation giving rise to more buyers and greater choice in the market, making this aspect of the farming business more complicated and confusing than previously. It could also be that in the recent past, the existence of the Australian Wheat Board (AWB) as a single desk seller provided Australian farmers with well-performing grain pools. All that farmers had to do was deliver to the pool. Or it may be that it is easier to see production happening in the paddock than to 'see' selling happening on the computer or phone. Whatever your preference or history with grain selling, improved grain selling skills can lead to improved business performance. The key is to allocate effort and resources, principally your time, in a balanced way.

8.2 GRAIN MARKETERS OR GRAIN SELLERS

People in the grains industry freely use the phrase 'grain marketing'. This implies the need to use marketing skills to sell grain, which is generally not the case. Marketing implies that you have a product that needs to be packaged in a certain way, promoted to the market and priced in such a way that it will sell. A good example of a product needing marketing in agriculture is stud rams. To be marketed, these products require:

- **Promotion** – Important information about the benefits of the product needs to be advertised to the market to attract buyers. For example, a sheep stud will advertise the benefits of the various traits being bred into its stud rams.
- **Positioning** – This is about where the product sits in the market relative to quality and price. In the stud sheep industry, presenting rams at sheep competitions and gaining prizes greatly assists with reputation building and demonstrating quality.
- **Packaging** – How is the product to be presented and packaged? Again, ram sales are a good example where every effort is made to present the animal. Grooming and supplementary feeding help to present stock in excellent condition.
- **People** – Often 'word of mouth' helps spread the reputation of a product. If you respect someone's opinion and they say how good the product is, then you are more than likely to also purchase that product.
- **Pricing** – The marketer often sets the price for the product and they may have some market power or a very good reputation. For example, a ram from a reputable stud could sell for $5,000/hd, where other studs may only achieve $1,000/hd for their rams.

The marketing of stud rams requires skills that address the aspects listed above. However, when selling a bulk commodity like grain, you do not need to address these wider marketing aspects as the bulk commodity market place is very different.

In selling a bulk commodity with limited ability to differentiate your product, such as grain, fruit, vegetables and minerals, prices are set by both the supply and demand in the market place at a particular point in time. Generally, producers of these bulk commodities can only sell at the price set by the market place. There are few examples where farmers have differentiated their grain to attract a higher price. One good example is Kangaroo Island Pure Grain, which has achieved higher canola prices by exporting to Japan. Being 22km from the mainland by sea allows them to guarantee that their grain contains no genetically modified material and has been grown with minimal chemical input. This helps Kangaroo Island Pure Grain achieve a premium price for their product.

However, the vast majority of Australia's grain has little differentiation for the bulk commodity market, which means farmers have no influence over the market price for their grain. Sellers of bulk commodities are generally price takers. While they do not influence the market, they can search for higher prices on offer (over the season or even during a day) by choosing when to sell, who to sell to and what pricing mechanism to use.

Given this observation, grain producers are **grain sellers**, not grain marketers, and as such require skills in price discovery.

8.3 SKILLS OF A GOOD GRAIN SELLER

Grain market deregulation has caused fundamental change in the grains industry, resulting in a significant increase in the number of ways grain can be sold. There is now a two-year window of opportunity to sell grain via forward selling well before harvest to selling grain well after harvest out of storage. As grain prices do fluctuate widely (refer to Figure 8.1) it provides grain sellers with the potential opportunity of taking advantage of prices when they are high and not selling when prices are low. These decisions are also made depending on the cash flow needs of the business.

What strategies do farmers have to maximise profitability?

With little ability to influence the market price for their product, individual grain producers must look to other strategies to increase their farm business profitability. Consider again the equation for profit:

(Production x Prices) - Expenses = Profit

As producers, farmers can affect their profitability at one of three points: production, cost or price.

As **grain sellers**, what are the crucial skills needed at each of these stages?

'Steve: **'I've lived in the one house all my life – the biggest move I had is from one room to another. I left school at 16 and I've been farming ever since.'**

Lhot: **'I grew up in Manilla, Philippines - about 10 million people. I am a city girl, no farming background at all. I said 'If I have to work here and stay on the farm, I need a computer 'cause I love bookwork. It took me a while - maybe I attended more than 10 grain marketing courses for me to understand what it is about. My principle is, if I don't know, I'll ask questions, and I'll try to learn it myself, so at least I will understand what is going on.'**

Steve: **'For me as a farmer, I'll plan what I've got to grow in the ground and hope to produce something good. And for Lhot, her plan is to market that stuff so we work together well as partners. A lot of farmers they think about growing their crops, but they don't think about marketing.'**

Lhot: **'I'll try to have a combination of marketing options. We use 25% futures and swaps, then 25% of our production will be a physical contract. 25% will be during the harvest and 25% post-harvest.'**

Steve: **'Going down to the silos, you get to talk to other 'cockies' and see what grain's around and see what prices are posted at the silo. I get back to Lhot and say, 'There's a lot of this type of grain around, we'd better sell it.'**

Lhot: **'I review it all the time. When there is something happening, let's say in America, and there's a drought there or an over-supply, or there's something's happening here in Australia, sometimes I review our finances and spreadsheets once or twice a week. It's a risky business, farming. But we pray a lot. Sometimes it also affects the relationship when you have stress and we have to learn to work it out. It's not a perfect marriage or a perfect farm, but I think we have to learn to be supportive of each other.'**

Steve and Lhot Martin,
'Comfromabov', Minlaton, SA

Figure 8.1: Variation in Australian wheat prices over the last decade

Source: www.indexmundi.com

> **'We probably forward sell 50% of our crop and the rest we sell after harvest. I've got a really simple system: if sorghum's below $200, we don't sell anything; if it's $250 we sell some; if it gets to $300 we sell the lot. If the price is no good, we'll probably leave it in silos until we find a good price.'**
>
> Brian Gregg, 'Kolora', 'Emerald', Qld

1. Know how much you have to sell

This is one of the major challenges when it comes to selling grain, as farmers can now sell grain up to two years before and one year after harvest - a three-year window for selling. Looking at your property's historic grain production is a good start to estimating production at the beginning of the season. However, actual production is dependent on the area planted and the type of season experienced. There are serious risks involved in selling more grain forward or on futures markets than is actually produced when it is harvested at a later date.

2. Know your cost of grain production

Information about the various types of costs of producing grain, and the different time frames these costs relate to, is valuable information that is specific to each farming business. Refer to section **5.2.6, Cost of Production, Module 2** on how to calculate your cost of production. The cost of producing a tonne of grain is sensitive to seasonal conditions and the total amount of grain produced. A high production season will lead to a low cost of production per tonne, as there are more tonnes over which to spread the fixed and variable costs. The opposite occurs in a poor production season. However, it is important to know the range of your costs of production, so that when sales are made, profits are also being made. Having a 'target price' strategy that has a profit margin built into it enables the business to achieve profits.

Table 8.1: Wheat price deciles (June 2003 – June 2013)

	APW MG Wheat ($/t)
Highest on Record	$420
Decile 9	$352
Decile 8	$309
Decile 7	$292
Decile 6	$256
Decile 5	$230
Decile 4	$212
Decile 3	$191
Decile 2	$170
Decile 1	$156
Lowest on Record	$146
Average	$241

Source: Rural Directions P/L

Table 8.2: Choices for selling grain

Forward selling	• **Physical contracts** – This could be a physical forward sale where a contract for the amount of grain and price are agreed. The grain is then delivered at harvest to fulfil the contract. There is a risk that more production is contracted than is actually produced and so grain is needed to be purchased to fulfil the contract. • **Swaps** – In the grain futures market, either futures contracts or options are used to secure a price well before harvest. Most major banks provide these services and they are called 'swaps'. This type of market instrument works like a form of insurance for prices, as the grain is still delivered to the local authorities. Contact your bank for more information.
At harvest	• **Cash** – Sell grain for cash to brokers at harvest. Payment generally occurs within 30 days of delivery. • **Grain pools** – Sell to an industry grain pool where the pooled grain is sold over a period of time and the average price is returned to the producer. This will have cash flow ramifications, as grain pools take some months before all payments are made.
After harvest	• **Store in the industry silo system** – Deliver the grain to the silo system and sell the grain sometime after harvest. This option for grain storage is generally available for 8 months after delivery. There is a cost for storage. • **Store on farm** – Store the grain on farm in storage infrastructure owned by the farm. This grain can be sold later. There is no time limit for storage, although the responsibility to maintain grain quality rests with the farmer.

Source: P2PAgri Pty Ltd

3. Know the market

It is critically important to be informed about the market and its price movements. Information about up-to-date grain prices is readily available, with numerous electronic services providing timely information. While it is difficult to predict future highs and lows of the market in any selling season, some guide can be gained from historic price movements, as shown by the ASW Wheat Price Deciles in Table 8.1. This table gives an indication of both high and low prices and the deciles provide an understanding of the range of prices over a range of different historical conditions. For example, the Decile 5 price of $230/t means that 50% of the last 10 years ASW wheat prices were below this level, so this price is near average. The Decile 9 price of $352/t means that 90% of the ASW prices in the last ten years were below this price.

The last ten years of market data can be used as a guide to high or low prices in the market. Obviously, it is good to sell when the market is in a high position.

4. Know the various opportunities you have to sell grain

One of the most significant challenges for farmers is to understand the numerous choices they have for the method and timing of selling grain, and select the appropriate choice when the opportunity arises. Table 8.2 provides a broad description of the major choices available, but further research from the grain selling industry is recommended.

As previously stated, farmers can sell wheat and other grains from about 24 months before harvest to 12 months after harvest, which means there are approximately three years of price movements from which to choose grain prices that best suit the desired target prices of the business. The challenge is in having the nerve to balance the price with the ability to deliver and the cost of storage.

5. Know the risks

Price risk management is where the risk of price variations is managed. These are best managed using the range of wheat selling choices available (Table 8.2). However, some of the greatest risks can come from not fully understanding how some of these grain selling choices operate. An example of this was when a large number of farmers started using forward contracts a few years ago. The dry spring greatly reduced their production and they found themselves short of the tonnes needed to fulfil their contracts. At the same time, the grain price rose and so going out at harvest and buying the necessary grain to fulfil their contract shortfall cost them additional money for which they had not budgeted. This cost some grain farmers the significant amount of over $100,000. When they thought they were managing their risk, they actually increased it. Yield risk matters as well as price risk.

Risks associated with grain selling include:

- **Solvency of the buyer** – Solvency means the financial viability of the grain trader or broker you are dealing with. There are always instances of grain brokers going into liquidation leaving farmers with significant losses from unpaid grain payments. To gain some understanding of a grain trader's credit rating, contact your bank or local farmer organisations for information. More information can be found in 'Grain Contracts – Counterparty Risk' (**www.graintrade.org.au/fact_sheets**).

- **Contract risk** – When you enter into a contract at any time, you need to understand your obligation if things go wrong, as a contract is a legal document. This could include issues such as an inability to supply both the quality and quantity of grain due to seasonal challenges. You need to know who is liable for this and if there is any account taken of the season.

Some farmers pay grain selling advisers to assist with their grain selling, as this can be a technical area requiring specific knowledge.

8.4 DEVELOP A GRAIN SELLING PLAN

It is a good idea to have a grain selling plan, to separate the emotion from the logic of making a decision. Some of the strategies available to farmers include:

- **Chase the market and aim to sell at the highest price** – An expert can be hired to assist with keeping an eye on both the current and future markets, and advise when it is best to sell. The challenge here is that even the experts find it difficult to predict market price shifts as these could be due to unpredictable adverse weather conditions such as flood, fire and poor rainfall occurring in other grain producing countries.
- **Sell for cash at harvest only** – All the grain is to be sold at harvest right off the header, as it is only then that the total production is known. Sometimes harvest prices can be good and at other times they are poor. This strategy means you are at the mercy of the market at harvest.
- **Sell to grain pools only** – Traditionally, most farmers have sold to grain pools, especially when the Australian Wheat Board (AWB) had the ability to trade forward grain prices. This form of selling resulted in prices being averaged over a period of time. Grain pools in the current market do not have the old AWB advantage of forward selling, so tend not to perform as well. This form of selling means growers need to be happy that full payment may not be received for some months.
- **Sell 33%:33%:33%** – This is where a third of the crop is sold using forward selling methods, a third is sold for cash at harvest, and a third is stored and sold some time after harvest. This is another form of averaging or hedging, allowing the grower to have control of the timing of grain sales, and to hopefully achieve 'higher than average' prices.
- **Sell 50%:50%** – Similar to the method above, except 50% is sold at various times prior to harvest and 50% is stored to be sold at various times after harvest. No cash sales are made at harvest - it is a busy period on the farm and this is the time of the year when most of Australia's grain gets sold, so prices may not be the best. This is another attempt at achieving results higher than the industry average.
- Any **variation or combination** of the above strategies.

Some questions you may have:

How do I know if the grain broker I use is good at the service they provide?

The answer to this question lies in the quality of service and trust. Also, you need to be clear as to what services you require. For example, this may include regular market up-dates, personal and clear commentary on what is affecting the market and what is expected in the future, and/or someone who understands the risks of selling and can advise on the best strategies. Once you have this list, a good source of information comes from other farmers' experiences, so ring around and do your research.

Is using a grain broker worth the investment?

This is a difficult question as it requires you to estimate what grain net income you would have achieved using your own grain selling skills versus what may be achieved using professional advice and then compare the results. The difficulty is that you will not know this before the season and it takes discipline to record what you would have done without the professional as the season unfolds.

Another test is to ask yourself whether you are going to put in the effort needed to study the market throughout the year and to know what each selling choice is offering as the season unfolds. If you are not willing to put in the necessary time, then perhaps professional advice will provide you with additional income to cover its cost.

Is there one marketing plan that stands out better than others?

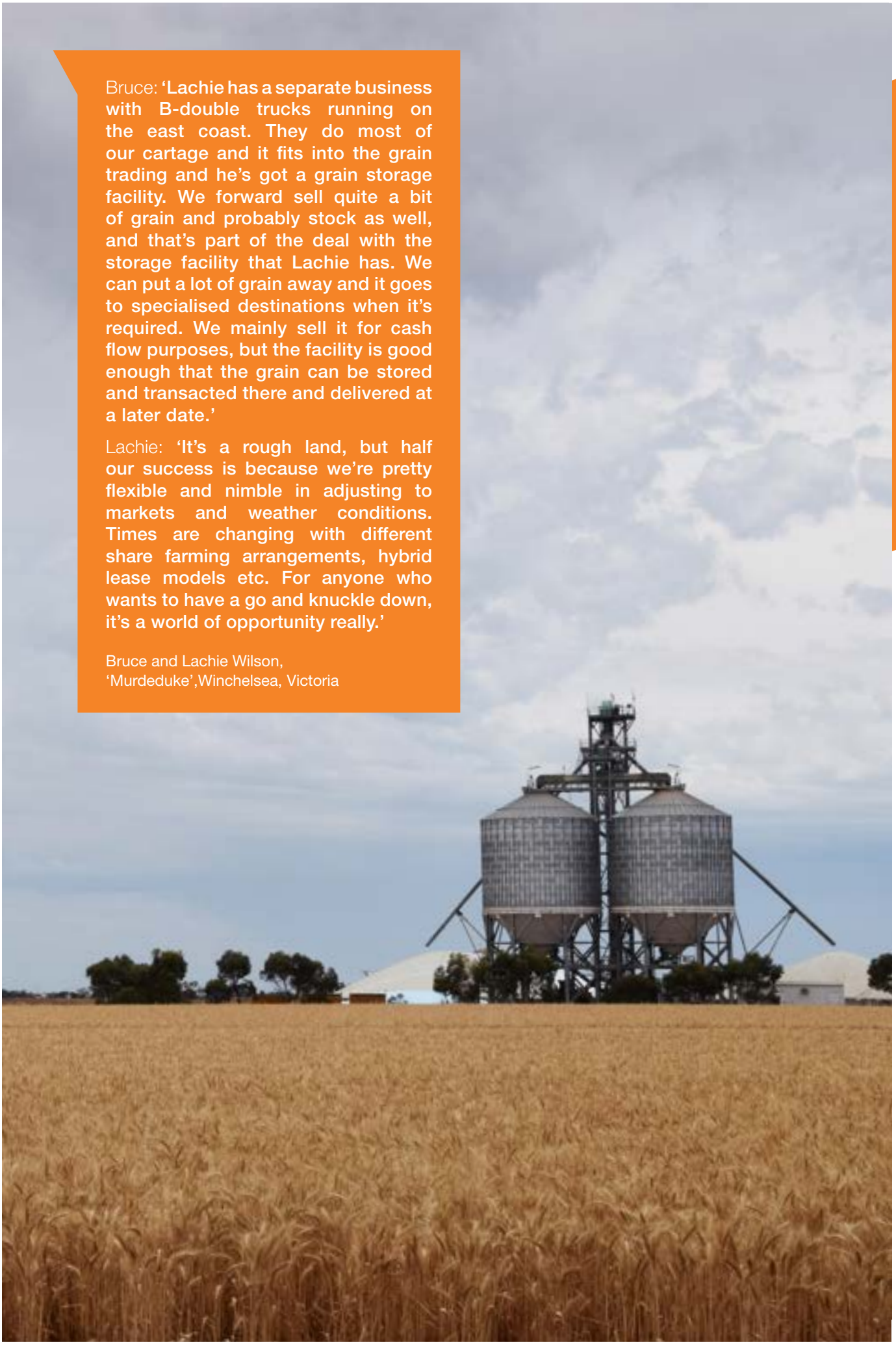
You would think one particular plan would work best as the international market operates within the seasonal cycles of both the timing of the northern and southern hemispheres harvests. However, this is interrupted by significant world climate events that affect this production cycle. So a plan that is good one year will probably not be the best in the following year. The best marketing plan is to aim to achieve an 'above average' price by using marketing information and observing the prices being offered by the range of choices available and comparing this to your costs of production. It is a bit like playing cards, as you know the rules and need to play each season on its merits.

