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# Australian sugarcane farm businesses

## Financial performance, 2013–14

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# Key points

## Sugarcane farm businesses

- Large sugarcane farm businesses account for the majority of Australian sugarcane production. Around 30 per cent of Australian sugarcane farm businesses had more than 125 hectares planted to sugar cane. These businesses accounted for an estimated 70 per cent of total sugarcane production in 2013–14.
- Small sugarcane farm businesses, those with less than 50 hectares planted to sugar cane, accounted for 44 per cent of farm businesses and produced 12 per cent of total sugar cane in 2013–14.
- A high proportion of large sugarcane farm businesses are found in northern Queensland regions (Mackay, Burdekin and Far North Queensland). A high proportion of small farms are in southern regions of Queensland (Bundaberg and South Queensland) and in northern New South Wales.

## Financial performance in 2013–14

- Farm cash income, defined as total farm cash receipts less total farm cash costs, averaged \$89 700 for sugarcane farm businesses in 2013–14. Farm cash income ranged from an average of just \$14 900 for farm businesses with less than 50 hectares planted to sugar cane to an average of \$384 200 for those with greater than 250 hectares of sugar cane.
- Average farm cash incomes varied across regions, mainly in line with the proportion of large and small farms, as well as with differences in sugarcane yield, Commercial Cane Sugar (CCS) percentage and regional production conditions. In 2013–14 average farm cash income was highest in Far North Queensland, averaging \$120 300 a farm, and lowest in New South Wales, where a higher proportion of smaller farms are located, averaging \$38 100 a farm.
- The average rate of return on capital (excluding capital appreciation) for sugarcane farm businesses in 2013–14 is estimated to have been 0.7 per cent. Rate of return on capital is a measure of the efficiency of the farm business in generating profit from the resources used.
- Farm businesses with greater than 125 hectares planted to sugar cane generally had positive rates of return and farms with greater than 250 hectares had an average rate of return on capital of 3.3 per cent. This return is comparable with average rates of return generated over the medium term by grains industry farms with similar total capital investment.

## Financial performance in 2014–15

- Average farm cash income is estimated to have declined from \$89 700 in 2013–14 to \$70 000 in 2014–15, as a result of lower sugar prices and increases in farm cash costs.
- Farm cash incomes declined more in southern Queensland regions because of dry seasonal conditions and in the area around Cairns as a result of Cyclone Ita in 2014. In contrast, farm cash incomes are estimated to have increased in New South Wales and the Burdekin region as a result of increased sugarcane production.
- Rates of return for larger sugarcane farm businesses remained positive, averaging 2.3 per cent for farms with greater than 250 hectares planted to sugar cane.

## Small sugarcane farm businesses

- The majority of small sugarcane farms rely on income from off-farm sources and from other farm enterprises to cover the living expenses of farm operators.

- On average, farm businesses with less than 50 hectares planted to sugar cane had cash operating margins close to zero on their sugarcane enterprise in 2013–14, but income from other farm enterprises resulted in a small average farm cash income of \$14 900.
- Off-farm income of the owner–manager household for farms with less than 50 hectares planted to sugar cane averaged \$45 800 in 2013–14.

### **Cost of production and operating margin**

- The on-farm costs of sugarcane production vary across farm businesses depending on the area planted to sugar cane, use of irrigation, region and specific climatic and production conditions during the season.
- In 2013–14 total cash costs per hectare were lowest on average in New South Wales, where almost no sugar cane was irrigated and expenditure on hired labour was low because of the high proportion of smaller family-operated farms. Cash costs per hectare were highest in the Burdekin region, where almost all sugar cane was irrigated and expenditure on water, electricity, hired labour and chemicals was relatively high. Higher production costs in the Burdekin were offset by high sugarcane yields.
- Inclusion of finance costs, the cost of capital depreciation and the value of unpaid family and partner labour adds substantially to estimates of total sugarcane production costs, particularly for farm businesses with small areas planted to sugar cane. On average, farm businesses with less than 50 hectares planted to sugar cane broke even with their cash costs of production in 2013–14, but did not generate sufficient net cash flow to cover finance costs, the costs of depreciation or the value of unpaid labour input.
- Businesses with greater than 50 hectares planted to sugar cane generated sufficient receipts to cover finance costs and most or all capital depreciation. The largest farm businesses also covered the value of unpaid family and partner labour input in 2013–14.

### **High performing farms**

- The top ranked 25 per cent of sugarcane farm businesses (ranked by rate of return to capital, excluding capital appreciation) had an average rate of return of 4.5 per cent in 2013–14. These farms made average profits of \$158 700 a farm. Top performing farms are typically larger sugarcane enterprises achieving higher sugarcane yields; these farms accounted for 50 per cent of total sugarcane production 2013–14.
- The bottom 25 per cent of farms (excluding capital appreciation) had an average rate of return of –9.2 per cent. The majority of these farms were small and rely on off-farm income to meet the living expenses of operators.
- A high proportion of low ranked farms are transitioning away from sugarcane production toward other agricultural industries or are planning to retire.

### **Investment**

- Overall, new investment (net capital additions) in sugarcane farms was low in 2013–14. Investment was mainly by top performing farms, which accounted for just over 70 per cent of net capital additions to sugarcane farm businesses in 2013–14. Higher rates of new investment for high performing farms are likely to support future productivity gains.
- Bottom performing farms had negative capital additions, which indicates they were reducing their overall investment. Of the farms that had negative capital additions, more than three-quarters indicated that they were likely to leave sugarcane production over the next five years.

### **Debt**

- Farm business debt of sugarcane farm businesses averaged \$477 000 at 30 June 2014. The ratio of debt to receipts, a measure of the size of debt relative to a business's capacity to

service debt, averaged 109 per cent, slightly lower than the average for all Australian broadacre farm businesses.

- Overall, debt servicing by sugarcane farm businesses was relatively low in 2013–14. On average, interest payments consumed 6.1 per cent of total cash receipts in 2013–14 and are estimated to have increased slightly to 6.3 per cent in 2014–15. This is below the ABARES estimate for all Australian broadacre industries of 8 per cent.
- Farm business equity ratio averaged 84 per cent at 30 June 2014, with just over 70 per cent of sugarcane farm businesses estimated to have equity ratios exceeding 90 per cent.

### **Future production intentions**

- Around 40 per cent of sugarcane farmers indicated they expected to maintain the size of their existing sugarcane enterprise over the next five years.
- Around 12 per cent of farmers indicated that they expected to expand their sugarcane area. These were mainly larger farms, with 28 per cent of farmers with at least 250 hectares planted to sugar cane intending to expand the area planted to sugar cane compared with less than 10 per cent of farmers with less than 250 hectares planted to sugar cane.
- Around 11 per cent of farmers indicated that they expected to reduce the area planted to sugar cane but remain in farming and around 22 per cent indicated that they expected to either retire or sell the farm. A high proportion of farms intending to diversify their enterprises, reduce sugar production or exit the industry were in the bottom 25 per cent of farms when ranked by rate of return excluding capital appreciation in 2013–14.