Are there rewards for improving your knowledge of grain selling?

Again, this is difficult to answer but it largely depends on how much time and effort you are willing to put in to understanding all the sell choices, selecting a plan and then having the discipline to implement the plan. Farmers who have put in this effort have reported significantly improved profits, but it depends largely on the desires of each individual farmer.

Action points

- Make a considered decision at the beginning of the season on how you will sell your grain and develop a grain selling plan.
- If you do not have the necessary knowledge, either attend training or hire a professional grain seller.
- Monitor your grain selling performance each season.



Bruce: **'Lachie has a separate business with B-double trucks running on the east coast. They do most of our cartage and it fits into the grain trading and he's got a grain storage facility. We forward sell quite a bit of grain and probably stock as well, and that's part of the deal with the storage facility that Lachie has. We can put a lot of grain away and it goes to specialised destinations when it's required. We mainly sell it for cash flow purposes, but the facility is good enough that the grain can be stored and transacted there and delivered at a later date.'**

Lachie: **'It's a rough land, but half our success is because we're pretty flexible and nimble in adjusting to markets and weather conditions. Times are changing with different share farming arrangements, hybrid lease models etc. For anyone who wants to have a go and knuckle down, it's a world of opportunity really.'**

Bruce and Lachie Wilson,
'Murdeduke',Winchelsea, Victoria

9 POSSIBLE BUSINESS MODELS AND ASSOCIATED STRATEGIES

Are there alternate ways of operating farming businesses to better manage these pressures for improved sustainability into the future?

9 POSSIBLE BUSINESS MODELS AND ASSOCIATED STRATEGIES

Traditional family farm businesses in Australia are facing increased pressure to remain viable due to the challenges of increasing climate risk, volatile market prices and rising costs.

KEY POINTS

- The traditional family farm business model is not the only viable ownership and management structure available to farmers.
- Business models that have worked in the past may not be your best option for the future.
- Changing sources of capital and ownership structure, such as leasing extra land to improve efficiency, may significantly improve your overall business performance.
- Alternate models to the traditional family farm include collaborative and corporate farming.

As a result of these pressures, the number of farmers and farm business has declined steadily over time, with owners of small unprofitable farm businesses selling up to profitable farming operations. According to 'Australian Social Trends', published by the Australian Bureau of Statistics in 2012, in the 30 years to 2011, the number of farmers in Australia declined by 40%, or approximately 13% annually. This structural change follows growth in the economy at the same time as a decline in the contribution that agriculture makes to the Gross Domestic Product (GDP), a phenomenon seen in all developed economies. One challenge for Australian farmers confronting volatility of weather and markets, competition for land, labour and capital, and the continuing cost-price squeeze, is to consider whether there are innovative ownership and management approaches that may better equip them and their farm business to maintain profitability.

Traditionally, family farms in Australia have been characterised by the family business owning all the assets, taking on all the liabilities, selecting and managing the enterprises, and taking the full reward in profits or losses and capital growth. This 'business model' has served Australian agriculture well since its inception over 200 years ago, proving to be highly durable and able to cope with volatile conditions, with the result that the vast majority of farm businesses in Australia remain family owned and operated. However, significant increases in land values over the last 20 years, as well as declining terms of trade over the same period, have made it difficult to contain costs of production and maintain profit.

Rethinking management methods and business models can help maintain and improve efficiencies and profit. It is useful to challenge your business management thinking, as the economy and production environment continually change, but the fundamental need for positive cash flow, sound profitability and wealth creation remain the same. You have been introduced to farm management thinking and budgeting throughout this manual. Use these tools to test other business models and determine if another business model better suits your farming future. One strategy to improve efficiencies of scale without the need for huge capital input has been the trend toward leasing and share farming land. This is addressed in greater detail at the end of this section.

This section looks at different business models currently used in farming as options to expand and maintain a sustainable farming business. The focus of this section is on business models rather than the various legal structures of trusts, companies and partnerships, structures often used by accountants to assist farm businesses in managing tax and succession issues.

9.1 MAJOR FARMING BUSINESS MODELS

As outlined in Modules 1 and 2, the essence of a business is achieving business goals through liquidity, efficiency and wealth. As long as adequate cash flow can be generated, profits made and wealth improved over time, the business is seen to be sustainable. It is not necessary though for the farm business to own all the assets under management, to take on all the liability, or to provide all the management and labour. While there are many different combinations that can make up a farming business, three of the most commonly used farming business structures are the family farming business, collaborative farming and corporate farming.

9.1.1 The family farming business

This is the typical family farm where the family own most of the assets they manage, including land, livestock and machinery. Against these assets, they borrow funds to manage the business: loans against land, livestock and machinery. The family also supply the management and most of the permanent labour to the business. Various generations contribute labour and management to the farming business and generally take family drawings and equity, rather than a wage, for their efforts.

Management of these family operations generally functions with informal meetings that focus primarily on operational and tactical management. The family take all the risks and the rewards are the profits from the business and wealth generated from both the profits over time, and capital growth from land price increases.

Advantages

- **Resilience** – The family structure provides significant business resilience as the major goal for most family farms is to maintain reasonable cash flow, rather than have a high return on total capital managed. In times of drought and poor commodity prices, family drawings and new capital purchases will be minimised and surplus livestock sold to minimise losses and survive the tough times.
- **Flexibility** – Family farms can be very responsive to seasonal circumstance, changing commodity prices and improvements in technology, making decisions quickly when needed.
- **Focused on the long-term** – Most farming families have an aspiration to pass the farming business on to the next generation, as the farming business may have already been in the family for a number of generations. This means there are significant long-term goals, giving family farms the incentive to survive through prolonged periods of poor financial performance with the hope that once conditions improve, business will pick-up and will be preserved for the next generation.
- **Lifestyle** – One of the attractions of the family farm is that it combines family living with a working lifestyle in one location. Farming businesses offer a rural location with usually strong community connections, and a sense of belonging, which helps to create a positive environment for raising families.

Disadvantages

- **Succession planning** – While the long-term major goal of most farm families may be to pass the farm on to the next generation, there are often no well-defined plans as to how and when this transition might happen, in ways that meet the goals and needs of all concerned. Cash surpluses, when they occur, are most often put back into the farming business to regenerate capital, increase productivity and maintain sustainability. This means the financial resources needed to assist the older generation to move off the farm without continued financial reliance on the farm can be limited. This is a complex area for any farming family to manage and needs open communication and careful planning.
- **Limited financial reserves** – The saying that family farm businesses are often cash flow challenged but asset rich is true in many cases. When seasons become financially tight, it is generally the support of the banking industry that allows farmers to maintain their business into the following year. Having limited financial reserves means the business has limited opportunity when it comes to managing periods of poor financial performance.
- **Economies of Scale** – The challenge for any business is to fund business growth so that economies of scale – spreading fixed costs over more output - can be improved. Ideally, when growth occurs, land purchase, added machinery purchase and taking on more labour should occur at the same time in order to achieve improved business efficiency. However, with limited financial reserves, these investments are usually intermittent, resulting in inefficiencies occurring until all systems can be synchronised.
- **Isolated lifestyle** – As farm businesses are located in rural locations and only a few people work on the farm, social interaction with other people can be limited. This isolation can become problematic when the stress of poor seasons and financial performance needs to be managed. Effort is needed in these difficult times to maintain community connections to minimise the negative impact of managing tough circumstances in isolation.
- **Balanced lifestyle** – As family members provide most of the business labour, the responsibility of managing multiple farming enterprises means that finding 'down time' in the farming system is difficult. Time demands on family members can be great and at times excessive, limiting the ability to take breaks and holidays. If not managed, this issue can increase stress and severely affect the quality of family life.
- **Communication** – The management of differences in personality, goals, expectations and communication styles in a family business can be challenging. Where this is not managed well, the long-term success for the business can be compromised.

> **'I think if you're running a farm on your own, you need to be fairly resourceful and have people you can ring if you have specific questions that you can't work out on your own. My father is a very patient teacher – I'm still learning from him because he has a vast experience in mechanical knowledge. I am really fortunate to have been given the opportunity to come back on the farm in the first place because I know a lot of other females weren't given that opportunity that long ago…There's something about this place I just love - I love the space, the freedom, the variety in the work, working outside, and I love the challenge of always trying to do things a bit better.'**
>
> Lynley Anderson,
> 'Brookvale', Kojunup, WA

9.1.2 Collaborative farming model

Collaboration between farmers can take many forms, from providing labour and helping with shearing on a neighbour's property to sharing the ownership and management of machinery. A collaborative farming business model has been developed by 'Collaborative Farming Australia' (CFA) with the first working example being 'Bulla Burra', a farming business in the Northern Mallee of SA. This collaboration involves the full combination of two viable farming businesses and is provided as a case study.

Advantages

- **Economies of Scale (efficiency)** – The 'Bulla Burra' business was established to improve efficiencies and this has been achieved. John Gladigau has stated that if he was still farming independently in the 2010 season, the cost of wheat production would have been $204/t. The 'Bulla Burra' operation's cost of wheat production in that season was $171/t, a significant improvement.
- **Accountability** – The management processes maintained by the advisory board, where plans and goals are monitored throughout the season, makes all owners and board members accountable.
- **Transparency** – As regular meetings are held for strategic, tactical and operation management, there is full transparency. This is needed to maintain trust within the business.
- **Professionalism** – Emphasis is placed on maintaining effective management and communication both with staff within the business as well as all suppliers, whether they be advisers, bankers, accountants or rural merchandisers.
- **Advisory Board** – An advisory board is used, and importantly, has an independent chairperson. This provides improved depth and spread of experience for sound decision making.
- **Succession** – As there are many roles in this larger business, the next generation can choose freely if they wish to be involved in the business and at what level. The future of the business is not dependent on the next generation but the next generation are free to become involved.
- **Lifestyle** – As roles are allocated and there is more staff, the business operation is no longer dependent on one person. This means holidays and time away can be more easily managed. For example, in 2013 in 'Bulla Burra', John undertook 7 weeks of study leave and Robin completed a Nuffield scholarship requiring a 13 week absence from the business, all without operations being significantly compromised.
- **Corporate principles** – The aim of this business model is to adopt sound corporate governance and financial reporting while maintaining the family values, farming lifestyles and the flexibility of management offered by traditional family farming.

Disadvantages

- **Loss of independence** – One of the values closely guarded and protected in Australian family farming businesses is the element of independence. Farmers are proud to be seen as independent and the rural community look up to people who are resourceful and successful. This determined independence has to change for collaboration between farmers to succeed.
- **Risk Management** – In one respect, with improved accountability, reporting and use of an advisory board, risks to the business are able to be more fully identified, understood and managed. However, larger operations by definition have larger financial risks. If improved management systems are not put in place to manage these risks, larger operations could experience greater losses during challenging periods, particularly in the first few years of establishment.
- **People management** – With more hired and permanent labour needed, people management skills and processes need to be adopted. This can be a challenge for family farming business where they have only previously managed themselves.

Collaborative farming case study: 'Bulla Burra'

One of the primary aims in creating 'Bulla Burra' was to achieve a high level of business efficiency given the constraints of finance, the relatively high cost of land, machinery and labour. The initial thinking of management was to separate the business of land ownership from the business of farming and then assess what the most efficient farming business operation would look like, regardless of the farmer's financial capacity. It was determined that about 4,000ha (10,000ac) was optimum for a farm in the Northern Mallee of SA, given two full time labour units, one header, one spray unit and one wide-line. To gain labour and machine efficiencies during seeding and harvest, operations are managed in 24-hour shifts. A local transport is used to cart grain, and where needed, experts such as agronomists are used. An advisory board is used with an independent chairperson to introduce more corporate approaches to strategic management and decision making. In 2008, John and Bronny Gladigau, and Robin and Bec Schaefer, combined their two independent operations and created a new farming business called 'Bulla Burra'. The key steps were:

- A lease price for their individual parcels of land was determined, and the land was leased to the new business, 'Bulla Burra'.
- Old and surplus machinery was sold and that capital was put back into the new business as owners share capital. These funds assisted with carry-on finance.
- Appropriate new machinery was purchased under a finance arrangement with a local machinery dealer. Machinery would be turned over every 5 years to take advantage of the efficiencies offered by new technologies.
- The various roles and responsibilities were determined for both the necessary labour and management, and commercial wages and management rates were paid according to the requirements. This meant that John and Robin's skills were identified and used as effectively as possible in the new company. Additional labour and management were hired.

- An advisory board was created and meets four times a year. It put in place the management systems for cropping, finance, grain selling, staffing, machinery maintenance and legal requirements.
- Additional land was leased and share farmed when necessary to reach their targeted size of 4,000ha.
- A 5-year plan was created. Both John and Robin committed to the business for those 5 years, with a right of renewal or exit after that time.
- The financial rewards to John and Robin come from the following income streams:
  - > Leased income from their land provided to the business.
  - > Labour income for the time they provide to the business.
  - > Management fees according to the management that is required. This is paid at a commercial rate, which is higher than labour rates.
  - > Sitting fees paid to board members.
  - > Dividends paid from generated profits.
- Within the first two years of operation, it was obvious that this business model was working successfully, so the board decided to expand. Given the first model of 4,000ha was efficient, any growth would require the establishment of another 4,000ha operation. This is similar management thinking to franchising, where efficiency units are replicated. The business was doubled to generate more profits while maintaining efficiency. The operation is now completing its sixth season and is performing well, even with the normal seasonal and price volatility.

John and Robin describe the benifits of collaborative farming below:

John: **'In 2006, I applied for a Nuffield Scholarship, and was really fortunate to be able to travel the world – I went looking for the silver bullet, the model I could pick up and bring back to the northern Mallee that would work right here and what I actually found was that there was no model. My big learning is that there is no model, there are no rules.'**

Robin: **'John and I have been friends for a long time. John has always been interested in generating efficiencies and economies of scale. He came to us and said, 'Would you like to join us on a collaborative adventure?' Firstly, we did some figures to see how it would stack up and when we could see it was going to work, then we basically went from there.'**

John: **'Our whole approach has been to start off with a blank sheet of paper and say, 'What is it we want to achieve?' If we want to create an efficient farming business in our region, with no preconceptions, what does it look like? How big is it? What are we going to crop? How much machinery do we need? How much labour are we going to need?' And we worked out that the most efficient sized farm for our district was about 4,000ha; the most efficient sized cell to make the best utilisation of machinery, labour and infrastructure. So we put our two farms together, set up a new business, and leased our properties to that new farm. Then we sourced another 4,000ha to create two cells and put them together.'**

Robin: **'There are huge benefits. One is improved return on investment for your business – that's a big one. You're using your machinery better, you're using your staff better.'**

John: **'In 'Bulla Burra', we're using all equipment that's under three years of age and we're using the most modern technology that we possibly can – precision agriculture technology as well. What we actually discovered, in 2010, was that if we had been on our own in that particular year, our cost of production would have been $204/t to produce one tonne of wheat. Within 'Bulla Burra', it was $171 – a huge, significant difference. Basically, it's the same crop, on the same land, but it's costing us $30 less a tonne to grow it. That's one of the huge efficiency advantages of collaboration.'**

Robin: **'A lot of people talk about farmers being the 'jack of all trades and the master of none' and I think in modern farming businesses, you can no longer afford to be that. You need to be a lot more specialised, and what this model allows you to do is work in the area you really enjoy, that you're really passionate about and where your skills are the greatest. If you have a number of people doing that, it makes the business a whole lot stronger'.**

John: **'I take responsibility for the business management side of the company and the strategic direction of the finances, whereas Robin is more on the agronomy side, the practical operations of the farm. Then we put in a farm manager who is responsible for the employees and the daily operations of the business. It's actually not as much about the model, it's actually about principles. It's about being professional, it's about being transparent, it's about being accountable. The model itself can be massaged to suit your own environment, which is why we went to this whole idea of starting off with a clean sheet of paper and saying, 'OK. What is the ideal sized farm? What does it look like?' Putting the principles over it, and as long as it's professional, accountable and transparent, then you can certainly make it work.'**

John Gladigau and Robin Schaeffer,
'Bulla Burra', Allawoona

- **Increase in discipline** – Increased effort and resources are needed for planning and monitoring a successful collaborative farming operation. This may take greater discipline than required in a family farm.
- **Increased cost of management** – The cost of an advisory board, creating and maintenance of legal structures and paying management are added costs above those normally experienced in a family farm. These costs need to be managed.