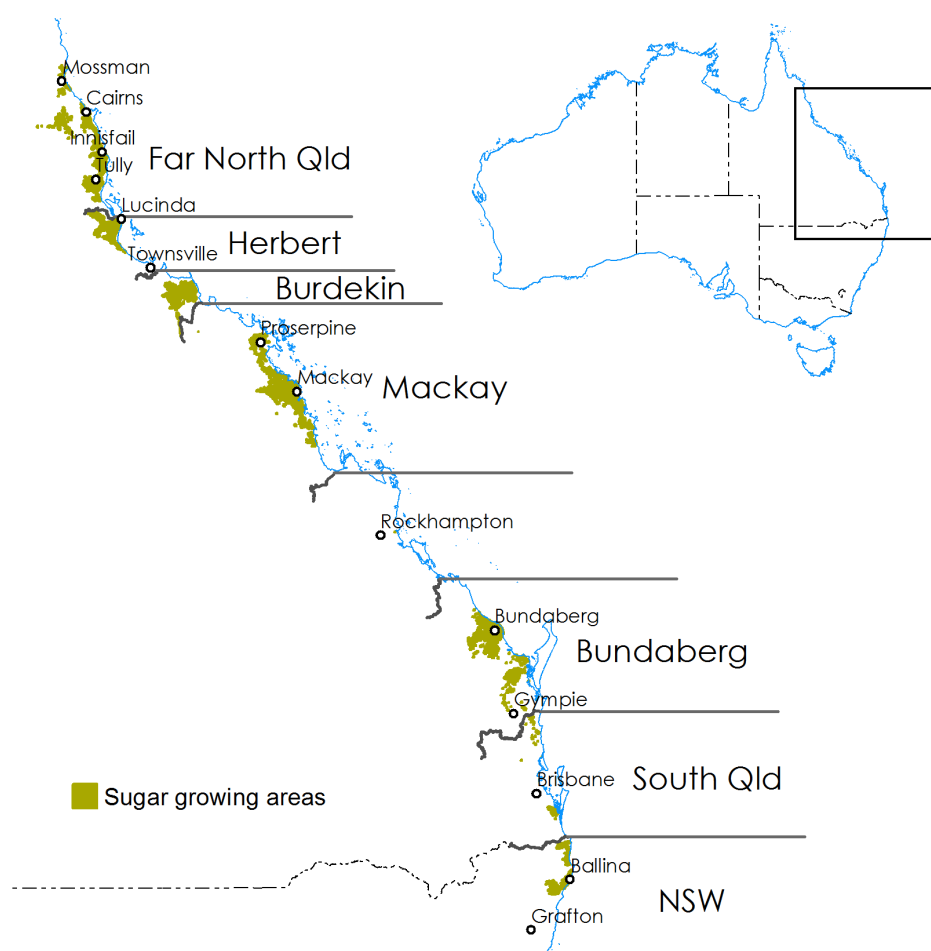
# 1 Introduction

In 2014 ABARES was commissioned by the Queensland Department of Agriculture and Fisheries and Sugar Research Australia to conduct a survey of Australian sugarcane growing farm businesses. The survey was conducted in early 2015 and collected a comprehensive set of financial, physical and management information on farm businesses that grow sugar cane. The results of this survey will help benchmark industry financial performance and inform industry policy and investment.

In 2013–14 the Australian sugarcane industry's gross value of production was estimated to be \$1.2 billion (ABS 2014). Around 70 per cent of this sugar was exported in 2013–14, making Australia the third-largest sugar exporter in the world, in volume terms.

The Australian sugarcane industry is mainly located along Australia's north-eastern coastline, from Grafton in northern New South Wales to Mossman in Far North Queensland (Map 1).

**Map 1 Sugarcane regions**



Source: ABARES

## **Scope of ABARES survey of sugarcane farm businesses**

ABARES survey targeted sugarcane farm businesses with more than 5 hectares planted to sugar cane and an estimated value of agricultural operations of at least \$30 000 (full details in survey methodology section).



Sample farms were selected to be representative of the population of sugarcane farm businesses in each of the six sugarcane producing regions of Queensland and the single sugarcane producing region in northern New South Wales (Map 1).

### **Box 1 Definition of sugarcane farm business**

Farm businesses in ABARES surveys conform to the Australian Bureau of Statistics' definition of an agricultural establishment. Under this definition, a farm business is a single accounting unit controlling its own activities and undertaking agricultural production mainly at or near one location.

For the ABARES survey, farms with less than 5 hectares of sugarcane or less than \$30 000 in estimated value of agricultural operations were excluded. And some sugarcane producing farm businesses have more than one grower delivery number. As a result, the number of farm businesses supplied by ABS and represented by this survey is fewer than the total number of sugarcane growers, and fewer than the number represented by grower delivery numbers.

The primary focus of the survey collection was the financial performance of sugarcane farm businesses. The survey collected detailed financial and physical production information for sugarcane producing farm businesses for the 2013–14 financial year and estimates for the 2014–15 financial year. In addition, data on farm labour, as well as age, education and off-farm income of owner–managers were collected.

To further understand management of sugarcane farm businesses, a range of data was also collected on farm management practices, the focus of business management and sources of farm management advice, recent changes to cane growing practices, future intentions of business owner–managers and barriers to adoption of research and development outcomes.

## 2 Physical characteristics

Large sugarcane farm businesses account for the majority of Australian sugarcane and sugar production. In 2013–14 around 30 per cent of sugarcane farm businesses those farms with greater than 125 hectares planted to sugar cane accounted for 70 per cent of total sugarcane production (Table 1).

Around 70 per cent of sugarcane farm businesses had less than 125 hectares planted to sugar cane at the start of the 2013 harvest. These smaller farm businesses accounted for 30 per cent of total sugarcane production.

**Table 1 Distribution of sugarcane farm businesses, by area planted to sugar cane, 2013–14**

Area planted to sugar cane	Sugarcane farm businesses (no.)	Share of businesses (%)	Share of sugarcane production (%)	Share of sugar production (%)
< 50 hectares	1 557	44	12	11
50–125 hectares	907	26	18	18
125–250 hectares	656	19	25	24
> 250 hectares	387	11	45	46
All sugarcane farm businesses	3 508	100	100	100

Note: Excludes farm businesses in Western Australia and businesses with an estimated value of agricultural operations of less than \$30 000 or with less than 5 hectares planted to sugar cane at the start of the 2013 harvest season.

Source: ABARES Australian Sugarcane Farm Businesses Survey

### Box 2 Definition of farm areas

**Area operated** is the total farm area used by the farm business regardless of whether land is owned by the business proprietors or leased by the business and includes all cropped land, grazing land, land under forests and unproductive land.