9.1.3 The corporate farming model

The corporate business model also has a long history in Australia. Some are privately owned and others publicly listed. They are generally governed by a board of management and operate under corporate management structures. In recent years, superannuation funds have also been investing in corporate farming businesses.

These operations are managed similarly to large corporate businesses where a board of management is used for strategic planning and monitoring the progress of the business. Management are hired to manage the tactical and operational aspects of the business. Budgets are put in place, monitored as the season unfolds and the board receive regular reports from management so that transparency and performance are continually and closely monitored. Business cases are put to the board before any new projects are undertaken. This means new projects need to fit within the strategic direction and pass profitability tests. As these organisations have shareholders, their objective is to provide competitive dividends to their shareholders. This means they are strongly focused on financial performance regardless of seasonal and commodity price conditions. These operations have a strong culture of efficiency and financial performance.

Advantages

- **Corporate governance** – As these companies come under the regulations of the Australian Securities and Investment Commission (ASIC), they have to maintain a high level of governance and management, and strict financial reporting and business decision making. This is to ensure that the interests of the shareholders are maintained.
- **Economies of scale (efficiency)** – Generally, these companies have access to larger amounts of capital than the family farm and so can develop business operations that achieve high levels of efficiency due to economies of scale.
- **Accountability** – As they are required to maintain a high level of financial management and governance, there is clearer communication to ensure accountability to their shareholders. This is generally done through a series of reports and annual shareholder meetings.
- **Professionalism** – The high level of governance, financial planning and control, means a high level of professionalism is required in their operations. As they employ a larger workforce, they tend to have higher levels of occupation, health and safety standards (OH&S) to maintain.
- **Diversification** – Another advantage of having access to larger amounts of capital is that these businesses can manage properties in different geographic locations and spread climatic risks. They can also take advantage of vertical integration or diversification by having operations in many primary industries, such as cropping, grazing livestock, horticulture and intensive livestock production.

Disadvantages

- **Financial targets** – The higher financial targets of these businesses mean there is greater financial pressure on performance. Prolonged periods of poor financial performance brought on by drought and market downturn are not tolerated well by the shareholder/owner and these businesses often exit the industry during difficult periods.
- **Tend to have less financial flexibility** - Due to the corporate management structure and reporting requirements, the flexibility of decision making can be slower than in a family farm business.
- **Cost of governance** - As high levels of management are required for the governance responsibilities of these businesses, their management and governance structure can be significantly more expensive than in a family farm.

9.2 CHANGING COMPONENTS OF YOUR FARM BUSINESS MODEL TO IMPROVE FINANCIAL PERFORMANCE

The previous section provided an overview of significantly different business models used in Australian agriculture. In practice, there can be many variations of these models and the following section provides a checklist of the various strategies and tactical methods that have been used in components of the farm business. The important point is that once the strategic direction of your business is clear, your goals are set and you understand the resources you have available, you are in an excellent position to assess which part of your business model can be tweaked. Table 9.1 lists strategies that can be used to improve the financial performance of your farm business.

9.2.1 The strategy of leasing and share farming land

Co-contributor to this section: Tony Hudson, Hudson Facilitation.

A proven strategy to decrease the cost of production is to farm more land. Leasing and share farming additional land offer alternatives to buying land.

The desire to increase profitability tends to drive thoughts around business expansion. However, many farmers are unsure of the most appropriate way to expand their business. The three most common options for expansion include:

1. Purchase additional land,
2. Lease additional land, or
3. Enter a share farming agreement.

Before entering an agreement to lease or share farm land, farmers need to consider the benefits of each of these options.

Leasing land has historically come with significant risks for both the lessee (tenant) and the lessor (landowner). Land which has been leased for extended periods and to a variety of lessees, can become run down, with poor soil fertility,

Table 9.1: Strategies for improving your business model and containing costs

Items	Strategy	Comment
Assets		
Land	The business owns all its land	The business benefits from any growth in land values but is liable for the associated debt repayments.
	Share farm additional land	Assists with economies of scale without taking on more land related debt. Depending on the agreement, the risk is shared between farmer and land owner.
	Lease additional land	Assists with economies of scale without taking on land debt. The farmer takes all the risk as repayments remain the same, regardless of the type of seasons.
Livestock	The business owns all the livestock	The business benefits from any asset value change, but is also liable for any stock related debt.
	Livestock is share farmed	This is not common but livestock can be jointly owned with other parties, with the income and costs shared.
	Livestock is agisted	Here the farmer receives a rent for their grazing and takes no risks of livestock loss or changes in commodity prices.
Machinery	The business owns all the machinery	The business benefits from the full use of the machinery but experiences machinery depreciation and is liable for any associated machinery debt.
	Machinery is share-owned, perhaps with a neighbour	The business shares the costs of repairs and maintenance and depreciation, but needs to manage timeliness as both may wish to use the machine at the same time.
	Machinery contractors are used	The farmer does not have repairs and maintenance, labour or depreciation costs, but has contract costs. The farm may wear a timeliness opportunity cost as the contractors may not arrive when optimally needed, which may result in some yield loss.
Liabilities		
Lending	Farmer uses a bank or stock firm to fund the various capital and overdraft requirements	The farmer is liable for all the debt and associated repayments.
Shareholder equity	Equity from shareholders can be used to fund carry-on finance, machinery ownership, land ownership and/or livestock	The farmer needs to have appropriate legal arrangements put in place to protect shareholders interests and will be required to pay a shareholder dividend.
Income		
Farm enterprises	Sale of commodities	Farm income derived from selling grain, livestock and wool.
Expertise	Management	If the farm has surplus management resources, management services can be provided to other farms or in consultancy opportunities.
Labour	Sell surplus labour capacity	Labour can be sold to other farmers, such as for shearing, fencing and tractor driving.
Machinery	Contract out surplus machinery capacity	Surplus machinery capacity can be contracted out to other farmers such as for hay making, spraying and harvesting.
Costs		
Variable costs	Farm enterprises	All inputs are purchased from local distributors.
	Freight rates	Freight rates may be negotiable.
	Selling costs	Selling costs may be negotiable.
	Use buying groups	Distributors have been known to give discounts to groups of farmers buying collectively and in bulk.
Overhead costs	Accountants	Accountants' fees may be negotiable.
	Energy suppliers	Cheaper energy suppliers may be selected.
	Telephone and internet suppliers	Cheaper telephone and internet suppliers may be selected.
	Consultant fees	Consultants' fees maybe negotiable.
	Insurance	Cheaper insurance cover may be selected.
	Labour costs	Assess if the available labour is fully utilised and adjust accordingly.
Finance costs	Interest rates	Cheaper interest rates and bank charges may be negotiable.

Source: P2PAgri Pty Ltd

weeds, and poorly maintained infrastructure due to lack of investment by the lessee in someone else's land. Despite the risks, leasing can and should be a positive experience for both parties if appropriate measures are taken. Leasing can provide a steady income to the landowner from land they no longer wish to farm, and offers greater scale for the lessee without the capital cost/debt of purchasing land.

Similarly, share farming provides an opportunity for land expansion, but with a different risk profile depending on the agreed share farming arrangement. By definition, share farming means that both the share farmer and the land owner share in the risks of farming. Whoever has the greater share of costs takes the greater risk and thereby takes a greater share of income. As with leasing land, a formal share farming agreement is recommended to manage the operations of the share farming, where all parties understand what has been agreed to and have their interests protected. An essential element of share farming agreements is the detail of responsibilities for management and costs.

The arguments for and against leasing

Table 9.2 outlines many of the advantages and the potential downside risks of entering a land leasing agreement for both the lessor and the lessee.

Table 9.2 can also be read as being similar for share farming, except for the first point, as both land owner and share farmer share the risks of climate and markets. Otherwise, the majority of the agreement is very similar.

Economies of scale

The key driver behind a decision to increase farm area is usually the desire to improve profitability. The key to any improvement in profitability is gaining economies of scale. This refers to a reduction in costs per hectare by defraying costs - particularly overhead costs - over a greater number of hectares. Although total overhead costs may increase when taking on a lease, the overhead cost per hectare should be lower, resulting in a lower cost of production. This can be well illustrated when considering machinery costs, which include depreciation, finance costs and insurance – costs which relate to the machine itself, rather than the number of hours it works. This assumes that there is surplus capacity of machinery, so farming additional land allows for more of the machinery capacity to be used.

Owners /managers of smaller scale operations tend to find it difficult to justify the purchase of large scale and technologically advanced equipment as they may risk becoming over-capitalised. While using less efficient machinery has the benefit of lower machinery costs, it may also have an adverse effect on yield. Increasing scale through leasing or purchasing additional land can justify the decision to purchase larger, more reliable, efficient, and technologically advanced equipment which may result in improved yields or cost efficiencies.

For example, consider justifying the purchase of a larger tractor. The variable running costs, which include fuel, oil, tyres, labour and most servicing requirements, are per hour costs and do not vary with increased machinery use. Therefore only overhead and finance costs need to be considered when assessing the impact of scale on hourly cost.

Table 9.3 (based on figures from the NSW DPI, 2012), shows the estimated overhead costs for a 225HP tractor, valued at $202,674, and costing the farmer $111,470 after trade-in of the old tractor and financed at 10% over its working life of 5 years. (In this example, the constant hourly cost of $46.25 does not alter with increased scale and is therefore not included in this calculation).

Given the data presented in Table 9.3, it becomes clear that a farmer cropping an area which requires 500 hours of tractor use is at a distinct disadvantage to one who requires 2,000 hours work out of the same machine. If the various implements being towed average 4ha/hour, the farmer using the tractor for 1,000 hours per year (averaging about 19 hours per week year round) is $9.66/ha better off – a significant decrease in cost of production. Scale has its rewards!

Duration of the lease or share farming agreement

A longer lease or share farming agreement is often more suitable for the lessee or share farmer, as it provides surety of access to the land for a number of years and therefore ensures a greater interest in maintaining its productive capacity. Similarly for the landowner, a longer term provides security and avoids the inconvenience of regularly seeking a new tenant or share farmer. However, it may come at the risk of missing an opportunity to increase leasing costs if land values or markets increase significantly. This can be overcome by including a provision for an annual review of leasing or share farming costs in the written agreement. What is important is that both parties have adequate opportunity to benefit from the arrangement.

Budgeting for leasing or share farming

Before discussing lease prices, you should always do some research on past leasing prices or share farming agreements in the area. This should be accompanied by some detailed budgeting prior to entering any negotiation. Preparing a budget will enable you to establish the maximum price you are prepared to pay for the lease or the minimum share of income and cash costs, and ensure your thinking is clear when negotiations begin. Budgeting will also establish the additional working capital required to farm the additional area.

'I was working in a mine in this area and we were having so many strikes I was getting bored, so I approached a fella and got some share farming, and it went from there. We put our agreement together. Perhaps the biggest challenge in the early days was that land was mostly covered in scrub. We carried on share farming up the road and slowly got this one under production. It was a fair old job clearing all the trees out.'

Brian Gregg, 'Kolora',
'Emerald', Qld

Table 9.2: Advantages and disadvantages of leasing land

	Advantages	Risks/Disadvantages
Lessor (landowner)	No climate/production risk	Maintenance risk (soil health, weeds, infrastructure).
	Reliable income/cash flow	Little/no say in decision making.
	Opportunity for capital gain	Reliant on financial viability of lessee.
	No working capital required	May be more difficult to sell land.
	Little/no labour input required	Dispute with lessee.
	No market risk	
	May continue living on the farm	
	Opportunity to do other things	
Lessee (tenant)	A viable way to expand business without debt/land purchase	No exposure to capital gain.
	Economies of scale in operations	Uncertainty of continuing access to land.
	Reduced cost of production	Machinery may not be adequate to cover increased area.
	Purchase of more efficient equipment is justified	May not gain long-term benefits of investment in land productivity (e.g. weed control, soil amelioration such as liming).
	Increased profitability	Exposed to full production and market risks.
	More attractive to contractors	Dispute with owner.

Source: Hudson Facilitation

Table 9.3: The impact of scale on machinery costs

Annual Overhead Cost:	$	Annual hours work	Cost per hour
Depreciation:	22,294	500 hours	$77.09
Interest expense:	14,694	1,000 hours	$38.46
Insurance:	1,469	1,500 hours	$25.63
Total Annual Costs:	**38,457**	2,000 hours	$19.23

Source: Hudson Facilitation

Consider the following example:

- Lease of 500ha at $200/ha payable in advance: $100,000
- All sown to wheat at a cost of $300/ha: $150,000
- Minimum working capital required: $250,000

Will your bank extend your overdraft by $250,000 to support this venture?

Make sure you can access sufficient working capital to run your desired enterprise mix before entering a lease agreement!

It is also important to establish any capital requirements prior to negotiating a lease or share farming agreement. This should include an assessment of the capacity of existing machinery to cover the additional cropping area. If grazing, can the required livestock be provided from existing numbers, or will purchasing be required? If borrowing is necessary to fund the purchase of machinery, livestock or other assets, this must be taken into account when assessing the economics of the lease or share farming agreement.

Valuing the lease

Historically, the cost of leasing land has been between 4-6% of the value of the land, sometimes higher for cropping land. In some areas, this still holds true. However, a number of factors, including recent increasing land values, means this may no longer be economical for the lessee in many areas.

An alternative means of calculating an appropriate leasing rate is the Percentage of Gross Margin (GM). Any negotiations using this method will require budgeting to be completed.

In the following examples, a rate of 30% of GM has been used, as this tends to be economically viable for many farmers and provides adequate incentive to the landowner:

Wheat: GM of $600/ha, leased at 30%: $180/ha

Sheep: GM of $30/DSE, leased at 30%: $9/DSE

Table 9.4: Checklist for leasing and share farming agreement

Land Details	☐ Clear definition of the area of land being leased/share farmed. ☐ Any inclusions/exclusions beyond the land, particularly water and machinery. ☐ Agreement on the condition of soils, pastures, weeds and infrastructure prior to commencement of lease. ☐ Responsibility for repairs and maintenance of infrastructure. ☐ Requirements of the tenant to maintain soil health, fertiliser applications and weed management. ☐ Any restrictions, such as stocking rate, type of livestock, chemical use, crop exclusions. ☐ Agreement on whether pasture areas are to be sown back to pasture at the end of the lease.
Timing	☐ Start and end date of the lease.
Finances	☐ Requirements for payment - amount, timing and method of payment. ☐ In the case of a share farming agreement, the percentage of the income and cash costs to be shared by both parties. ☐ If for longer than one year, include provision to adjust the leasing rate annually, at least in line with CPI. In the case of a share farming agreement, you may wish to revisit the proportions being shared every few years. ☐ The bond to be paid, if any. ☐ Agreement on ownership of capital improvements at the end of the lease or share farming, if any is undertaken. ☐ Responsibility for payment of rates, insurance, utilities and so on (normally landowner).
Legal Processes	☐ Agreement on circumstances under which the lease or share farming agreement may be terminated early, or renewed/extended. ☐ Penalties/actions should any of the following occur: • late payment of lease rental or shared income; • late payment of shared cash expenses; • failure to vacate land on agreed date; • failure to pay utility bills; • failure to adequately maintain infrastructure/soils/weeds, and • breaching of any other agreed terms. ☐ First right of refusal to purchase the property is typically offered to the lessee or share farmer if the property is placed on the market. ☐ Process to resolve conflict should it arise.

Source: Hudson Facilitation

Tax implications

When considering lease costs, it is important to remember that leasing payments are fully tax deductible for the tenant. For the lessor, lease payments are not considered primary production income for the purpose of income tax averaging. It is important for the landowner to establish how leasing may affect their tax position.

Leasing and share farming checklist

When entering an agreement, covering the following points will more likely result in a successful arrangement for both parties:

- Always have a written agreement signed by both parties. Table 9.4 outlines what your written agreement should include.
- Seek guidance from your solicitor to ensure any agreement is legally binding on both parties.

Family farms are continually challenged to find ways of improving business efficiencies. Considering alternative business models and strategies can strengthen the likelihood of sustainability of the farm business in the long-term.

Action points

- Review your farm business model and list three ways it could be improved.
- What strategies could you implement to improve business profitability?

Robert: **'Scott decided he wanted to come home to the farm and that was when we made the decision that if we were going to continue in farming, we needed more area, more viable country, so we shifted with debt to establish a more viable business. We certainly wouldn't be in the position we're in now if we had stayed (where we were). Farming's all about the business – we don't do it for the fun of it. We've got to make some money at the end of it.**

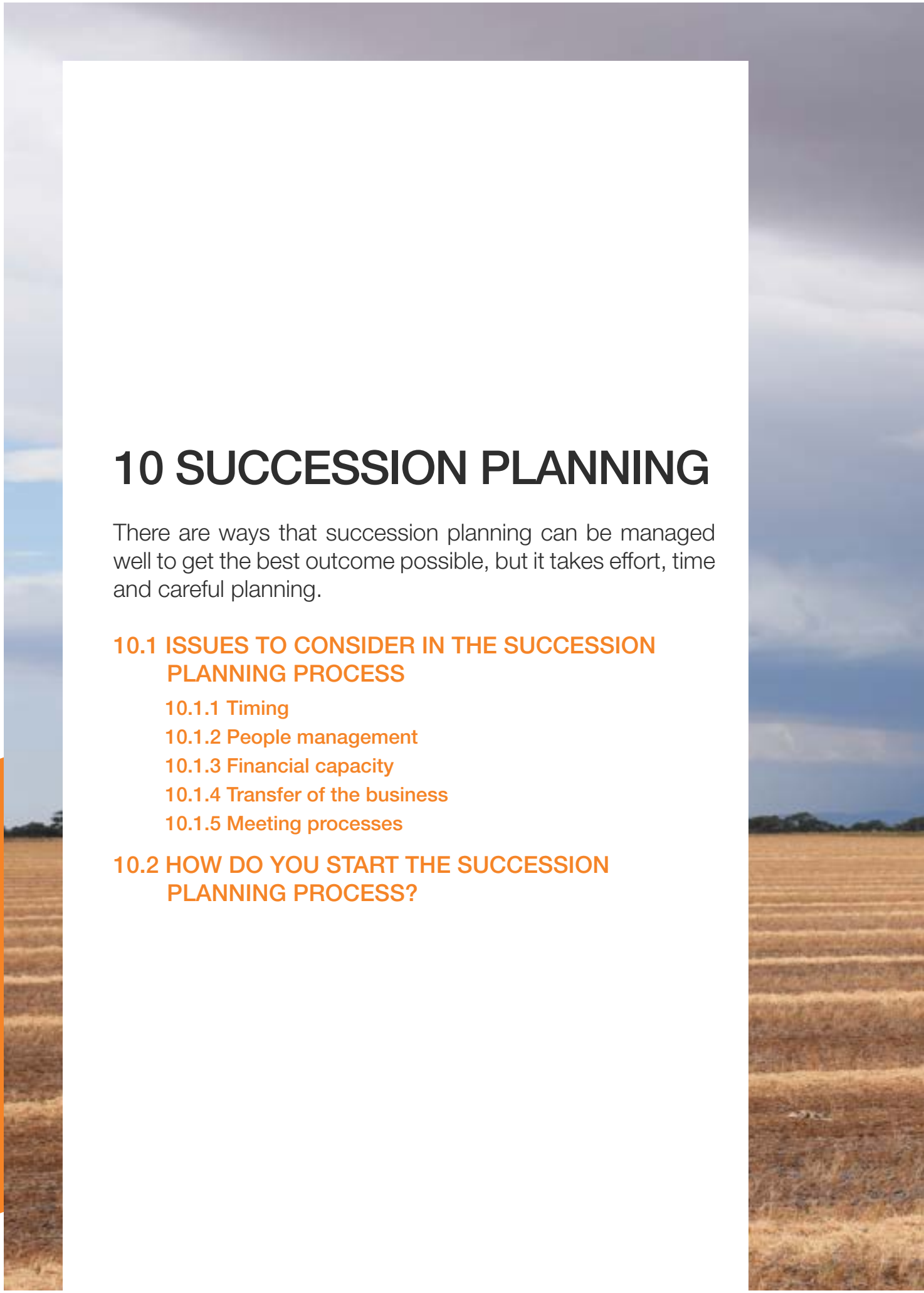
I've given Scott a pretty free hand since he's come home. He's always been pretty level headed, been able to take on responsibility and have a vision of what he wants to do. I've been quite willing to go along with that and it's worked quite well.'

Scott: **'Currently we own 2,000ha and lease another 1,000ha on top of that, which is located about 15km from here. '**

Robert: **'When we first came here, we did increase our farm size – that was one step. But then we wanted to go to the next step, so leasing provides that opportunity where you don't actually have to go to the bank ask for money and fill in a million forms to get to the next level. Leasing was an opportunity for us to go out and get some more country and expand that way.'**

Scott: **'Seeing a lot of farms, there's no doubt the family farm is potentially the most productive mix out there as far as efficiencies go.'**

Scott and Robert Nicholson,
'Bretton Estate', Campbells Bridge, Victoria



10 SUCCESSION PLANNING

There are ways that succession planning can be managed well to get the best outcome possible, but it takes effort, time and careful planning.

10.1 ISSUES TO CONSIDER IN THE SUCCESSION PLANNING PROCESS

10.1.1 Timing

10.1.2 People management

10.1.3 Financial capacity

10.1.4 Transfer of the business

10.1.5 Meeting processes

10.2 HOW DO YOU START THE SUCCESSION PLANNING PROCESS?

10 SUCCESSION PLANNING

The succession planning process of passing on the farm business to the next generation can either create or minimise one of the biggest risks to any farming family. If managed well, both family and the business can prosper. If not, then either family relationships or the business, or both, can break down. It is this risk that creates fear in dealing with this issue and many farmers by default delay dealing with this important challenge.

KEY POINTS

- Succession planning is a process rather than an activity to be solved with one meeting.
- Good communication and being proactive are key to a successful succession planning process.
- It is possible to manage succession planning well.
- What happened with succession planning in the previous generation may not work for this generation, as each family is unique and each period in history is unique.

Succession planning refers to the passing on of both the farm management and the assets of the business from the older generation to the next. It is about attempting to satisfy the wishes and security of the older generation while also accommodating the wishes of the following generation. Succession planning is also referred to as 'transition planning' and 'business continuance'. Essentially, it is about maintaining a viable business as the 'baton' of the farm is passed from one generation to the next or about preserving the farm capital for the superannuation needs of the older generation.

Succession planning should be viewed as a process that takes time – sometimes several years - rather than being the result of one family meeting. Success in this process comes about from listening to each affected family member, understanding their wishes and feelings, and looking for a set of strategies that will help the farming family successfully complete their succession goals. It will take time and effort to both plan and implement. It is unlikely that one meeting will be enough to accomplish this goal.

Succession planning is like strategic planning in that it is rarely urgent and so other tactical and operational activities often take the focus of management. However, it should be given a high priority because of the time required, and the negative impact this process can have if done poorly and too quickly. A succession planning process has a greater probability of success if started early. The reward for proper succession planning is significant, especially if the alternative may be to end up in the courts, where rulings may see equity between family members prioritized over wider business aspirations and possibilities.

A number of constraints will also need to be identified, ranging from the financial capacity of the business through to the needs and wishes of the older generation who currently own and operate the family business. If the older generation do not know or do not wish to talk about their intentions for succession, any succession planning process is likely to fail. Having the older generation willing to commit to the process of succession planning is the first and most vital step in this process. Once this is established, the following issues will need to be considered.

10.1 ISSUES TO CONSIDER IN THE SUCCESSION PLANNING PROCESS

Each family farming business is unique as it has:

- A separate family history (how the farm was passed on from the previous generation).
- Its own unique membership, with diverse personalities. Some people will get on and some will not.
- Its own unique financial circumstances and ability to accommodate new financial demands.
- Its own collective and individual family goals.

It is difficult to provide a 'recipe' to guarantee a successful succession planning process, although communication is essential. Some guiding principles and a checklist of other issues are provided to highlight areas that should be discussed. Other references that are useful are listed at the end of this module and can be found on the GRDC website.

10.1.1 Timing

It is important to consider the impact of timing on the effectiveness of a succession plan. A good reason to view succession planning as a process rather than a 'one-off' project is that families, goals and opportunities change over time. If succession planning is viewed as a one-off project, then it will be the best that can be done at that time. It may not be the best in five years' time, when things have changed. Families change with family members being added either by birth or through new partners, so the specifics of a succession plan will need to change over time. Once the initial succession plan has been developed, it should become

a 'living' document that is assessed periodically over time, to test if it remains relevant to accomplish the original goals. It is recommended that it should be reviewed perhaps every two to three years.

A proactive or reactive process?

A **reactive succession planning** process is one where no planning has been put in place and the business transfer occurs only at the reading of the older generation's wills. By contrast, a **proactive planning process** is one that is put into place after careful consideration, years before the older generation moves out of the business and involves the whole family.

Reactive succession planning may be the approach taken by the older generation for a number of reasons: perhaps to retain total control of the process, to avoid difficult decisions or family confrontations. Whatever the reason, this approach usually leaves difficult decisions to be made by the next generation, which can threaten both the viability of the farm and family harmony. This management method is about 'picking up the pieces' when major family events occur, such as a death, divorce or disability. If a family member experiences divorce, only then is thought given to how the settlement will affect the family farm finances, how the management structure will change, and what future the farming business will have. Leaving the decision making this late means there is little choice in the outcomes that eventuate, and may result in significant changes to the family farming business.

Proactive succession planning is more challenging but has a greater chance of both preserving the family farm business and maintaining family relationships. It means the hard work is done well before the older generation's will is read out, and is likely to leave a well-organised and well-communicated succession plan.

Both the reactive and proactive approaches are used by farming families and are valid as succession planning approaches. However, thought needs to be given to the older generation's objective in succession planning, as this will determine which method is best used. It is essentially the strength of leadership that determines which style is adopted.

10.1.2 People management

The challenge in farming families is to separate the 'business' of farming from the 'family' of farming. Most farms began and continue to exist because of the family, and the aim of most succession plans is to preserve family relationships and business viability through the succession process. Unfortunately, due to the persistent declining terms of trade, many farm businesses have found it difficult to maintain the economic ability to have each, or sometimes any, of the children inherit a viable farming operation. Inheritance expectations and financial capacity may not match and compromises may need to occur.

It is good to focus on each family member's wishes, expectations and feelings, in an open and honest way, so that all understand each other, without prejudice. People are the most important part of the succession planning process and the most important skill is to actively listen to all involved in the process. This may be more easily said than done, as families often come with a history which can restrict effective listening.

As the older generation have put their working life into the business and usually own the assets, the most fundamental part of the succession planning process is for them to express their wishes as to what should occur. As they own the assets, they have the legal power and it is the distribution of this power that is so important to the success of the process.

Inclusive or exclusive?

This approach to succession planning is similar to the previous section but it is more about treating succession planning as an open, transparent process that is inclusive of all those involved in the business.

Inclusive management includes being clear about processes, such as when a new family member joins the business, and ensures that the succession planning process is a topic always on the business agenda and is communicated clearly and regularly within the family business. Some of the following topics need to be addressed and guidelines developed for their management:

- How will the families receive family drawings?
- How does the current management team function, with roles and responsibilities defined?
- How will the houses be owned, maintained and renovated, and at whose cost?
- What is the succession plan, and how are all family members associated with it?
- When a member of the business leaves, how are they bought out?
- How will communication be maintained to enhance sound operational and tactical management?

This is a very proactive approach and will require good thinking and communication.

An **exclusive management** style in succession planning is one where the power is retained by the business owners, and intentions about business asset and management transfer are not communicated openly. This process excludes others and is not transparent, and may exacerbate poor communication and family relationships, and often leads to significant emotional stress. A significant factor often misunderstood by business owners who follow this management style is that it can actually be damaging to the business itself. A lack of transparency and trust in the succession process is probably indicative of a broader management style where the current business owner is closed to any input from others, which would eventually inhibit long-term strategic planning for the farm business.

Rules of engagement

People and family are the most important part of the succession planning process and it is important to set the ground rules for any discussions. These will be unique to each family but could include decisions relating to the following:

- Each family member be given time to contribute and be listened to actively.
- Decisions are made either:
  - democratically,
  - by consensus, or
  - by the older generation.
- Each family member will be valued.

- The major goals and objectives will be determined by the family or older generation.
- If general agreement cannot be met, how will decisions be made? Will it be the older generation who have the final decision?
- All decisions are to be written down, to minimise confusion from relying on memory.

Communication requirements can differ between generations and by those who have partnered/married into the family. These should be acknowledged and discussed, so that everyone understands how the decisions will be made and implemented.

Negative family relationships can damage communication; it is important that each family member be gentle with and respect each other, so that the succession planning process has the greatest chance of success.

10.1.3 Financial capacity

Once the wishes of each family member are known, focus is needed on the financial capacity of the business to be able to deliver. This may require a number of different scenarios to be assessed (refer to section **11, Analytical tools, Module 2**). P2PAgri, a farm business management decision tool will help with understanding where the business is currently and with assessing the scenarios to help make business decisions in support of achieving the objectives of the succession plan. This will assist all members of the family understand the current financial position of the business and the likely outcomes of the scenarios assessed. The financial constraints of the business will usually have a significant impact on the succession plan. However, this needs to be undertaken so all involved know how to manage the succession planning process.

Farm business management planning

One area that helps succession planning is to clarify the current financial position of the farming business and who owns the various farm assets that will be subject to the succession plan. From this information, various scenarios that may have been suggested for the succession plan can be assessed. Budgeting tools to undertake a financial assessment of the business are available in section **5, Module 2**. Analytical tools to explore the financial outcome of different management scenarios are discussed in section **11, Module 3**. It is important to measure the financial capacity of the business and whether the chosen succession plan has a reasonable chance of being successfully implemented, or whether this becomes an onerous burden on those who remain in the family farm business.

Ultimate goal

What happened last generation may not be possible this generation. One of the many challenges to family farms is that economic circumstances for farms have changed over time. So too have the expectations of farming families. What may have worked for a previous generation is unlikely to work with this generation. When discussing the options for succession, it should focus on what is possible given today's farm business financial capacity and the opportunity to access the aged pension, rather than what worked well 25 or so years ago.

10.1.4 Transfer of the business

Confusion occurs in succession planning when it is assumed that the transfer of management and asset ownership to the next generation happens at the same time, which does not have to be the case. In fact, succession planning happens more easily if these two activities are separated.

These two activities are usually referred to as:

Management transfer

- This is where management of the farming business is passed from one generation to the next. When you view the family farm as both a farming business and a real estate business, then it is easier to separate the activity of management. As has already been discussed in section **4, Where is my farm business heading? Module 2**, management should focus on strategic, tactical and operational areas of business planning and management. The passing on of management from one generation to another can happen by staggering the transfer of management in these three areas over time, so that the next generation can gain mentoring and experience as they move through each stage. There are no ground rules here - each family needs to determine how this happens.

'I've got a son who's just become a part owner and partner in the business and I've got one permanent employee. I employ casuals at harvest time. Nigel does a lot of the day-to-day running and we discuss anything major. The final decision still comes to me a fair bit, but it's slowly getting less of that. It's a case of letting go really. We've now got it where Nigel and Susan own a third of the land and half the business and it's going pretty well. In the next few years, they'll buy another third which will give them control of everything.'

Brian Gregg,
'Kolora', Emerald, Qld

The experiences of farming families who have successfully navigated a succession process highlight the use of two good principles in management transfer:

1. The next generation should gain some **responsibility for managing the farm business finances** before they reach the age of 30 years, so they can gain valuable experience in knowing what it is like to make decisions and spend money with uncertainty. That is, to spend money and learn what skills it takes to get more than that investment back. If the next generation are significantly older when they take over the financial management of the business, it could be harder for them to change from 'workman' mode to 'management' mode.
2. The next generation should earn the right to take over management rather than be given it. That is, the next generation needs to show initiative in gaining the

skills and experience needed to be a good manager. They need to put effort into their own management education and management skill development. If the next generation are given management without adequate practical experience, they may not be prepared enough to maintain a successful business.

Asset transfer

- This is often referred to as **estate planning**, and relates to how the assets such as land, machinery and livestock are transferred to the next generation. It does not have to be all given over without liability or responsibility. If the older generation require financial security in their older age, there are ways that the next generation can cater for this. Estate planning normally relates to the writing of wills to distribute assets, but there are legal mechanisms that can be used to pass on the assets prior to a will being activated. This area is normally best discussed with a lawyer and accountant.

Fair or equal asset transfer?

A significant issue for many Australian farming families is the choice of being equal or fair when it comes to succession planning and asset division. 'Equal' implies each member of the next generation will have an equal share of the older generation's assets. 'Fair' means that given the desire to maintain the viability of the family farm into the next generation, the assets are allocated so that the farming business is secure and each child is recognised in a fair way, but perhaps with less than equal asset allocation.

This dilemma has been exacerbated by the decline in family farm wealth creation in recent decades, as the farmers' declining terms of trade have resulted in lower profits, and so the business' financial capacity to provide each child with a viable farm is severely restricted. In contrast, during the early 1900's, Australian agricultural land was still being cleared and was abundantly available. This enabled previous generations to provide additional viable farms for the next generation. In recent times, land prices have increased to such a high level that significant capital is now required for a viable farm, making the purchase of additional farms prohibitive. If the wish of the older generation is to pass the family farm on as a viable operation, then dividing the farm assets may not be an option, and non-farming family members would receive fewer assets.

Acknowledging this situation is important, and early planning is needed to cater for the non-farming family members. Non-farming family members can be rewarded using the following options:

> Providing a good education to establish a non-farming career.
> Establishing life insurance policies that provide life insurance payouts.
> Placing land titles in their names that could be leased back to the family business.
> Establishing off-farm investments that will become their assets in the future.

Knowing the intent of the older generation for handing on the family farming business, and communicating this with the next generation early in their life, improves the succession planning process. This is especially important, as it can significantly affect whether the farm is passed on as a viable business.

'Not all our kids are going to end up being farmers, so as a result of that, and being a very capital intensive business, we've got to work out a pathway that let's those that want to stay farming, farm, and those that don't, exit and go and do something else in a fair and equitable sort of way.'