**Area planted to sugar cane** is the total area planted to sugar cane at the start of harvest and excludes areas of fallow or under break crops that are part of the sugarcane rotation area.

The distribution of farm businesses by area planted to sugar cane varies across regions. In regions with a higher proportion of larger farms, such as Burdekin, Mackay and Far North Queensland, the average area planted to sugar cane is high compared with regions with many small farms, such as southern Queensland and northern New South Wales (Table 2).

Use of irrigation on sugarcane crops also varies across regions, with less than 5 per cent of the area planted to sugar cane in 2013–14 irrigated in the Herbert region and the New South Wales region, 12 per cent in Far North Queensland, 84 per cent in Mackay, 96 per cent in the Bundaberg region and 98 per cent in the Burdekin region. On average, sugarcane yield was higher for irrigated farms in 2013–14 than for non-irrigated farms. This contributed to high average cane yields and higher cane production per farm on irrigated farms, particularly in the Burdekin region (Table 2).

Typically, a sugarcane cropping cycle comprises one plant crop and three to five ratoon (or regrowth) crops. Sugar cane takes 9–16 months to grow to harvest in Queensland, but in northern New South Wales, where it is cooler, sugar cane takes 18–24 months to grow. In 2013–14, 96 per cent of the area planted to sugar cane at the commencement of harvest was harvested

in Queensland. In New South Wales, with a longer period needed to grow sugar cane to harvest, only 76 per cent of the area planted to sugar cane was harvested in 2013–14.

Averaged across all surveyed regions, the average total farm area operated by sugarcane farms was 367 hectares at 30 June 2014, although half of all growers operated an area less than 50 hectares. The area planted to sugar cane accounted for 33 per cent of the total area of land operated by sugarcane farm businesses at 30 June 2014. Break crops such as soybeans, together with other crops such as vegetables or peanuts and permanent horticultural crops such as bananas, accounted for a further 3 per cent of the area operated; 6 per cent of the area operated was able to be cropped, but was either fallow or currently used for grazing; 53 per cent was used exclusively for grazing, mostly by beef cattle; and the remaining 5 per cent was unused for agriculture (forest area, buildings, roads, dams or other farm infrastructure or was unproductive land).

Overall, 22 per cent of sugarcane farm businesses also grew other crops and 18 per cent carried beef cattle.

**Table 2 Sugarcane production, sugarcane farm businesses, by region and area planted to sugar cane, 2013–14**

average per farm

Region	Total area planted to sugar cane (ha)				Sugarcane yield (t/ha)				Total sugar cane produced (t)				Proportion of total sugarcane area irrigated (%)	
	2013–14		2014–15		2013–14		2014–15		2013–14		2014–15		2013–14	
Far North Queensland	123	(8)	128	(22)	94	(5)	89	(5)	11 560	(9)	11 381	(24)	12	(34)
Herbert	118	(10)	121	(16)	76	(4)	76	(4)	9 018	(10)	9 167	(17)	2	(101)
Burdekin	157	(18)	156	(28)	102	(5)	115	(3)	16 019	(17)	17 944	(28)	98	(2)
Mackay	128	(13)	127	(24)	73	(8)	80	(6)	9 333	(17)	10 146	(26)	84	(7)
Bundaberg	108	(19)	111	(22)	73	(6)	67	(12)	7 906	(21)	7 486	(23)	96	(5)
New South Wales	62	(11)	62	(17)	73	(12)	96	(4)	4 542	(15)	6 008	(16)	ns	–
<b>Irrigated and non-irrigated sugarcane farms</b>														
Irrigated <sup>a</sup>	146	(10)	na	–	85	(4)	na	–	12 447	(11)	na	–	95	(2)
Non-irrigated	90	(6)	na	–	77	(3)	na	–	6 966	(7)	na	–	0	–
All sugarcane farm businesses	120	(6)	121	(4)	82	(3)	87	(3)	9 880	(7)	10 534	(5)	62	(6)
<b>Area planted to sugar cane</b>														
< 50 hectares	29	(5)	29	(10)	87	(5)	94	(6)	2 577	(7)	2 739	(13)	52	(9)
50–125 hectares	87	(4)	84	(5)	81	(4)	84	(4)	7 040	(6)	7 094	(7)	54	(6)
125–250 hectares	175	(3)	177	(3)	76	(5)	83	(4)	13 387	(7)	14 745	(5)	42	(14)
> 250 hectares	469	(8)	458	(8)	85	(5)	89	(5)	40 003	(10)	40 359	(11)	80	(6)

<sup>a</sup> At least one irrigation application to area planted to sugar cane. **na** Not available. **ns** Not supplied because the sample was too small to provide a reliable estimate.

Note: Figures in parentheses are standard errors expressed as a percentage of the estimate.

Source: ABARES Australian Sugarcane Farm Businesses Survey

### 3 Financial performance

Total farm cash receipts averaged \$462 000 for sugarcane farm businesses in 2013–14, of which 79 per cent was from the sale of sugar cane (Table 3). Sugarcane growers are paid through a pooling system that results in growers receiving around 90 per cent of their payments during the financial year in which the crop was harvested and the outstanding amount in the following financial year. Pool payments carried over from the 2012–13 crop accounted for around 8 per cent of total sugarcane receipts in 2013–14.

On average, non-sugar related receipts accounted for around 21 per cent of total farm cash receipts and were mostly generated from the sale of beef cattle and crops such as peanuts, oilseeds (principally soybeans), vegetables and fruit or from contracting using the farm's machinery. For the smallest farms, those with less than 50 hectares planted to sugar cane, non-sugar related receipts accounted for 42 per cent of total farm cash receipts.

In the short term, farm businesses need only to generate sufficient receipts to cover total cash costs to continue to operate without needing to borrow or use financial assets to cover cash shortfalls. Farm cash income, defined as total farm cash receipts less total farm cash costs (Box 3), averaged \$89 700 for sugarcane farm businesses in 2013–14.

An estimated 27 per cent of sugarcane farm businesses did not generate sufficient farm cash receipts to cover their farm cash costs in 2013–14, which resulted in negative farm cash income. Most businesses with negative farm cash income were smaller sugarcane farms with less than 50 hectares planted to sugar cane (Table 3).