David Mott,
'Berryjerry Station', 'Wagga Wagga', NSW

Risk management

A successful succession planning process needs to plan for how it is going to manage potential risks to the business' asset base. Two major risks that generally create barriers to a good succession planning process are:

> The financial risk of **divorce.**
> The issue of the **wills being challenged.**

How does the family protect the business from these risks?

Protection from Divorce

When the next generation start to find partners and bring them into the family business, one of the biggest potential threats to the business is the stability of this relationship and what happens if the relationship ends in divorce? This threat needs to be managed carefully in the family, because if the newly introduced family member feels continually isolated, this can increase family tensions and may actually increase the possibility of divorce.

This threat is heightened once the next generation is included in the ownership of the assets, as divorce can risk these assets being split. Legal structures and binding financial agreements can be arranged to manage the financial impact of divorce. Speak to a good accountant and lawyer to explore these options.

Protection from challenging the will

The wishes of the older generation expressed in a will can be contested by family members of the next generation if they feel aggrieved about the division of the family assets. In recent times, courts have tended to consider the equal division of the family assets as the solution, which may lead to the will being successfully contested. In this case, the family member who was going to continue with the family farming business may not be able to take on the added debt needed to pay out siblings which may result in the family farm being sold so that the assets can be divided.

One of the major strategies to manage against the risk of a contested will is to pass on the assets to the selected next generation before the will is enacted i.e. a 'living will'. With this strategy, the assets no longer reside with the older generation, so there are no assets to be contested. However, this strategy heightens the risk if divorce then occurs in the next generation.

The challenge for farming families is that you can protect the business from either of these risks, but it is very difficult to protect the business from both risks. If you are seeking answers in this area, speak with an accountant and lawyer who specialise in farming business and estate planning.

10.1.5 Meeting processes

There is no set structure to a succession planning process, as it should respond to the unique characteristics and needs of each family business. The succession planning process is conducted slightly differently by different companies that assist with helping farming families with succession planning. However, the following elements should be included in any succession planning process:

Family involvement

There should be a series of meetings, the first of which is the most important. It is recommended that all members of the family be present at the first meeting, both those members involved in the farming business and those who are not.

It is at this meeting that each family member should be given a chance to contribute and have their wishes understood. Often the unspoken hopes and aims of the various parties vary widely and may even be mutually exclusive. Initially, the older generation should be allowed to put their wishes forward, which will form the foundation of the major aim of the succession planning process. Other family members should then be allowed to contribute.

While non-farming members may not benefit directly from the succession plan, it is important they both hear the views of others and be able to express their own views and wishes. This means they will hear these discussions directly from other members and not hear the information third hand, which may not be correctly communicated.

It is recommended that a number of family meetings be organised to develop the first draft of a succession plan. It may not be necessary for non-farming members to be present at subsequent meetings, if the major decisions have been made at the first meeting.

There may be general agreement about the objectives of the family succession plan. However, there may be issues that remain outstanding and require further research, such as eligibility for the Federal Government's aged pension, the taxation implications of land transfer and gifting, and the drawing up of wills. Tasks for further research should be allocated to various family members with further meetings scheduled where these findings can be reported and further refinements can be made to the succession plan. Considerable discussion may be needed to fully understand the needs and wishes of all family members.

Once the succession plan has been developed, it needs to be revisited on a regular basis to see if it is still the best plan and relevant as family circumstances may change. These meetings could be two to three years apart and should be predetermined so they are in all family members' diaries.

Formal process

A formal meeting process is encouraged, incorporating the following elements: an agenda, minutes and formal agreements (such as a binding financial agreement).

An agenda is useful for any meeting, so that all the objectives are addressed and the meeting can be kept focused on the process and outcomes.

It is important that minutes be kept as a written record of all family meetings. These minutes should record major views, actions and resolutions as an important record for future reference, as the memory of all involved may not be reliable when recalling important information.

Separately written agreements should be made, especially if they are legal agreements such as 'binding financial agreements'. It is important that both formal and informal agreements be written and agreed to so that clear communication can be maintained.

Independent chairperson

It is strongly recommended that an independent chairperson be used to ensure the meeting is conducted in a manner that encourages all to participate and prevents dominant family members from taking over the process. An effective independent chairman also means all family members can participate freely without having the responsibility of focusing on the process of the meeting.

A summary of the issues that need to be considered in order to work toward an effective succession planning process are provided in Table 10.1.

'I farmed with my father for a few years. In subsequent years, my siblings came back, an older brother and an older sister. Over time, we'd been able to increase our land area from about 600ha to about 3500ha – we had a clearly defined goal to make three viable units. In 2008-09, we decided it was time to divide our business. That took about 18 months. It was done very carefully – we had a lot of independent help along the way to keep us on track because it's a very delicate process, as you can imagine! But we got through that process very well and as a result, I still talk to my brother and brother-in-law on a daily basis. We share machinery, we group finance together, so we've still got a lot of benefit from working together and we are in charge of our own destiny.'

Michael Chilvers,
'Winburn', Launceston, Tasmania

Table 10.1: Issues to consider and use as a checklist in your succession planning process

Issues			Where are you in relation to this issue?		Comment
Timing	Proactive / reactive?	Do you plan well ahead or will you leave everything to be sorted out after your death?	⟷ Proactive: process planned years ahead.	Reactive: No planning. Everything left until reading of will.	No plan may lead to problems: • Will is challenged. • Business and/or family relationships suffer. The proactive approach tends to result in more positive outcomes.
People management	Inclusive / exclusive?	Is the process open and does it include everyone involved in the business?	⟷ All business decisions are transparent and the process is inclusive of everyone in the business.	Business decisions and plans are not open to all, and exclude members, such as a new daughter-in-law.	An approach that excludes certain members of the family/business may damage relationships and even impact negatively on the business.
	Rules of engagement	Is behaviour mutually respectful? Is everyone encouraged to speak freely and be listened to actively?	⟷ Each family member Is involved and is given time to speak freely. All feel valued.	Some family members feel de-valued by the process.	If not managed well, this can put enormous stress on both business and personal relationships. Section **2, Leadership and people management, Module 1**, may provide insight to this issue.
Financial capacity	Ultimate goal	To transfer farm to next generation? To exit farming as next generation do not want to farm? Other?	⟷ To transfer farm to next generation.	Sell farm to meet retirement needs. Next generation to inherit what is left.	See section **4, Where is my business heading, Module 2**, to help with business analysis and goal planning.
	Farm business management	Will the farm have the financial capacity to meet needs of all family in the succession plan?	⟷ Whole farm analysis completed each year. Scenario analysis used to plan for future needs.	No business or scenario analysis completed. Can older generation afford to retire or transfer farm to next generation?	Measure business capacity to meet succession plans using financial 'tools' in section 5, How do I measure the financial performance of my farm business, Module 2. Test different management scenarios using section **11, Analytical tools, Module 3**. Software can model possible scenarios for the business.

Issues			Where are you in relation to this issue?		Comment
Transfer of the business	Transfer of assets (Estate planning)	How is estate planning done? Is it fair or equitable?	⟷ Fair division: Farm secured as a viable, sustainable business. All family are happy with asset division.	Equitable division: regardless of impact on farm's viability.	NB. This is NOT the same as the transfer of management.
	Transfer of management	When is management transferred at operational, tactical and strategic levels?	⟷ Younger generation given responsibilities early to develop experience in management.	Older generation will not let go and holds management control, particularly financial.	NB. NOT the same as asset transfer. Section **4, Where is my business heading? Module 2**, may help with planning management at all three levels: strategic, tactical and operational.
	Risk management	Is farm protected from risks of: • divorce, death or disability. • the will being challenged?	⟷ Process in place to protect farm from these risks.	No protection in place. Will is challenged. Relationships and business may be threatened.	Section **7, Risk management, Module 3**, may provide further insight to this issue.
Meeting processes	Formal meeting process	Are meetings effective? Are records kept and accessible to all?	⟷ All information and decisions are minuted and distributed.	Nothing in writing → confusion.	Written records help minimise disagreements when memory fails.
	Independent chairperson	Is an effective and independent chairperson used?	⟷ Independent chair. Meetings run efficiently and fairly, so all can be heard.	Chair is a family member. They, or another member, dominate meetings.	An independent chair is critical to the success of an effective process. Meetings need to be run efficiently and fairly, so all can be heard.
	Family involvement	Does everyone understand the decision making process?	⟷ Decisions are made and enacted. All involved are satisfied with process.	Decisions are never made. High degree of emotional trauma and uncertainty about the future.	If this process is procrastinated or ignored until a death or disaster occurs, outcomes are likely to be significantly less successful.

NB. This list is not exhaustive as each farm business and family is unique. This is provided as a guide only.

Source: P2PAgri P/L

10.2 HOW DO YOU START THE SUCCESSION PLANNING PROCESS?

The first step is to assess whether the older generation, regardless of their age, have a written succession plan. If they don't, then their willingness to begin the family succession planning process needs to be determined. These first two steps are needed before a viable succession planning process can start.

The choice of an independent chairperson is important: they need to have empathy with the process and be skilled in ensuring all family members present are able to participate and be heard. They also need to be trusted by all involved. If you do not have a person in mind for this role, you could research the following people:

- Ask neighbours who have gone through this process and see who they recommend.
- Ask your accountant for their recommendation, which gives them a chance to say they would be willing to facilitate a family meeting or they could recommend a professional who has worked with other clients.
- You could also ask your banker for their opinion, as they may know of other clients who have successfully gone through this process.

When you have compiled a short list, make a decision and approach that person. It is important to start the process; it is rarely seen as being urgent, often resulting in the process being procrastinated.

Once you have begun the process, use Table 10.1 as a checklist to determine issues that need to be addressed to suit your unique family and farm business situation.

Action points

- If you do not have a workable family farming succession plan, start the process today.
- If you do have a succession plan and it hasn't been reviewed for 3 years, then have a family meeting and review the plan to see if adjustments need to me made.
- If you have successfully completed a succession plan, pat yourself on the back for the good work as most family farms have not completed this process.
- Don't leave the succession plan to others to determine, which may happen if nothing is done!

David: **'Give the next generation the responsibility that they need, to come into the business in a management role sooner rather than later so that they know and are fully up to date, how to run the business before I want to step back, and not waiting until I take the exit ramp.'**

Nell: **'He involves me a lot in making management decisions which I probably wouldn't get working somewhere else. I'm here at an operational level, but he does involve me in decision making. I think there's huge potential in the industry and with the growing population of the world, there's always going to be a demand for food. Farming's becoming more and more efficient, using technology, skilled labour, and education's a very important thing for young people.'**

David and Nell Mott,
'Berryjerry Station', Wagga Wagga, NSW

11 ANALYTICAL TOOLS

This section discusses the various analytical tools available to assist with farm business decision making and provides a summary of each tool's strengths and weaknesses.

11 ANALYTICAL TOOLS

The farm business management budgets covering liquidity, efficiency and wealth, outlined in section **5, Module 2**, provide a sound guide for measuring farm financial performance. These measures are fundamental to analysing past and present farm business performance and can provide a basis for future planning. A variety of analytical tools are available to do this future analysis and help guide your business' strategic planning and decision making. However, like any analytical modelling, these tools are only as good as the information used in them, so you need a good set of records to ensure these measures are realistic.

KEY POINTS

- There are a number of analytical tools that can be used for effective farm business decision making.
- Be aware of these tools and select the best for the types of decisions you are making.
- Understanding these tools will help you select an adviser, if needed.
- The best decisions are made when given the best information, but risk and uncertainty also have to be considered.

Using these analytical tools should clarify the potential outcomes of different strategic choices available to your business. Use of these tools will not guarantee your success, but will improve decision making which will increase the probability of your business being successful. If you do not wish to develop your skills in this area, at least you will be better informed when choosing an appropriate adviser, knowing what questions you should be asking and the correct measures to use to answer them.

These analytical tools are similar to flight simulators used to train pilots, refining and testing their skills under different scenarios without the fear of risk or damage to passengers and aircraft. The tools in this section provide you with the same ability to develop a 'business simulator' to clarify questions such as:

- What are my break-even yields?
- How sensitive are seasonal outcomes on my profitability?
- Which farm plan has the lowest risk?
- Those important 'what-ifs' e.g. 'What would happen to the business if I purchased the neighbour's property?'

These tools bring a greater understanding of what the future may hold for your business.

11.1 ANALYTICAL TOOLS: ADVANTAGES AND DISADVANTAGES

The aim of this section is to illustrate what is possible, and to raise awareness of how to answer high-level questions you may have of your business. The analytical tools identified to be of most use for farm business management are listed in Table 11.1. The advantages and disadvantages of each tool are listed as a quick reference for selecting the most appropriate tools to answer your business questions.

Most of these analyses can be undertaken using computer based spreadsheets. While some of these tools are quite straightforward, such as partial budgets, others are more complex and will require an understanding of how to build budgets and mathematical models in a spreadsheet in order to undertake the analyses accurately. Alternatively, software programs can be used to undertake these more complex analyses.

Table 11.1 also indicates which of these programs could potentially provide the best method for calculating each analysis.

Table 11.1: Farm Business management analytical tools

Analytical tool		Questions best answered by this tool	Advantages	Disadvantages	How best calculated?	
					Using a Spreadsheet	Using P2PAgri
1. Sensitivity analysis	Gross margin sensitivity analysis	• What effect do changes in price and yield have on gross margins?	• Indicates the sensitivity of gross margins to price and yield. • Easy to calculate.	• Should not be used to determine cost of production, as not all costs are taken into account in gross margins.	Easy	Once data is entered, these analyses are straightforward
	5% shift whole farm sensitivity analysis	• What variables have a significant impact on whole farm profitability? • Where should tactical management be focused to have the greatest impact on profit?	• Provides a simple 'first look' at those variables that have the greatest impact on farm net profits.	• Does not take into account the true variability or each variable, and so does not provide a complete understanding of risk.	Challenging	
	Whole farm modelling of seasonal outcomes	• Is the farming business viable given a range of season? • At what movements in price and yield does the business make losses?	• An excellent test to assess farm business viability. • Provides a good understanding of the business' financial capability.		Challenging	
	Whole farm risk profile	• What farming system provides the best risk profile? • What season is needed to achieve a break-even? • Which farming system makes the biggest losses and gains?	• A simple concept to illustrate the risk profile of various farm plans. • Provides an understanding of the types of seasons required for the business to break-even.	• Need to have a good understanding of the production levels given various seasonal outcomes. • Does not model all risks such as succession and relationship breakdown.	Challenging	
	Monte Carlo business simulation model	• What is the risk profile when comparing the various farming systems? • How much variability is associated with each farming system?	• Provides a comprehensive understanding of the financial risk profile of the business. • Provides results using probabilities.	• More difficult to interpret probability results. • Requires skill to obtain validated results. • Does not model all risks. • Better suited as a research tool for farm business management than for farm consulting.	Challenging (using @Risk)	
2. Partial budget		• What will be the financial benefit or loss of a change in the business where the impact is experienced in the first year?	• It is a simple concept to use once the solution is clearly understood. • Can be applied to many farming decisions.	• Only useful for solutions that can be implemented in a one-year time frame.	Easy	
3. Break-even analysis		• What prices, yields or costs have to occur before the business is at a break-even point?	• Easy concept to understand • Provides simple insight into major farming business decisions.	• Needs a good understanding of the business and be a good modeller.	Challenging	Once data is entered, these analyses are straightforward
4. Scenario analysis		• What is the 5-year plan for the business and how does that compare with other possible plans? • By assessing those 'what-ifs', which one provides the greatest estimated financial rewards? • What is the impact on liquidity, efficiency and wealth creation of all the scenarios being considered?	• Provides clear insight of the likely financial outcomes of all 'what-if' questions. • Models the full range of farm business management tools for liquidity, efficiency and wealth changes.	• Needs a good understanding of the business.	Challenging	
5. Development budget		• What is the impact of an investment over time (many years)?	• Takes into the account the value of money over time and the effects of discounting.	• Needs a high level of spreadsheet and analytical skills.	Very challenging	Challenging

Source: P2PAgri P/L

11.2 SENSITIVITY ANALYSIS

This is a simple and powerful approach to assess variability and elements of risk. This method can be used for simple analyses, like assessing the effects of yield and price variation on enterprise gross margins, to more complex analyses where the whole farm is modelled to assess the range of expected profit outcomes given seasonal and price variability. This section provides examples of how sensitivity analysis can be used. All examples are based on 'Upndowns Farm'.

11.2.1 Gross margin sensitivity

Table 11.2 shows the wheat gross margin for 'Upndowns Farm' and Table 11.3 shows how this gross margin is affected by changes in yield and price. The results show how sensitive the gross margin is to both yield and price changes, especially when you compare the variation of +10% and -10% change. Note that some costs are yield related, such as harvesting costs.

Table 11.2: 'Upndowns Farm' wheat gross margin

Gross Income ($/ha)	$/ha
4.5 t/ha @ $200/t	900.00
Variable costs	
Seed	24.00
Fertiliser	104.40
Chemical	129.50
Insurance	5.50
Repairs & maintenance	21.70
Casual labour	5.60
Contract harvesting	11.30
Total variable cost	**332.92**
Gross Margin	567.08

Source: P2PAgri P/L

This type of analysis is easily undertaken and a number of software programs are available to provide these results. However, a common mistake is to use this analysis to assess the break-even yields and prices needed by a farming business to make profits or annual net cash flow. You cannot get this important information from a simple sensitivity analysis of a gross margin, as the overhead and finance costs are not taken into account in an enterprise gross margin.

When using this analysis, it is important to note that the probability of prices improving by 10% may be less than the probability of yields improving by 10%. Giving equal weighting to a 10% movement in yield and price may not be a true reflection of what occurs in reality.

'Sensitivity analysis is a very important tool in understanding your risks. If you put in worst case rainfall or yield expectations and realise that this year we won't make any money but that's all…or you might put in worst case yield and it looks like we'd lose a million dollars; if that happens, ouch! I think that sensitivity analysis is really important in working out what parameters really do matter to your business.'

Tony Geddes,
'Yallock', Holbrook, NSW

11.2.2 The '5% shift' whole farm sensitivity analysis

This analysis was used in section **7, Risk Management, Module 3** to illustrate the sensitivities on 'Upndowns Farms' net profit if major variables in the business were shifted by 5%. It is shown again here to illustrate both the approach and the results. Essentially, 'Upndowns Farm' was modelled using P2PAgri and each variable was changed independently by 5%, with the resulting change in farm net profit recorded. The results, ranked according to the impact on farm net profit, are shown in Table 11.4.

These results clearly indicate the factors that most influence the profitability of this business: both commodity prices and yields dominate the top of this table. The exchange rate has the single greatest impact as most grain is traded internationally in $US, so a shift in currency influences all commodity prices. This analysis also illustrates that yields and prices generally have a greater influence on profit than do costs.

This is a useful sensitivity tool but care is needed in interpretation. The probability of a 5% change in price and yield may be greater than a 5% change in interest rates, given the relatively stable interest rates in recent years. Considering this analysis more deeply, some of these factors are more likely to experience 5% variability than others. It is more likely this business will experience increased variability in yield and price than in costs. Those items at the top of the list in Table 11.4 tend to be price and yield related, so the impact of these variables on farm profitability is even greater than is indicated by the 5% shift.

11.2.3 Whole farm modelling of seasonal conditions

An effective way to assess the risk profile of a farming business is to model the effect of seasonal change on net profit. The seasonal effect on profit and loss is modelled using 'Upndowns Farm'. The results, shown in Table 11.5, indicate that cropping income is more vulnerable to seasonal conditions than livestock income. As most seasons will be in the range of Decile 3 to 7 growing season rainfall, these results illustrate that the business will remain profitable and viable. This demonstrates that this business is well insulated from seasonal variability and has a good risk profile. If a farm

Table 11.3: A wheat gross margin affected by yield and price changes

Yield		4.05t/ha	4.50t/ha	4.95t/ha
Price		-10%	Average	+10%
-10%	$180/t	$396	$477	$558
Average	$200/t	$477	$567	$657
+10%	$220/t	$558	$657	$756

Source: P2PAgri P/L

Table 11.4: Sensitivity analysis: effect on net farm profit (before tax) of a 5% change in value

Factors		Original value	New value	Change in value	Net profit increase	Rank
Exchange rate	$US/$A	0.90	0.86	0.04	51,464	1
Lambing %	%	100	105	5	20,980	2
Prime lamb prices	$/hd	110	115.5	5.5	16,581	3
Canola price	$/t	520	546	26	15,616	4
Canola yield	t/ha	2.0	2.1	0.1	15,616	5
Wool price	$/bale	1,200	1,260	60	11,642	6
Wool production	kg	37,234	39,096	1,862	11,642	7
Interest rates	%	8.5	8.075	0.425	11,050	8
Wheat price	$/ha	200	210	10	8,213	9
Wheat yield	t/ha	4.5	4.725	0.225	8,213	10
Bean yield	t/ha	3.8	3.99	0.19	7,529	11
Bean prices	$/t	250	262.5	12.5	7,529	12
Chemical costs	$	149,055	141,602	7,453	7,453	13
Permanent wages	$	124,600	118,370	6,230	6,230	14
Feed barley yield	t/ha	4.5	4.725	0.225	5,751	15
Feed barley prices	$/ha	180	189	9	5,751	16
Fertiliser costs	$	108,841	103,399	5,442	5,442	17
Living expenses	$	87,000	82,650	4,350	4,350	18
Malt barley price	$/t	200	210	10	3,623	19
Malt barley yield	t/ha	4.5	4.725	0.225	3,623	20
Machinery ownership cost	$	61,300	58,235	3,065	3,065	21
Chickpea price	$/t	$250	262.5	12.5	1,875	22
Chickpea yield	t/ha	2.5	2.625	0.125	1,875	23
Fuel costs	$	35,000	33,250	1,750	1,750	24
Insurance	$	31,331	29,764	1,567	1,567	25
Repairs & maintenance	$	26,000	24,700	1,300	1,300	26
Livestock costs	$	25,335	24,068	1,267	1,267	27
Rates and taxes	$	22,500	21,375	1,125	1,125	28
Calving %	%	100	105	5	450	29
Vealer price	$/hd	450	472.5	23	405	30
Account fees	$	6,000	5,700	300	300	31

Source: P2PAgri Pty Ltd

generates a loss in a Decile 3 year, it may indicate that risks are not as well managed and effort needs to be put into assessing strategies to improve risk management in the business.

This analysis can be taken one step further by including price variability. Table 11.6 shows the impact on net farm profit of price and yield variations experienced in Decile 3, 5 and 7 events. This models the extremes that are possible in 'Upndowns Farm' and indicates that net farm profit varies widely from $76k to $806k. As no losses are expected even in an extremely poor Decile 3 event of prices and seasons, the risk profile of this farming business is very good. It is not uncommon for a farming business to experience losses when a Decile 3 occurs in both seasonal event and commodity prices, so this is a good result.

Table 11.6: Whole farm estimate of seasonal and price outcomes

Season & price	Poor Decile 3	Average Decile 5	Good Decile 7
Farm gross farm income	1,257,109	1,582,129	1,987,654
Total costs	952,978	952,978	952,978
Farm EBIT	**304,131**	**629,151**	**1,034,676**
Finance costs	227,842	227,842	227,842
Farm net profit before tax	**76,289**	**401,309**	**806,834**

Source: P2PAgri Pty Ltd

11.2.4 Whole farm risk profile

Another way to identify the spread of expected net farm profits is by assessing the whole farm risk profile, as shown in Figure 11.1. The only variable changed in this 'Upndowns Farm' example is seasonal expectations. Commodity prices and cost expectations have remained constant. This graph illustrates the expected risk profile of this business given the range of seasons that could occur. It shows that this business is profitable when it experiences a Decile 3 or above season, and is very profitable in conditions above Decile 7.

Table 11.5: Whole farm estimate of seasonal outcomes

	Season		
	Poor Decile 3	Average Decile 5	Good Decile 7
Cash Income:			
Wheat	146,000	164,250	182,500
Malt barley	102,240	115,020	127,800
Feed barley	102,240	115,020	127,800
Canola	255,528	312,312	312,312
Beans	118,875	150,575	158,500
Clover	21,000	21,000	21,000
Chickpeas	37,500	37,500	37,500
Prime lambs	171,819	171,819	171,819
Self-replacing merinos	526,703	526,703	526,703
Cattle	10,500	10,500	10,500
Gross farm income	**1,454,565**	**1,582,129**	**1,629,134**
Cash production expenses:			
Cropping variable costs	312,736	312,736	312,736
Livestock variable costs	213,789	213,789	213,789
General overhead costs	256,800	256,800	256,800
Non cash production expenses:			
Managerial allowance	120,000	120,000	120,000
Depreciation	49,653	49,653	49,653
Farm EBIT	**501,587**	**629,151**	**676,156**
Interest:			
Interest on existing farm loans	227,542	227,542	227,542
Bank fees	300	300	300
Farm net profit before tax	**273,745**	**401,309**	**448,314**

Source: P2PAgri Pty Ltd

This modelling technique is also very useful when a major strategic decision is being considered. In the example shown in Figure 11.2, a continuous cropping system is modelled for 'Upndowns Farm' with the following major assumptions:

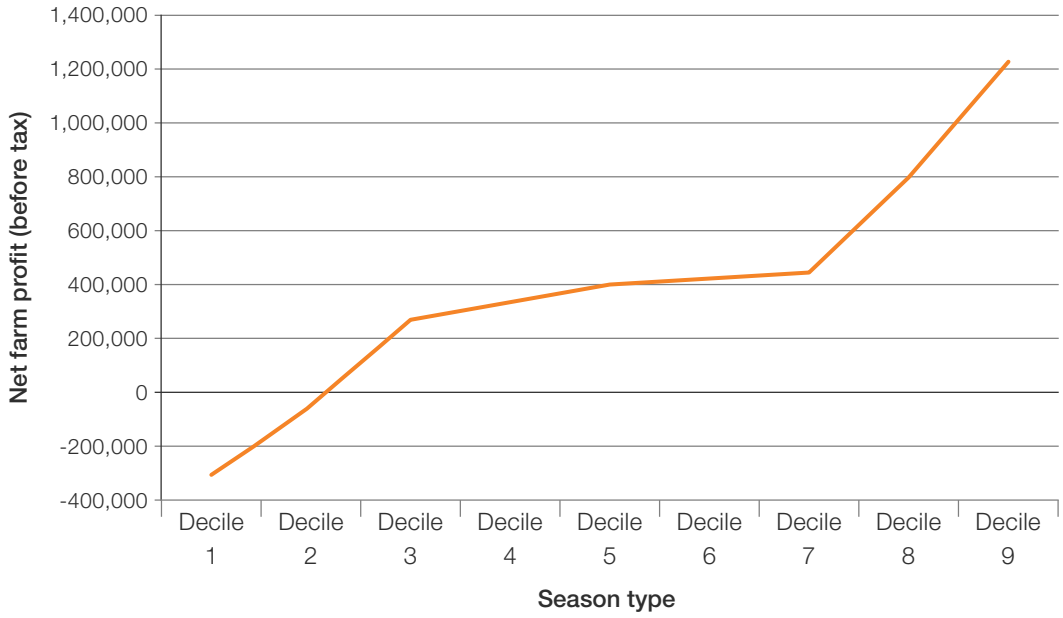
- All livestock are sold and machinery value is doubled.
- Surplus capital left over from selling livestock is used to purchase additional machinery and reduce debt.
- With pastures changed to crops, the cropping variable costs are increased by 10% to represent the increased use of spray and bagged nitrogen.
- Permanent labour used in the business has also been doubled.

Figure 11.2 shows the comparison of the mixed farming system currently being used on 'Upndowns Farm' with a continuous cropping system that could be adopted. The modelling clearly shows that:

- The continuous cropping system is only financially equivalent to the mixed farming system when a Decile 9 season is experienced.
- The risk profile of the continuous cropping system is higher, as profits are only experienced at seasons above Decile 4.
- Significant losses are experienced below Decile 4, whereas the mixed farming system only experienced losses below Decile 2.
- The continuous cropping system is estimated to experience greater losses in the poorer seasons.

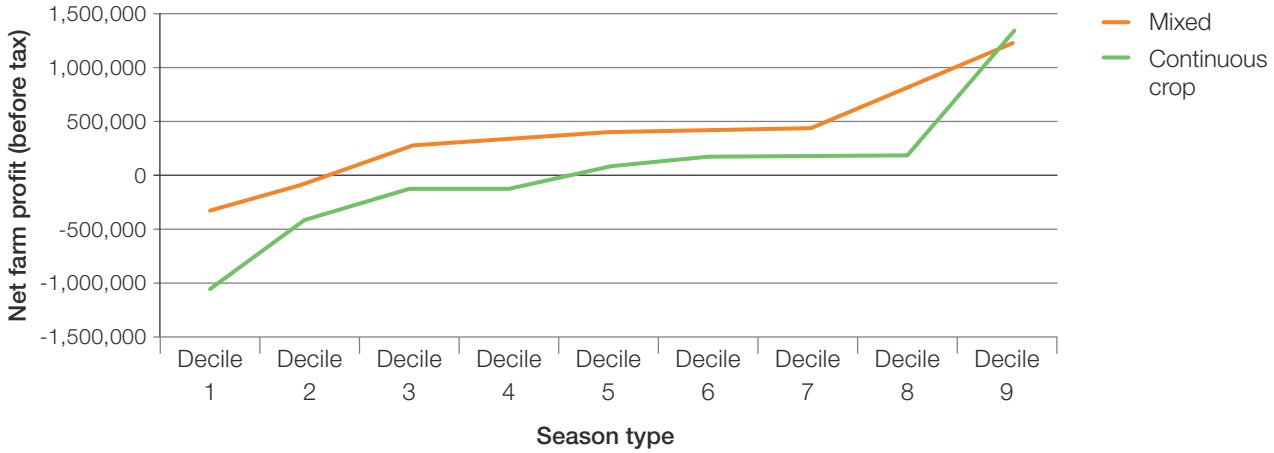
This analysis appears to indicate that a move to a continuous cropping system for this farming business would be a very poor business decision. NB. This result is given for demonstration purposes only, and a similar analysis on your business may not reflect the same outcome (Hunt, 2014).

Figure 11.1: Farm net profit (before tax) for a mixed farming system



Source: P2PAgri P/L

Figure 11.2: 'Upndowns Farm' net profit (before tax) compared to a continuous cropping system



Source: P2PAgri P/L

11.2.5 'Monte Carlo' business simulation model

One modelling approach uses a probability-based method, known as Monte Carlo simulation. This is where major variables of the farming system are studied to determine their expected distributions, or probability of occurrence. The distribution of yields and prices for each crop type, and the variation of the major costs, are studied and determined. The relationship between these major variables (correlation) is also determined and allowed for in the modelling. The Monte Carlo simulation then uses a random number generator to determine an estimated result for each season with yield, price and costs generated to reflect reality for that season. The model is then run for many seasons (say 1,000 seasons) to determine the distribution of the likely outcomes such as farm net profits or cash flow.

A study conducted by Nicholson (2012) used this method to model the comparison of a continuous cropping system against a sheep farming system on a farming business in southern Victoria. Figure 11.3 indicates the distribution of both farming systems with the mean and mode profit per hectare. This study concludes that if the comparison was undertaken given only average expectations, the cropping system would generate an average of $419/ha profit and the sheep system an average of $352/ha profit. It could be concluded the cropping system was the most profitable. However, when taking into account the expected volatility and whole range of outcomes, the mode is assessed. This is the value that appears most often in a set of possible outcomes. The mode result of $290/ha profit for the cropping system was lower than the mode for the sheep system of $368/ha profit. Once risk is modelled and considered, the sheep system provided better farm profit more often than the cropping system. The probabilistic budgeting methods that simulate the impact of risk are useful as they reveal both returns and the risks associated with those returns.

While this method of risk simulation has been available for some time, it is only just beginning to be used in farm business management research and more recently, by some farm business advisers with their farmer clients.

Figure 11.3: Distribution of profit for a cropping and sheep farming system

Source: Nicon Rural Services

11.3 PARTIAL BUDGETS

Partial budgeting is an analysis that focuses only on those parts of the business that would be affected if a simple change were implemented, such as leasing more land. It compares the gains (added income and saved costs) of such a change, against the losses (income lost and added costs) once the change is fully operational, known as the 'steady state'. Table 11.7 indicates the framework for constructing a partial budget. The advantage of a partial budget compared to a whole farm profit and loss budget is that is can be undertaken more quickly and easily as it requires less data.

To demonstrate a partial budget, a 'what if' question is asked of the 'Upndowns Farm': 'What would be the effect on farm profitability if the prime lamb enterprise was replaced by an expanded self-replacing merino enterprise?' The results, shown in Table 11.8, are based on the following assumptions:

- Self-replacing merino gross margin is $56/DSE.
- Prime lamb gross margin is $45/DSE.
- Total DSE in the current prime lamb flock is 1,720DSE.
- Asset value of the prime lamb enterprise $168,250 or $98/DSE.
- Asset value of the self-replacing merino enterprise is $806,250 or $112/DSE.
- Opportunity cost of capital is 10%.
- There is no change in the pasture program.

This analysis would indicate that the farm net profit should improve by $18,920 if the prime lamb enterprise were replaced by an expanded self-replacing enterprise. However, this figure alone does not tell if the change is a good use of capital. We need to estimate the return on the extra capital invested to make the change.

In this case, the 1,720 extra merino DSEs are worth $24,080. This is calculated by taking the asset value of the merinos of $112/DSE and subtracting the asset value of the prime lambs of $98/DSE, which gives $14/DSE added capital. This $14/DSE is multiplied by the added 1,720DSE required, giving $24,080. An extra $24,080 is invested in sheep as a result of this change. The return on extra capital is $18,920 ÷ 24,080 = 79%. The return on the extra capital clearly covers the 10% opportunity cost of the capital.

Other issues to consider are the effects on:

- Enterprise mix, as more enterprises help spread risk. The change from prime lambs to self-replacing merinos increases exposure to wool price volatility.
- Labour and management requirements.