#### Box 3 Definitions of major financial performance indicators

**Total cash receipts:** total income received by the business during the financial year

**Total cash costs:** payments made by the business for materials and services, interest and finance lease payments, and payments for permanent and casual hired labour (excluding owner–manager, partner and family labour)

**Farm cash income:** a measure of cash funds generated by the farm business for farm investment and consumption after paying all costs incurred in production: this includes interest payments, but excludes capital payments and payments to family workers. It is a short-term measure of farm performance  
*total cash receipts – total cash costs*

**Farm business profit:** return to the resources used in the business (capital and management). This is a measure of longer-term business profitability, taking into account the requirement to replace some capital over time (capital depreciation) and also accounting for changes in inventories of farm products  
*farm cash income + change in trading stocks – depreciation – imputed labour costs*

**Profit at full equity:** farm business profit adjusted to a full equity basis to enable comparison of returns across businesses regardless of the financing arrangements in place  
*farm business profit + rent + interest + finance lease payments – depreciation on leased items*

**Rate of return to total capital used:** efficiency of businesses in generating returns from all resources used  
*(profit at full equity/total opening capital) x 100*

**Rate of return to total capital including capital appreciation:** return including capital appreciation on all assets used by the farm business  
*(profit at full equity including capital appreciation/total opening capital) x 100*

In 2013–14 average farm cash income was highest for sugarcane farm businesses in Far North Queensland, averaging \$120 300 a farm (Table 4). The lowest average farm cash income was recorded for New South Wales, estimated to be \$38 100 a farm. New South Wales has a high proportion of businesses with only a small area planted to sugar cane.

Over a longer time period, farm businesses need to replace farm capital (such as vehicles, machinery, plant, sheds and fencing) to maintain productivity as capital wears out. This cost is mostly captured in capital depreciation, although repairs and maintenance included in cash costs also includes replacement and upgrade of some farm capital. Farms typically vary their expenditure on capital items depending on need, available cash flow and access to finance. In some years, farms invest more than the calculated depreciation and in others much less. A farm business that continuously invests less than the calculated depreciation will lose production capacity over the medium to long term.

ABARES includes the value of unpaid labour in its measurement of farm financial performance. In 2013–14, more than 98 per cent of Australian sugarcane farm businesses are family owned and operated. Family-operated farms use a large amount of owner, partner and family labour. Typically, these farms do not pay wages or salaries to family and partners who provide labour for the farm's operation. Valuation of this labour input enables the performance of all farm businesses to be compared on an equal basis regardless of the labour arrangements in place (paid or unpaid). Valuation of unpaid labour also captures the requirement for the farm's operators to receive a fair return for their labour input. ABARES values unpaid labour inputs at standard industry award wage rates.

Farm business profit is a longer-term measure of financial performance that captures the requirement to replace capital and values all labour used in the farm business (Box 3). In 2013–14 approximately two-thirds of sugarcane farm businesses are estimated to have had negative farm business profit (Table 3). However, the 2013–14 survey results indicate that farm business profit improved as the area planted to sugar cane increased.

Average rate of return on capital (excluding capital appreciation) for sugarcane farm businesses in 2013–14 is estimated to have been 0.7 per cent (Table 4). Rate of return on capital (excluding capital appreciation) is a measure of the efficiency of the farm business in generating profit from the resources used regardless of the financing arrangements in place (Box 3). When capital appreciation is taken into account—primarily changes in land values—average rate of return is estimated to have been around 0.1 per cent. In 2013–14 small reductions in land values were reported in several Queensland regions.

Low average farm cash incomes and rates of return for sugarcane farm businesses are a consequence of the high proportion of small farm businesses in the industry. Small farms have low profitability relative to their capital value. Farm businesses with greater than 125 hectares planted to sugar cane generally had positive rates of return (Table 4). Farms with greater than 250 hectares planted to sugar cane had an average rate of return on capital of 3.3 per cent, reflecting their ability to generate higher profits per dollar of capital invested than smaller farms.

The average rate of return on capital (excluding capital appreciation) of sugarcane farm businesses in 2013–14 was above that recorded for the sheep industry (–0.1 per cent) and the beef industry (–0.8 per cent) (ABARES 2015), which are both industries with a similarly high proportion of small farm businesses. Rates of return of larger sugarcane farm businesses (businesses with greater than 250 hectares planted to sugar cane) were more comparable with average rates of return generated over the medium term by grains industry farms with similar total capital investment.

## Off-farm income

The operators of sugarcane farm businesses also derive income from off-farm activities. The ABARES survey recorded the off-farm income of the owner–manager and their partner (owner–manager household). Total off-farm income reported is the combined off-farm income of the owner–manager and their partner and includes all wages and salaries earned from off-farm work, net earnings from other businesses or investments, and government sourced payments to the household. Several households may share in the income (or loss) from the farm business or contribute income to support the farm business but typically the owner–manager household has the largest share.

In 2013–14 off-farm income of sugarcane farm business owner–manager households averaged \$36 700 (Table 3). Off-farm income was highest for small sugarcane farm businesses, averaging \$45 700 for businesses with less than 50 hectares planted to sugar cane. On average, farm businesses with less than 50 hectares planted to sugar cane had cash operating margins close to zero on their sugarcane enterprise in 2013–14, but income contributed by other farm enterprises (crops, beef cattle and contracting) resulted in a small positive average farm cash income of \$14 900 per business (Table 3). For these small sugarcane farm businesses, income from other farm enterprises and particularly income earned off-farm accounted for the majority of the cash available to owner–manager households to meet family living expenses.

Farmers can sustain low profitability in the short term if they expect future profitability to be higher. This might be realised through the sale of the farm business and land leading to higher income following retirement. When ABARES excluded farmers that were identified in the survey as intending to retire or leave sugarcane production, estimated average farm cash income in 2013–14 increased to \$103 000 and average rates of return (excluding capital appreciation) increased to 1.1 per cent.

## Financial performance 2014–15

In 2014–15 lower prices for sugar and increases in farm cash costs are estimated to have reduced farm cash income for the majority of sugarcane farm businesses. Overall, average farm cash income for sugarcane farm businesses is estimated to have declined from \$89 700 a farm in 2013–14 to \$70 000 in 2014–15 (Table 5). The proportion of farm businesses with negative farm cash income is estimated to have increased from 27 per cent in 2013–14 to 39 per cent in 2014–15.

In southern Queensland regions (Bundaberg and south Queensland), dry seasonal conditions reduced sugarcane production. Northern areas around Cairns (Far North Queensland region) had reduced production as a result of the effects of cyclone Ita in April 2014. These two regions are estimated to have had the largest reductions in average farm cash income.

In contrast, increased sugarcane production in New South Wales is estimated to have resulted in higher average farm cash income. In the Burdekin region, a small increase in sugarcane production and higher CCS (Commercial Cane Sugar, a measure of the recoverable sugar in the cane) is estimated to have also resulted in a rise in average farm cash income.

In 2014–15 rates of return are estimated to have declined in all regions except New South Wales and the Burdekin. Rate of return for the largest sugarcane producing farm businesses (those with greater than 250 hectares planted to sugar cane) is estimated to have remained positive, averaging 2.3 per cent (Table 5).

**Table 3 Financial performance, Australian sugarcane growing farms, by area planted to sugar cane, 2013–14**

average per farm / percentage of farms

	Units	< 50 hectares		50–125 hectares		125–250 hectares		> 250 hectares		All farms	
<b>Cash receipts</b>											
Sugarcane cash receipts (net of freight)	\$	84 200	(9)	251 700	(7)	486 300	(6)	1 552 700	(11)	364 700	(8)
Other cash receipts	\$	60 500	(42)	71 300	(75)	99 800	(60)	302 100	(66)	97 300	(32)
Total cash receipts	\$	144 700	(14)	323 000	(10)	586 100	(6)	1 854 800	(11)	462 000	(7)
Proportion of cash receipts from sugar	%	58	(13)	78	(8)	83	(5)	84	(4)	79	(4)
<b>Cash costs</b>											
Contracts paid	\$	21 500	(14)	50 700	(9)	84 100	(10)	175 900	(15)	57 800	(9)
Fertiliser	\$	16 000	(13)	40 700	(11)	82 700	(8)	254 600	(10)	61 200	(7)
Repairs and maintenance	\$	15 800	(14)	32 500	(19)	54 400	(7)	170 000	(10)	44 300	(8)
Fuel, oil and grease	\$	9 600	(9)	28 300	(18)	44 700	(10)	147 100	(13)	36 200	(9)
Hired labour	\$	8 700	(27)	13 000	(40)	28 400	(21)	138 100	(15)	27 800	(14)
Interest	\$	8 100	(33)	6 800	(24)	28 900	(23)	158 700	(21)	28 300	(17)
Total cash costs	\$	129 800	(12)	250 300	(10)	469 100	(6)	1 470 600	(9)	372 300	(7)
<b>Farm financial performance</b>											
Farm cash income	\$	14 900	(62)	72 700	(16)	117 100	(17)	384 200	(27)	89 700	(15)
Percentage of farms with negative farm cash income	%	44	(26)	12	(31)	17	(30)	11	(51)	27	(21)
Farm business profit	\$	–55 700	(17)	–13 900	(86)	–13 500	(136)	150 400	(67)	–14 300	(94)
Percentage of farms with negative farm business profit	%	85	(8)	46	(17)	60	(14)	45	(15)	66	(7)
Total off-farm income of owner–manager and partner <b>b</b>	\$	45 700	(25)	34 400	(17)	18 800	(16)	34 000	(59)	36 700	(16)
<b>Rate of return <b>a</b></b>											
–excluding capital appreciation	%	–3.4	(28)	0	–	0.8	(57)	3.3	(26)	0.7	(61)
–including capital appreciation	%	–6.3	(38)	–0.4	(147)	0.9	(48)	3.4	(26)	0.1	(471)

**a** Rate of return to farm capital excluding capital appreciation. **b** Average per responding farm.

Note: Figures in parentheses are standard errors expressed as a percentage of the estimate. Farms in the region of South Queensland contribute to the national average.

Source: ABARES Australian Sugarcane Farm Businesses Survey



**Table 4 Selected financial performance indicators, Australian sugarcane growing farms, by region, 2013–14**

average per farm

Region	Sugarcane cash operating margin (before finance costs) <sup>b</sup> (\$/ha)		Farm cash income (\$)		Farm business profit (\$)		Rate of return (excl. capital appreciation) (%)		Rate of return (incl. capital appreciation) (%)	
Far North Queensland	680	(29)	120 300	(25)	19 800	(174)	1.7	(52)	1.5	(58)
Herbert	580	(24)	96 900	(21)	2 400	(715)	1.1	(78)	0.2	(600)
Burdekin	720	(22)	103 800	(29)	–20 000	(124)	0.9	(66)	1.3	(67)
Mackay	710	(38)	82 100	(46)	–13 000	(284)	1.3	(97)	–0.6	(356)
Bundaberg	240	(64)	94 100	(23)	–23 700	(86)	0	–	0	–
New South Wales	270	(73)	38 100	(46)	–63 500	(29)	–2.6	(33)	–1.8	(59)
<b>Irrigated and non-irrigated sugarcane farms</b>										
Irrigated <sup>a</sup>	700	(20)	122 800	(20)	8 200	(287)	1.5	(39)	0.7	(125)
Non-irrigated	410	(54)	52 100	(30)	–39 800	(51)	–1.0	(69)	–1.2	(47)
All farms	600	(15)	89 700	(15)	–14 300	(94)	0.7	(61)	0.1	(471)
<b>Area planted to sugar cane</b>										
< 50 hectares	10	(2766)	14 900	(62)	–55 700	(17)	–3.4	(28)	–6.3	(38)
50–125 hectares	500	(18)	72 700	(16)	–13 900	(86)	0	–	–0.4	(147)
125–250 hectares	560	(17)	117 100	(17)	–13 500	(136)	0.8	(57)	0.9	(48)
> 250 hectares	820	(23)	384 200	(27)	150 400	(67)	3.3	(26)	3.4	(26)

<sup>a</sup> Irrigated at least part of sugarcane area during 2013–14. <sup>b</sup> Sugarcane receipts less sugarcane costs excluding finance costs per hectare planted to sugar cane.

Note: Figures in parentheses are standard errors expressed as a percentage of the estimate.

Source: ABARES Australian Sugarcane Farm Businesses Survey

**Table 5 Financial performance of sugarcane farm businesses, 2013–14 and projections for 2014–15**

percentage of farms / average per farm

Region	Farm cash income (\$)		Farms with negative farm cash income (%)			Rate of return (excluding capital appreciation) (%)			
	2013–14	2014–15 y	2013–14	2014–15 y	2013–14	2014–15 y			
Far North Queensland	120 300	(25)	45 000	31	(40)	57	1.7	(52)	–0.7
Herbert	96 900	(21)	86 000	22	(53)	25	1.1	(78)	0.5
Burdekin	103 800	(29)	124 000	25	(56)	18	0.9	(66)	1.3
Mackay	82 100	(46)	62 000	33	(41)	49	1.3	(97)	0.6
Bundaberg	94 100	(23)	24 000	6	(68)	47	0.0	(97)	–2.1
New South Wales	38 100	(46)	82 000	40	(54)	16	–2.6	(33)	–0.6
All farms	89 700	(15)	70 000	27	(21)	39	0.7	(61)	0.0
<b>Area planted to sugar cane</b>									
< 50 hectares	14 900	(62)	10 000	44	(26)	62	–3.4	(28)	–3.8
50–125 hectares	72 700	(16)	56 000	12	(31)	14	0	(97)	–0.7
125–250 hectares	117 100	(17)	92 000	17	(30)	28	0.8	(57)	–0.2
> 250 hectares	384 200	(27)	286 000	11	(51)	29	3.3	(26)	2.3

y Provisional survey estimate.

Note: Figures in parentheses are standard errors expressed as a percentage of the estimate provided.