Table 11.7: A partial budget framework

Gains	Losses
Extra income + saved costs	Extra costs + lost income
= Total gains	=Total losses
Net gain or loss = Total gains – Total losses	

Source: P2PAgri Pty Ltd

Table 11.8: A partial budget example

Gains		Losses	
Extra income:		Extra costs:	
Additional gross margin of 1,720 DSE @ $56/DSE = $96,320		Added merino capital opportunity cost any extra cost allowed for in gross margin.	
Saved costs:		Lost income:	
Any saved costs allowed for in gross margin		Lost gross margin of 1,720 DSE @ $45/DSE = $77,400	
Total gains	**$96,320**	**Total losses**	**$77,400**
Net gain or loss = Total gains – Total losses			
= $96,320 - $77,400 = $18,920			

Source: P2PAgri P/L

11.4 BREAK-EVEN ANALYSIS

Break-even analysis is of use when particular variables are identified as crucial to the business, to determine what these variable values need to be for the business to achieve break-even. Break-even is defined as being achieved when the business has a positive cash flow, a required return on managed capital, or a level of farm net profit that is as good as an alternative strategy.

11.4.1 Using the partial budget

Using the partial budget analysis discussed in 11.3, it would help to know what the prime lamb price would have to be before a break-even was achieved between expanding the self-replacing merino enterprise and maintaining the current balance. This analysis was undertaken using an average prime lamb price of $110/hd. Using a spreadsheet to perform the break-even analysis, the answer is that prime lamb prices would need to increase to $127.50/hd to be as rewarding per DSE as the self-replacing merino activity. As a manager, you would need to make a judgement on whether this break-even price was achievable in average conditions. This provides valuable added information to allow a sound decision to be made.

11.4.2 Cost of production

Cost of production, covered in section **5.2.6, Module 2**, is also a form of break-even analysis, as it assesses the cost of production given an average productivity level and the option selected to allocate overhead and finance costs. The example shown in Table 11.9, based on 'Upndowns Farm', indicates that the cost of production to grow wheat is $124.38/t. For this enterprise to be profitable, the price of wheat needs to be above this figure.

11.4.3 Target yield and price

This is an analysis which could help drive tactical goal setting to achieve specific profit levels for the business. Again using 'Upndowns Farm' as an example, and using the P2PAgri program, these profit levels could be determined by analysing the following two variables:

- Target yields
- Target prices

When doing this analysis, you need to determine how you are going to allocate overhead and finance costs as well as the profits. Once you have selected a method, then the following tables can be used for the calculations. This example shows the target yields (Table 11.10) and target prices (Table 11.11) needed for 'Upndowns Farm' to achieve a $400,000 net farm profit (before tax), representing a 5% return on equity.

These targets may not be achievable, but it does provide some insight into the yields and prices needed in order to achieve this profit level. Once these are determined, they can be set as goals to be achieved by the business.

Table 11.9: Cost of wheat production allocating overheads by % land area

Enterprise	Wheat
Enterprise area	500ha
Percentage of total area	14%
Wheat production	1,600t
Variable costs	$150,000
Overhead and financial costs	$350,000
Cost of wheat production	$124.38/t

Source: P2PAgri Pty Ltd

Table 11.10: Target yields to achieve a net farm profit of $400,000

	Budgeted prices	Target yields
Wheat	$200/t	6.1t/ha
Malt barley	$200/t	6.4t/ha
Feed barley	$180/t	5.1t/ha
Canola	$520/t	2.0t/ha
Beans	$250/t	4.0t/ha
Clover	$2.50/kg	400kg/ha
Chickpeas	$250/t	3.4t/ha

Source: P2PAgri Pty Ltd

Table 11.11: Target prices to achieve a net farm profit of $400,000

	Budgeted yields	Target prices
Wheat	4.5t/ha	$270/t
Malt barley	4.5t/ha	$287/t
Feed barley	4.5t/ha	$203/t
Canola	2.2t/ha	$475/t
Beans	3.8t/ha	$261/t
Clover	300kg/ha	$3.19/kg
Chickpeas	2.5t/ha	$343/t

Source: P2PAgri Pty Ltd

Table 11.12: Impact of seasonal variation on profitability

Farm management profit and loss	2015	2016	2017	2018	2019
Cash income:					
Wheat	164,250	319,500	524,400	163,800	129,150
Malt barley	72,450	27,500	26,800	38,700	
Feed barley	115,020	54,000	40,320	451,170	451,170
Canola	115,020	54,000	40,320	451,170	20,250
Beans	150,575	255,500	18,750	26,125	148,200
Clover	21,000				
Chickpeas	37,500				
Prime lambs	171,819	171,819	171,819	161,799	156,789
Self-replacing merinos	526,703	526,703	526,703	526,703	526,703
Cattle	10,500	10,500	10,500	10,500	10,500
Non cash income:					
Net livestock movements					
Farm gross farm income:	**1,582,129**	**1,665,250**	**1,463,904**	**1,510,357**	**1,677,992**
Cash production expenses:					
Cropping variable costs	309,436	309,730	312,820	307,082	327,640
Livestock variable costs	218,574	222,204	217,089	218,904	216,429
General overhead costs	256,800	256,800	256,800	256,800	256,800
Non cash production expenses:					
Managerial allowance	120,000	120,000	120,000	120,000	120,000
Depreciation	61,300	55,170	49,653	44,688	40,219
Farm EBIT	**616,019**	**701,346**	**507,542**	**562,883**	**716,904**
Interest:					
Interest on existing farm loans	242,435	235,282	227,542	224,230	222,679
Interest on new farm loans					
Interest on overdraft and stock					
Mortgage	22,950	7,069			
Bank fees	300	300	300	300	300
Farm net profit before tax:	**350,334**	**458,694**	**279,701**	**338,353**	**493,925**

Source: P2PAgri Pty Ltd

11.5 SCENARIO ANALYSIS

Scenario analysis is a challenging but very powerful analytical tool. Complex spreadsheets can be developed to undertake scenario analysis. One type of scenario analysis is developing a profit and loss projection for a certain plan and then comparing this to another strategy. The analysis should indicate which scenario provides the best financial result by comparing profitability, efficiency levels and wealth.

The following three scenarios are developed using 'Upndowns Farm' data, to illustrate how scenario analysis can be used to inform business decision making.

Scenario 1: Current plan given seasonal variations

Table 11.12 indicates a possible 5-year scenario to assess the impact of seasonal variations on the business' profitability, with seasons modelled as follows:

- 2015 an average season (Decile 5)
- 2016 a good season (Decile 7)
- 2017 a poor season (Decile 3)
- 2018 an average season (Decile 5)
- 2019 an average season (Decile 5)

The projected net farm profit (before tax), shown in Figure 11.4, indicates the business is expected to be profitable in all 5 years under the current plan, but with some variation due to seasonal expectations.

Scenario 2: Assessing the impact of losing the share farming agreement

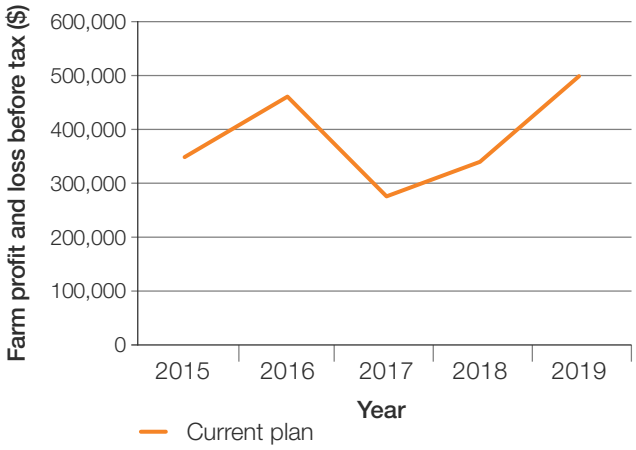
'Upndowns Farm' has 453ha in share farming, representing 24.7% of the total land area managed. There is some uncertainty about the long-term availability of this share farmed area, so a scenario is developed to assess the business risk if this share farming were lost. This second scenario was modelled using P2PAgri software. The expected net farm profit compared to the current plan is shown in Figure 11.5.

Losing the share farming is not catastrophic to this business. The result indicates that even though losing the share farming would decrease net farm profits by about half, the business would still remain viable in all seasons. Additional information from this scenario analysis is:

- The return on total capital managed (ROMC) is estimated to fall from 5% to 3%, indicating the business will be less efficient.
- The 5-year projections on the balance sheet indicate that losing the share farming in the first year and not replacing it would reduce the balance sheet by $545k over the 5 years, a loss in equity of 1%.
- The cumulative cash held by the business at the end of the 5 years would be reduced by $695k, a 34% reduction of projected figures if the share farming were retained.

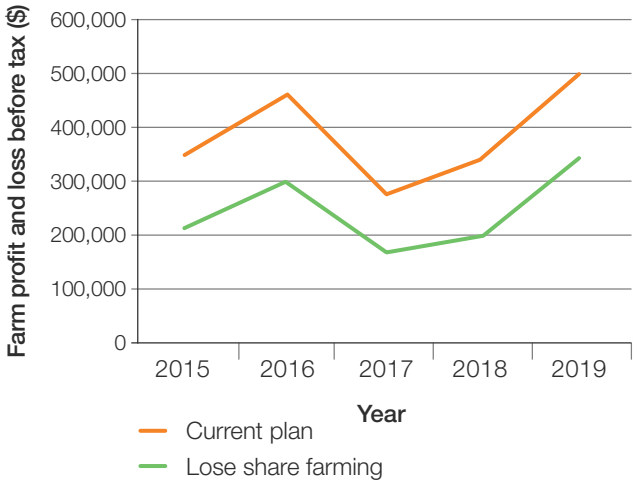
The conclusion for this farm business is that the share farming, while not vital to the business survival, does have a significant impact on financial performance. Strategies should be assessed to either maintain the share farming or look for other share farming or leased land to replace this land if it is lost to the business.

Figure 11.4: Farm net profit projections given the current plan



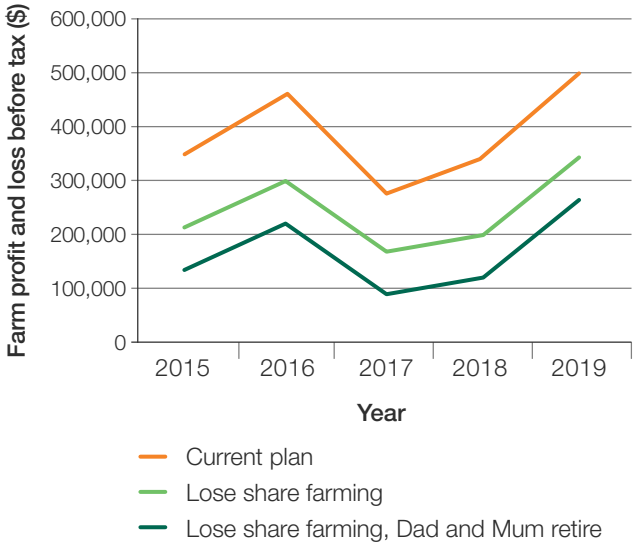
Source: P2PAgri Pty Ltd

Figure 11.5: Farm net profit projection if share farming were lost



Source: P2PAgri Pty Ltd

Figure 11.6: Impact of retirement plan on 'Upndowns Farm' profitability



Source: P2PAgri Pty Ltd

Scenario 3: Can the business fund retirement plans and afford to lose the share farming agreement?

Within the next year, the older generation on 'Upndowns Farm' want to move into the local town to retire but will not be eligible for the aged pension for the next 5 years. They will need $300,000 investment to help fund their move into town and need an annual income of $50,000 to allow them to live off-farm. The $300,000 is to be borrowed as an interest only loan at 8% (nominal). This scenario analysis assesses whether the farm business can fund this retirement plan based on the current business structure, against the worst case scenario of losing the share farming. Figure 11.6 indicates the estimated effect on the farm's net farm profit.

The impact of the parents retiring and losing the share farming, while not catastrophic, does significantly decrease the farm's financial performance. This analysis is useful as it shows that despite these two negative impacts on the business, it remains viable even during challenging seasons.

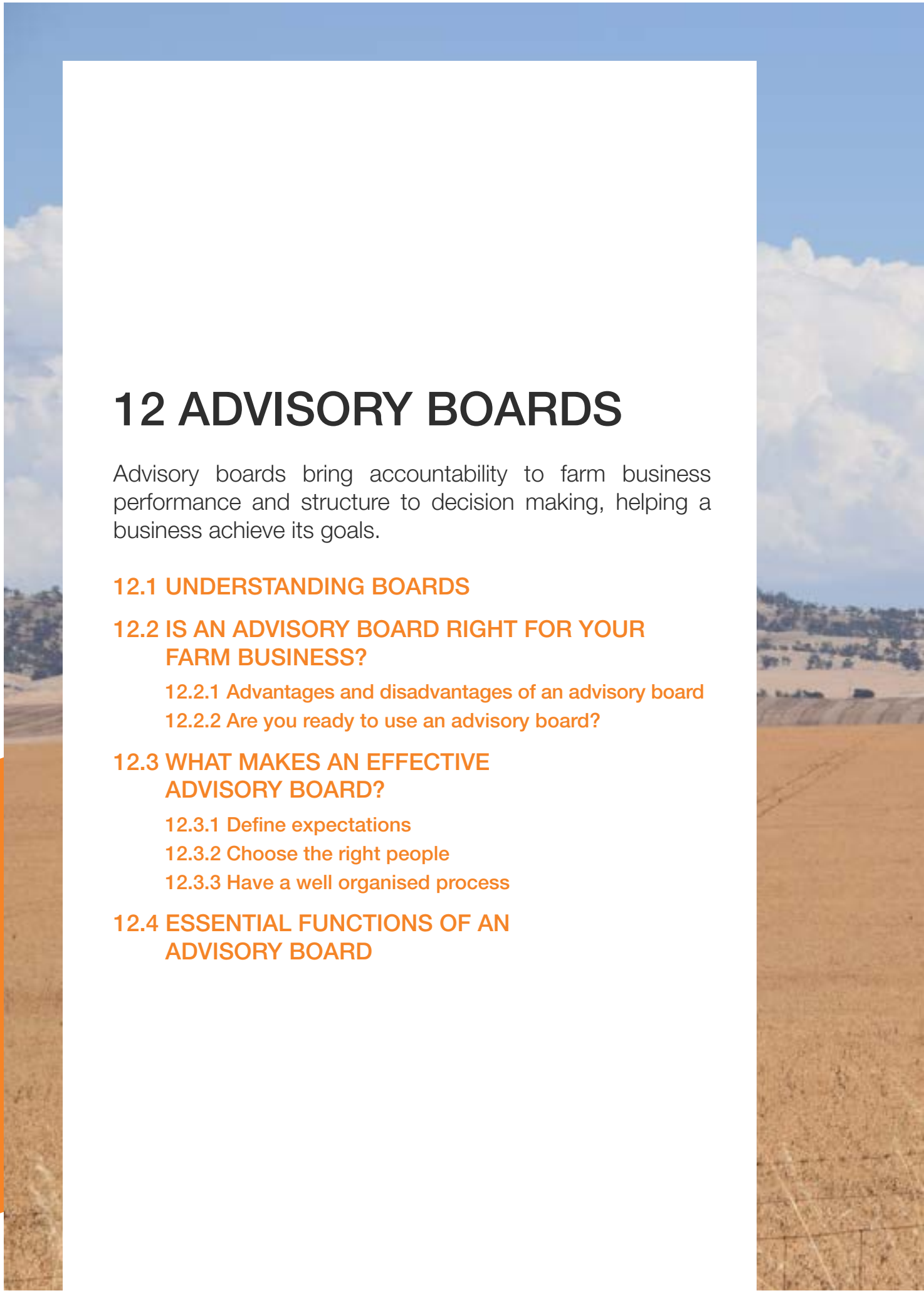
Scenario analysis is a very useful and powerful tool to support the decision making process in your business, particularly at the strategic level. Its capacity to help farmers analyse potential scenarios can significantly impact on the business' long-term sustainability.

11.6 DEVELOPMENT BUDGETS

More sophisticated analytical tools such as 'development budgets' help answer questions about significant investments that take a number of years to implement before full economic benefit is achieved. Examples include the development of a new vineyard, building stock numbers in a livestock enterprise, or a change in business structure, strategies that will all take a number of years to implement. This type of analysis requires an understanding of discounting and will produce significant investment measures such as net present value (NPV), internal rate of return (IRR) and benefit cost ratio (B/C ratio). Professionals with investment analysis skills generally use this type of analysis technique (Malcolm, B et al, 2005).

Action points

- List the business decisions you are currently contemplating for your farm. Which analytical tool would best determine their impact on the farm business?
- List advisers in your area who could help model your most important business questions.
- Ask neighbours for referrals to advisers who could help, if you do not know where to start.
- Investigate analytical tools available for farm business management.



12 ADVISORY BOARDS

Advisory boards bring accountability to farm business performance and structure to decision making, helping a business achieve its goals.