Source: ABARES Australian Sugarcane Farm Businesses Survey

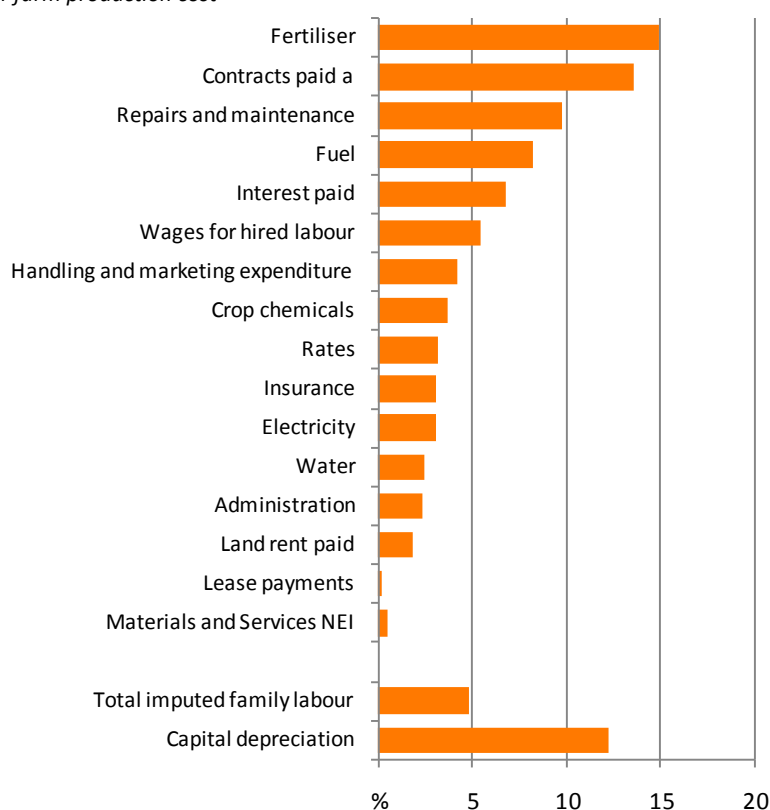
## Sugarcane production costs

Sugarcane production costs vary across farm businesses depending on the area planted to sugar cane (farm size), the farm's use of irrigation, the farm's location (region) and the specific climatic and other production conditions during the production season.

In this report, sugarcane production costs are presented per hectare planted to sugar cane to reduce the effects of differences in farm size. Some estimates are also provided per tonne of sugar cane produced within planted area classifications. Estimates provided are for 2013–14 only and may differ from estimates for a longer time period.

**Figure 1 Composition of sugarcane production cost, sugarcane farm businesses, 2013–14**

*Proportion of total on-farm production cost*



**a** Includes contract harvesting, planting, spraying and cultivation. NEI Not elsewhere identified.

Note: Excludes freight on sugar cane.

Source: ABARES Australian Sugarcane Farm Businesses Survey

Averaged across all sugarcane farm businesses, fertiliser and contracts paid (for sugarcane harvesting, planting, spraying and cultivation) accounted for the largest share of farm cash costs. Depreciation of farm capital was the largest non-cash cost of sugarcane production (Figure 1). In 2013–14 fertiliser accounted for 15 per cent of total production cost, contracts 14 per cent, depreciation 12 per cent and repairs and maintenance 9 per cent.

Total production cost per hectare varied across regions (Table 6) in 2013–14. The lowest average cash cost per hectare (excluding finance costs) was in New South Wales, where almost no sugar cane was irrigated and expenditure on hired labour was low because of the high proportion of small family-operated farms. In contrast, the highest cash cost (excluding finance costs) was recorded in the Burdekin region, where almost all sugar cane was irrigated and expenditure on water and electricity (for pumping) was high. Expenditure on hired labour and

chemicals was also relatively high. The high production costs in Burdekin are offset by high sugarcane yields (tonnes of cane per hectare) resulting in cash cost (excluding finance costs) per tonne of sugar cane produced being only slightly above the average for all sugarcane farm businesses (Table 7).

#### Box 4 Estimating sugarcane production costs

ABARES surveys derive information on farm costs from annual profit and loss statements or similar financial records prepared by businesses. These data are collected for the whole farm business and are usually not disaggregated by farm enterprise. Sugarcane farm businesses that have other enterprises such as other crops or livestock incur costs not directly related to sugarcane production. To enable estimation of the specific costs of sugarcane production additional questions were included in the survey of sugarcane farm businesses.

These additional questions included the proportion of key variable costs attributable to sugarcane production on mixed enterprise farms. These key variable costs included: fertiliser, crop chemicals, fuel, repairs and maintenance, contracts paid (for example, spraying, cultivating and harvesting) and hired labour (excluding family and partner labour).

Overhead costs such as accountancy, telephone, insurance, interest paid and capital depreciation were attributed to enterprises on the basis of their share of total farm cash receipts. Farms with sharefarming arrangements were excluded from the analysis.

Per hectare costs of production were derived by dividing the sugarcane enterprise share of costs by the area planted to sugar cane.

Per tonne of cane costs of production were derived by dividing the sugarcane enterprise share of costs by the total tonnage of sugarcane harvested.

Inclusion of finance costs, the value of unpaid family and partner labour and the cost of capital depreciation adds substantially to the estimate of total sugarcane production costs, particularly for farm businesses with only small areas planted to sugar cane (Figure 2).

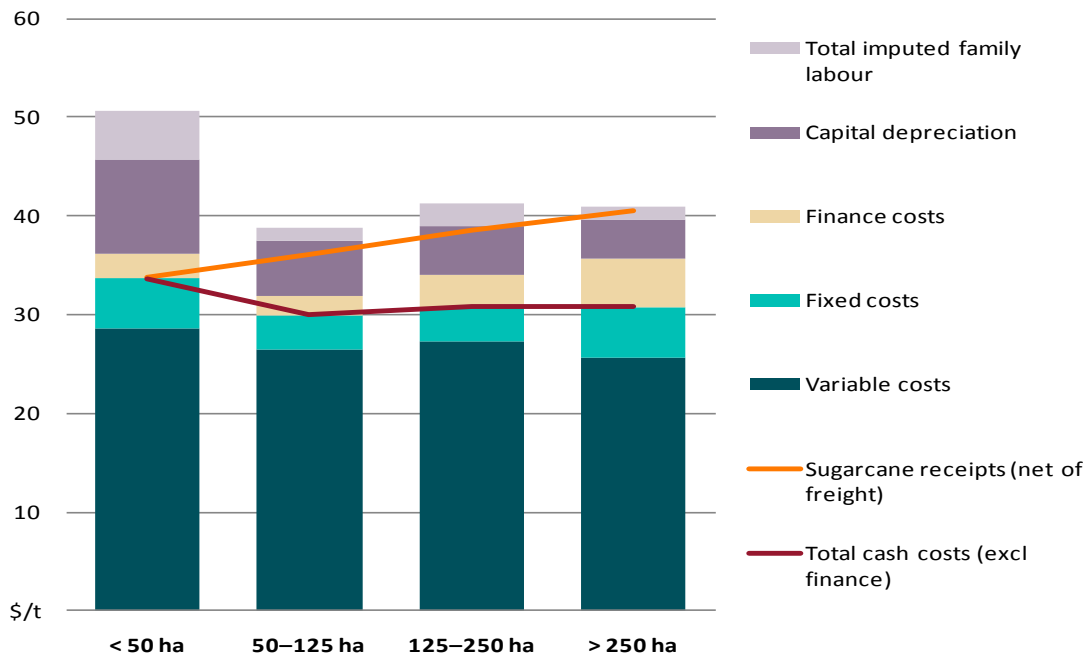
Even after differences in sugarcane yield are taken into account, the total cost of sugarcane production for farm businesses with less than 50 hectares planted to sugar cane is estimated to have been well above the receipts generated from sugar cane in 2013–14. On average, these small sugarcane enterprises had both higher fixed cash costs per tonne of cane produced and higher variable cash costs per hectare and per tonne of cane produced than farm businesses with larger areas planted to sugar cane. On average, these small sugarcane farms broke even with their cash costs of production in 2013–14, but did not generate sufficient net cash flow to cover finance costs, the costs of depreciation or the value of unpaid family and partner labour input.

Many of these smaller farms have income from other farm enterprises and off-farm sources that provides most of the income to meet the operators' living expenses. Small farm size results in high unit production costs as the costs of farm vehicles, plant and machinery, maintenance and insurance of farm buildings and improvements as well as any included household expenditure is spread over relatively little output.

Larger farm businesses (those with greater than 50 hectares planted to sugar cane) received sufficient receipts from sugar cane to cover finance costs and most or all capital depreciation. The largest farm businesses also covered the value of unpaid family and partner labour inputs in 2013–14 (Figure 2). Receipts per tonne of sugar cane increased as farm size increased, on average. This is mainly a result of larger farms, located principally in the Mackay, Burdekin and Herbert regions, producing sugar cane with higher CCS in 2013–14.

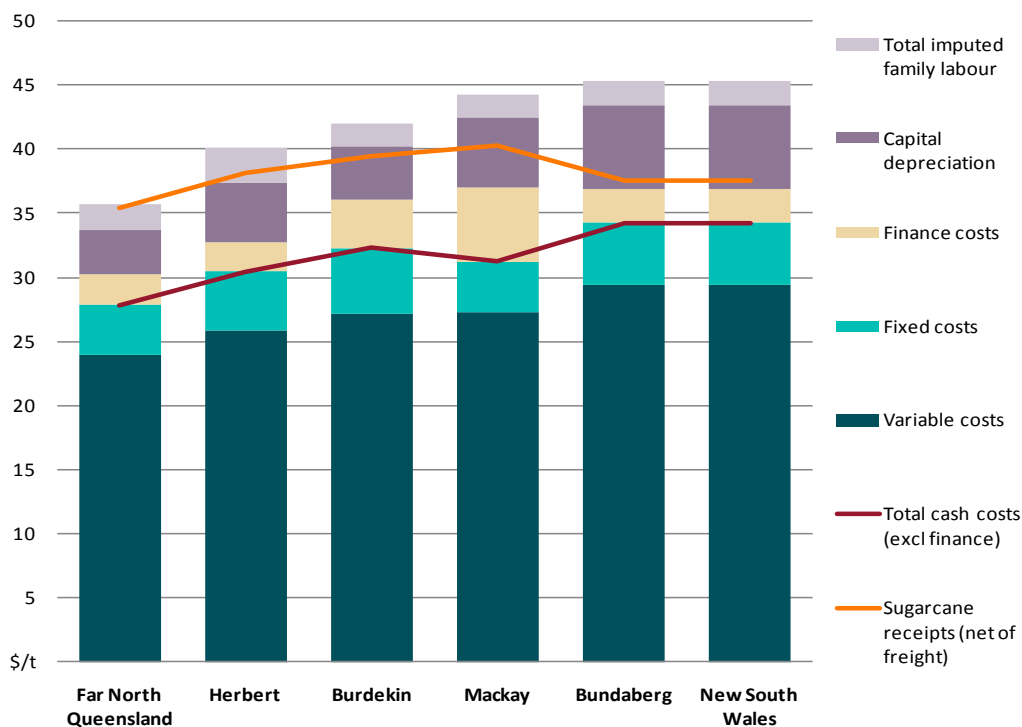
Regionally, the margin of sugarcane receipts over cash costs appears to reflect the distribution of farms by area planted to sugar cane. In Bundaberg and New South Wales, where a higher proportion of smaller farms are located, sugarcane receipts covered all cash costs (including finance costs) but with no surplus to cover depreciation or family labour. In other regions there was sufficient surplus to cover most or all of these costs, on average (Figure 3).

Figure 2 Sugarcane production costs, by area planted to sugar cane, 2013–14



Source: ABARES Australian Sugarcane Farm Businesses Survey

Figure 3 Sugarcane production costs, by region, 2013–14



Source: ABARES Australian Sugarcane Farm Businesses Survey

Table 6 Sugarcane production cost a, by region, 2013–14

average per farm

Cost category	Unit	Far North Queensland		Herbert		Burdekin		Mackay		Bundaberg		New South Wales		All sugarcane farm businesses	
Contracts paid b	\$/ha	555	(18)	577	(10)	600	(15)	277	(23)	362	(12)	559	(22)	454	(7)
Fertiliser	\$/ha	578	(9)	565	(11)	525	(7)	494	(7)	341	(8)	433	(13)	500	(3)
Fuel	\$/ha	261	(10)	209	(19)	270	(10)	313	(12)	292	(11)	253	(12)	274	(5)
Repairs and maintenance	\$/ha	252	(14)	242	(14)	413	(11)	338	(9)	400	(12)	238	(20)	326	(4)
Crop chemicals	\$/ha	161	(18)	54	(17)	171	(12)	105	(16)	117	(15)	109	(17)	122	(7)
Wages for hired labour	\$/ha	172	(42)	107	(40)	265	(20)	170	(20)	231	(25)	20	(61)	181	(10)
Administration	\$/ha	60	(17)	113	(40)	79	(13)	64	(17)	102	(42)	56	(20)	77	(13)
Water	\$/ha	50	(53)	na	-	210	(20)	49	(57)	138	(27)	na	-	81	(15)
Rates	\$/ha	114	(19)	145	(9)	155	(9)	85	(11)	42	(18)	83	(20)	106	(5)
Handling and marketing	\$/ha	105	(15)	158	(17)	195	(11)	139	(17)	98	(21)	151	(22)	141	(6)
Electricity	\$/ha	50	(29)	14	(21)	239	(12)	69	(16)	191	(20)	28	(40)	103	(7)
<b>Total cash costs (excl finance)</b>	\$/ha	2 490	(8)	2 310	(6)	3 220	(5)	2 220	(5)	2 470	(5)	2 040	(10)	2 490	(2)
Interest paid	\$/ha	162	(30)	126	(19)	283	(25)	363	(23)	69	(28)	73	(56)	226	(13)
Land rent paid	\$/ha	57	(28)	47	(27)	60	(48)	50	(43)	123	(54)	58	(56)	62	(19)
<b>Total cash costs</b>	\$/ha	2 700	(8)	2 490	(6)	3 590	(5)	2 630	(5)	2 660	(5)	2 170	(10)	2 780	(2)
Total imputed family labour	\$/ha	184	(26)	208	(17)	176	(23)	125	(23)	133	(26)	199	(21)	160	(10)
Capital depreciation	\$/ha	301	(12)	357	(12)	420	(13)	383	(13)	472	(20)	842	(19)	412	(5)
<b>Total costs</b>	\$/ha	3 190	(8)	3 050	(6)	4 190	(5)	3 140	(5)	3 270	(5)	3 210	(10)	3 350	(2)