12 ADVISORY BOARDS

It is challenging for any farming family to have all the necessary skills in the management team, so there is an increasing trend for family farm businesses to be assisted by advisory boards made up of people with particular skills and experience.

KEY POINTS

- Operating a farming business is becoming increasingly complex. Boards can provide business mentorship and improved guidance for decision making.
- A board, being a 'third party', encourages accountability.
- The allocation of high level tasks to advisory boards, such as strategic thinking, tactical reporting and governance, provides objective analysis and business support.
- Carefully weigh up the benefits and costs when considering using an advisory board.

Farming is becoming increasingly complex, requiring greater responsibility to deal with issues such as new technologies for crop and livestock production, Occupational Health and Safety rules (OH&S), volatility in commodity prices, Australian Taxation Office (ATO) reporting, relationships with banks, agronomists and other advisers, and environmental issues. An advisory board can add some of these skills to the family farm business. These boards may take different forms and so can be tailored to meet an individual farm business' needs. However, like any business decision, there needs to be significant benefits to implementing an advisory board for your farm business, as their cost can be substantial.

12.1 UNDERSTANDING BOARDS

What is a Board?

A board consists of:

- a group who meet regularly to look at the performance and strategic progress of the business.
- at least one independent member and other owner-operator members.
- a group that can provide good governance to a business. Governance is the process of ensuring the strategic direction, accountability and effectiveness of the business. This can be either a legal requirement as in a management board, or in the form of advice in an advisory capacity.
- a group who can separate themselves from the day-to-day operations and take a bird's-eye-view of the business.
- a group who can debate the difficult issues and come out with a clear direction for the future of the business.
- a group who guides, and is committed to, the development of the business.

Types of boards

1. Management boards

Management boards (sometimes referred to as 'Board of Management' or 'Board of Directors') are used quite widely in the corporate business world and by private companies. They are a mandatory governance mechanism and are legally required for any private or listed company (Pty Ltd). As such, the directors of these boards have legal obligations and responsibilities, and if proven negligent in these obligations, can be prosecuted. Given this level of accountability, such governance will not come cheaply.

2. Advisory boards

The good news is that family farming businesses are not required to have boards of management if they are not a registered company and are able to use the less regulated advisory boards. These types of boards are set up for advice only and do not have the same level of legal responsibility.

Table 12.1 compares the features of a management board with an advisory board. The challenge for a farm business is to take the positives from management boards and apply them to an advisory board that suits their own farm business.

A management board, given its legal governance requirements and its expense, is not the preferred option for most farming businesses and is rarely used. The rest of this section therefore focuses on advisory boards as they are of far greater use to farm businesses.

12.2 IS AN ADVISORY BOARD RIGHT FOR YOUR FARM BUSINESS?

When considering whether establishing an advisory board is the right approach for your business, both the advantages and disadvantages need to be assessed. Do the potential benefits outweigh the disadvantages, such as the expense of an advisory board?

12.2.1 Advantages and disadvantages of an advisory board

Advantages

Shared decision making – Farming can be a lonely profession and an advisory board will provide more people to share insight, knowledge and wisdom in the sometimes difficult decision making process. With a well-functioning advisory board, the probability of making correct decisions is greatly increased. An advisory board can bring fresh perspectives to decision making, with less emotional influence. This can be particularly helpful in a family farming business.

No legal obligations – As there are no legal requirements for an advisory board, the cost of creating and maintaining an effective advisory board is cheaper than a 'Board of Management'. This also provides flexibility as the roles of an advisory board only need to be those necessary for the individual farming business.

Broaden skills and expertise – Farming is becoming increasingly complex and requires a greater range of skills. If these skills are not available in the farm's management team, then the missing skills can be accessed via an advisory board. This builds capacity in the management team and allows the farming business to maximise opportunities when they arise.

Objective advice – A board can offer the farm business owner the opportunity to step back from the often consuming daily tactical and operational management, to focus objectively on more strategic management decisions.

Focus on the strategic planning – An advisory board can help develop the strategic direction of the business and maintain the monitoring and decision making necessary to achieve this direction.

Accountability – Are the business goals being achieved? Having an advisory board can bring structured discipline to the farm's business operations, and encourage commitment and accountability in all the management team.

Mitigate risk – An advisory board can help mitigate family issues and relationship risks. Input to the strategic direction of the business from people independent of the business can also mitigate risk.

Disadvantages

Relinquish independence – Farmers are used to making decisions relatively independently and relinquishing that responsibility may be difficult. While a farming business is not obligated to accept or enact decisions and recommendations of an advisory board, it would appear to be a wasted resource if an advisory board were created but not used effectively.

Should not be set up in a crisis – There is a tendency to create advisory boards during times of difficulty, such as in response to the stress of a poor season or the threat of bank foreclosure. When stress and risks are abnormally high, it is difficult for an advisory board to be effective as business choices are greatly restricted.

It can be confronting – The management of a farming business can find feedback confronting if the advisory board identifies issues of management performance. Significant management growth and improvement can come from this experience, but it requires management to have good resilience and be open to input from others.

Cost of members' fees – Although it will be less than the expense of maintaining a management board, there will be a financial cost to having an effective advisory board. These include sitting fees and travel costs associated with reimbursing members for their time and contribution.

David: **'Edge Management was something we were introduced to about seven years ago. It's basically an organisation where we come together with people from all over NSW and set up business boards. Each quarter we go through our business, with full disclosure of finances and other personal and social issues as well. For about two hours, you have five other businesses working solely on your business. So it's all about strategic management, goal setting, and where we want to be in 10 and 20 years' time, and how we can achieve those goals.'**

Nell: **'I've just started going to the Edge meetings with my parents and I find it great. From the point of view of a young person coming into agriculture, I'm sitting at a table full of really experienced, good operators. I learn so much listening to them and making strategic decisions. As succession planning is a component of the Edge meetings, they're forcing us to start thinking about that.'**

David and Nell Mott,
'Berry Jerry', NSW

Table 12.1: Differences between management and advisory boards

	Management board	Advisory board
Structure / processes	• The organisational structure of the business needs to be approved by the board and then implemented by the Chief Executive Officer (CEO). • The board should meet regularly to maintain its responsibilities, and follow formal recording and meeting processes. It has to maintain agendas and minutes so that decisions and actions can be recorded.	• While it has a similar structure to a management board – with a chairperson to facilitate and formal procedures for conducting meetings - an advisory board is less formal and is more flexible.
Responsibilities and legal requirements	• A management board (or board of directors) is a legal requirement of any registered company in Australia. • There are strict laws guiding (Corporations Act, 2001) the implementation and management of a board's governance, and directors have major responsibilities and legal obligations. They are liable for their actions. • Any issues of a legal nature like chemical compliance and occupational and health issues, need to be approved and monitored by the board. • Directors are to have the shareholders' interests in any decision making and must have no conflict of interest.	• Members of an advisory board have no legal obligation. • It has no power to veto, instruct or direct.
Strategic management	• A management board has a legal requirement to focus on **good governance.** • They provide the **strategic management** of the business. A board of directors manages, directs and supervises the company, implementing the business vision, mission and goals. They make recommendations and directives for management to follow and are ultimately responsible for the success of the company. • Management of the business, on the other hand, is responsible for the tactical and operational management. This delineation of responsibilities helps minimise duplication of effort. However, regular reporting to the board by management on performance provides accountability.	• An advisory board can provide good governance in the form of advice to management. • While an advisory board can also focus on strategic direction, it can only provide advice and the business can do what it will with such advice. It can be a source of valuable business insight and oversight based on years of collective experience.
Areas of management responsibility	• **Industry and economic trends** – Changes in industry, markets and the economy need to be continually monitored by the management board so that any likely impact on the business goals can be managed. • **Product or business positioning** – The business production mix and business positioning in the industry should be approved by the board. • **Marketing** – The strategic direction of the marketing plan should be approved by the board. • **Financial performance** – It is important that all stages of the business cycle, assessment, planning, implementation and evaluation be completed for the business's financial management. • **Human resources** – The board is responsible for its own membership and the hiring and firing of the Chief Executive Officer (CEO). Generally, management in the business is the responsibility of the CEO	• An advisory board can provide advice on any of these same areas, but the management team are not required to follow it. • While all of these responsibilities may not be needed for an advisory board, it does provide a checklist of roles and responsibilities an advisory board might have if required for the farming business. • An advisory board can provide accountability particularly in the financial management of the business. Section **5, How do I measure the financial performance of my farm business, Module 2** covers farm financial management and specifically section **5.4, Whole farm analysis, Module 2** shows a sample financial dashboard which could be used for reporting to a board. • NB. This is not for tax accounting, but for business performance, so that progress against goals can be monitored. • The farm business owners are responsible for the membership of the advisory board.

Source: P2P Agri P/L

12.2.2 Are you ready to use an advisory board?

In deciding whether you should use an advisory board as part of the strategic management of your farm business, asking yourself questions in the following areas may help clarify your decision:

Be realistic

- What is your vision for the business and how will a board help you to achieve this?
- Can you easily share information about your farm business that portrays your situation clearly?
- Are you open to new ideas and insightful questions?
- Do you enjoy others contributing to your success?
- Are you open to engage in and receive feedback? This can be confronting at times.
- Are you prepared to put time and effort into finding the right people for your board who complement the skills required to advance your farm business? It is important you do due diligence in order to end up with a board that meets your business needs, and is made up of people you trust and work with effectively.
- Are you prepared to commit time and effort to the process of board meetings, reporting, and following up on recommendations? If not, the effectiveness of having a board will be compromised and it will be less likely to result in a good outcome.

Have clear objectives:

- What are you trying to achieve?
- What specific skills will help the business achieve this?
- What skills does your management team currently lack?
- Who will be involved from management? Should it include other family members or people who work in the business?
- What quality of external advice are you looking for?
- What sort of compensation is there for members of your board? This may be payment per meeting, a monthly or quarterly retainer, or some other agreed form of recompense.
- What processes and responsibilities need to be put in place?
- Can you be adaptable to changing needs? For example, over time, you may need to change the type of advice or skills required by the business.

12.3 WHAT MAKES AN EFFECTIVE ADVISORY BOARD?

The creation of an advisory board needs careful consideration of the following factors:

12.3.1 Define expectations

What are you trying to achieve?

Strategic planning development – Determine the objectives of your advisory board. Strategic thinking can be undertaken before a board is formed, but its membership needs to jointly own the strategic direction of the business. This joint ownership can occur more easily if the advisory board is involved in developing the strategic direction and planning.

Have a clear set of values – For an advisory board to survive into the long-term, a number of values need to be adopted such as integrity, confidentiality and trust.

Have clear expectations of members' commitment – Be clear about the time, effort and length of commitment involved for those considering joining your advisory board. Be specific about the areas you require them to commit to.

Have clear, well-communicated objectives – Be well prepared and organised for meetings; distribute an agenda and other information well ahead of meetings to inform members and minimise time needed at meetings.

12.3.2 Choose the right people

Who should be on an Advisory Board?

The creation of an effective advisory board is probably the biggest challenge of having a board. Most farmers' initial reaction is to include their accountant or bank manager, and these people may or may not be the most appropriate. Decisions of membership should start from what are the missing skills that are required and they may not be taxation management, business structures and the management of lending, which are the skills of accountants and bankers.

A key member would be the chairperson. The effectiveness of an advisory board is greatly influenced by the quality of the chairperson. While not essential, it is encouraged that the chairperson be independent of the farm's ownership. Given most farms are family owned it is highly recommended the chairperson is not the lead owner of the business. One of the aims of an advisory board is to encourage all generations involved in the business to effectively contribute, which may not occur if the chairman is also the major owner of the business.

This would also help the chairing of meetings to be as objective and effective as possible, allowing other members of the advisory board to fully participate in discussion rather than having to focus on meeting procedures. The chairperson is responsible for setting the frequency of meetings and meeting length, establishing reporting, and maintaining a meeting environment that encourages free contribution from all members.

Table 12.2: Essential functions of an advisory board

	Essential functions	Actions
Strategic direction and planning	• The challenge for most farming businesses is to focus on the 'big picture', or strategic planning. Most farm business strengths are their operational and tactical management. • An advisory board should provide strong guidance in strategic planning and governance.	• The business planning process recommended for any advisory board is discussed in section **4, Where is my farm business heading?, Module 2.** • This process should also include strategies to manage growth and succession planning, discussed in section **10, Succession planning, Module 3.**
Review goals and agreed actions	• From the strategic planning process, a series of goals should be established. • The advisory board should receive management reports monitoring process against these goals. • Actions that arise from advisory board meetings should also be recorded and monitored to encourage follow-through.	• Developing goals to guide business growth is discussed in section **4.2.3, SMART goals, Module 2.**
Risk management	• Risk is an inevitable part of any business. How it is managed will either greatly enhance or inhibit the success of the business.	• A process of identifying and managing risks to your farm business is provided in section **7, Risk management, Module 3.**
Financial monitoring	• A critical part of any advisory board process is to set up financial projections, so that progress can be monitored and management made accountable. While past financial performance can provide context, planning for the future should be the board's focus.	• This requires: 1. A set of farm management budgets (section **5, How do I measure the financial performance of my business? Module 2**), and 2. Key performance indicators (KPI) (section **5.4, Financial Ratios, Module 2**).
Compliance	• Many industries require OH&S standards for employees, chemical use, and production quality control.	• The advisory board should maintain an understanding of the business' compliance to these standards.
Capability and capacity of management	• One of the key roles of an advisory board is to continually monitor and assess the quality of management. An advisory board can create a 'learning forum', where management can be encouraged to improve its performance through training and mentoring.	• Two key areas of management that can be addressed through training are: 1. Leadership and people management skills: discussed in section **2, Leadership and people management, Module 1.** 2. Farm business management skills: while this complete manual addresses this topic, the 'how' of implementing financial management is specifically addressed in section **5, How do I measure the financial performance of my business? Module 2.**

Source: P2P Agri P/L

The following are seen to be essential characteristics and skills in advisory board members:

- **Skills and expertise needed by the management team** – The skills that may be needed in an advisory board are strategic thinking (section **4.1.3, Module 2**), farm business management thinking and planning (section **5, Module 2**), people management (section **2, Module 1**), industry expertise, minute taking and meeting procedures.
- **Good communicators** – Members should be good communicators and team players, to participate and not dominate meetings.
- **Problem solving skills** – Members need to be able to develop alternative strategies so that problem solving is effective.
- **Adaptable to changing needs** – Members need to be flexible and able to learn as the economic and natural environments experience change. This means decisions made in the past may not be appropriate for the future.
- **Ethical and trustworthy** – An advisory board will fail if members do not maintain confidentiality of your business.

12.3.3 Have a well organised process

Clear processes, expectations and recording – To have an efficient and effective board, there need to be processes and appropriate recordings so that progress can be measured and managed. For example, any major decisions should be clearly thought through, with briefing reports presented to the board prior to each meeting.

Membership – Members of an advisory board can come from both within and outside the farming ownership and management. However, as a general rule, the more members there are in a board, the more expensive the activity and the more time needed for effective discussion. It should be remembered that only enough membership is needed to ensure competence in the different range of skills needed.

Induction process – When new members are introduced into the board there should be an induction process to help that board member to settle in and contribute effectively as soon as possible.

Roles and responsibilities – Each member needs to clearly understand their roles and responsibilities and these should be documented for future reference.

Time-bounded – Membership should be time-bound so that tenure can be reviewed and is dependent on performance rather than longevity. The activity of 'hiring slowly and terminating quickly' is wise when it comes to underperforming boards.

Uneven numbers – If decisions require a vote, then an odd membership number will provide at least a majority of one. However, if the vote is that close, then perhaps the issue has not been discussed enough so that all opinions are clearly understood.

Accountability – Each board member needs to be accountable for their own performance and be willing to participate in annual reviews of their role. This will help to maintain the vitality of the advisory board. One of the biggest responsibilities of an advisory board is to build transparency and accountability in the business. This encourages high management performance.

12.4 ESSENTIAL FUNCTIONS OF AN ADVISORY BOARD

Table 12.2 lists some of the essential roles and functions of an advisory board. However, the set-up and actions of an advisory board are flexible, so can be adjusted as needed to suit management's preferences.

This section is provided as an introduction to help you assess whether using an advisory board should be part of your farm business management strategy. If you are considering an advisory board, explore the options available: set up an advisory board yourself, or use an organisation to run a board for you.

Action points

- List the current skills of your management team.
- Check these skills against your business vision. Does your management team have all the skills and expertise necessary to achieve this vision?
- If not, create a list of the skills you need, and the potential people who could provide these skills.
- Explore the options for setting up and running an advisory board.

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GRDC RESOURCES

Other information relating to the topics covered in Module 3 can be found in the following GRDC Fact Sheets and resources:

Marketing versus selling (P2Pagri P/L, 2014):
http://www.grdc.com.au/GRDC-FS-MarketingVsSelling

Strategic risk management (M Krause, 2009):
www.grdc.com.au/GRDC-FS-StrategicRisk

Succession planning (J Wilkinson, 2010):
http: //www.grdc.com.au/GRDC-FS-SuccessionPlanning

Understanding a bank's approach to farm business (P2Pagri P/L, 2014):
http://www.grdc.com.au/FBM-BankApproach