a Excludes freight on sugar cane. b Includes contract harvesting, planting, spraying and cultivation. na Not available.

Note: All financial variables are expressed in 2014–15 dollars. Figures in parentheses are standard errors expressed as a percentage of the estimate provided.

Source: ABARES Australian Sugarcane Farm Businesses Survey

**Table 7 Sugarcane production cost and cash operating margin a, 2013–14**

average per farm

Region	Sugarcane receipts (net of freight)				Total cash costs (excluding finance costs)				Sugarcane cash operating margin (before finance costs)			
	\$/ha	-	\$/tonne	-	\$/ha	-	\$/tonne	-	\$/ha	-	\$/tonne	-
New South Wales	2 300	(15)	32	(6)	2 040	(10)	28	(10)	270	(73)	4	(65)
Far North Queensland	3 160	(4)	35	(2)	2 490	(8)	28	(8)	680	(29)	8	(29)
Herbert	2 890	(5)	38	(2)	2 310	(6)	30	(5)	580	(24)	8	(24)
Burdekin	3 940	(6)	39	(2)	3 220	(5)	32	(5)	720	(22)	7	(19)
Mackay	2 930	(10)	40	(2)	2 220	(5)	31	(8)	710	(38)	9	(30)
Bundaberg	2 710	(6)	38	(3)	2 470	(5)	34	(5)	240	(64)	3	(61)
<b>Irrigation</b>												
Non-irrigators	2 740	(4)	36	(2)	2 330	(11)	30	(10)	410	(51)	5	(52)
Irrigators	3 270	(5)	40	(2)	2 570	(3)	31	(4)	700	(20)	9	(17)
<b>Area planted to sugar cane</b>												
< 50 hectares	2 940	(6)	34	(3)	2 930	(7)	34	(8)	10	(2 766)	0	(2 763)
50 – 125 hectares	2 940	(5)	36	(2)	2 440	(5)	30	(4)	500	(18)	6	(16)
125 – 250 hectares	2 760	(4)	39	(2)	2 210	(3)	31	(3)	560	(17)	8	(16)
> 250 hectares	3 400	(6)	41	(2)	2 580	(4)	31	(5)	820	(23)	10	(19)
<b>All sugarcane farm businesses</b>	3 090	(3)	38	(1)	2 490	(2)	31	(3)	600	(15)	7	(14)

a Calculated at full equity (before finance costs).

Note: Figures in parentheses are standard errors expressed as a percentage of the estimate provided.

Source: ABARES Australian Sugarcane Farm Businesses Survey

## High performing farms

Most Australian sugarcane farm businesses are family farms so achieving reasonable returns means earning sufficient income to support family, fund productivity improvement over the long term and provide an acceptable return on capital.

In 2013–14, 27 per cent of sugarcane farm businesses had negative farm cash income. This is estimated to have increased to 39 per cent in 2014–15. Year-to-year losses can occur because of seasonal conditions, low prices and a range of other reasons, but farmers who continue to make losses over the longer term will become unviable. Identifying the characteristics of high performing farms can assist in understanding the potential for improvement across the industry and provide some insight into current adjustments to financial pressure.

In this analysis farm businesses have been classified to performance categories based on rate of return (excluding capital appreciation). Rate of return has been chosen to rank the performance of sugarcane farm businesses because it is a comprehensive measure of the performance of the whole farm business (Box 5).

### Box 5 Ranking sugarcane farm business performance

Two measures are available to rank the relative financial performance of sugarcane farm businesses:

**Sugarcane cash operating margin (before finance costs) per hectare:** a measure of the efficiency of the sugarcane enterprise in generating net cash flow.

*(total cash receipts from sugar cane – total cash costs of sugarcane production excluding interest, rent and finance lease payments) / area planted to sugar cane*

**Rate of return to total farm capital:** the efficiency of the whole farm business in generating a return to all resources used. This is a comprehensive measure of farm financial performance capturing both the efficiency of all the farm's enterprises as well as the business's efficiency in the use of all capital and labour.

*(profit at full equity / total opening capital) x 100* [See Box 3]

Both methods remove many of the effects on farm business performance that result from differences in business size. Sugarcane cash operating margin per hectare is a measure specific to sugarcane enterprises that does not capture the effect of other farm enterprises on the overall financial performance of the business. These other enterprises tend to make a relatively larger contribution to the receipts of businesses with small sugarcane enterprises, on average. Further, sugarcane cash operating margin per hectare does not capture differences between businesses in the efficiency with which they use all capital inputs and all labour inputs including unpaid labour inputs. Generally smaller sugarcane businesses use the largest amounts of unpaid labour.

On balance, both methods result in similar performance ranks for larger sugarcane farm businesses. However, the two methods result in substantially different ranks for smaller businesses where non-sugar enterprises, unpaid labour and capital utilisation can often have a large influence on business performance.

Large differences exist for most financial performance measures between the average financial performance of top performing farms and that of bottom performing farms (Table 8).



**Table 8 Characteristics of sugarcane farm businesses ranked by rate of return to total capital excluding capital appreciation, 2013–14**

percentage of farms / average per farm

<b>Physical estimates</b>		<b>Top 25%</b>		<b>Bottom 25%</b>	
Total area planted to sugar cane	ha	216	(10)	36	(21)
Proportion of total sugarcane area irrigated	%	68	(7)	30	(41)
Tonnes of sugar cane per hectare	tonnes	92	(2)	68	(7)
Total sugar cane produced	tonnes	19 802	(11)	2 437	(20)
<b>Financial performance</b>					
Sugarcane cash receipts (net of freight)	\$	766 900	(12)	74 800	(23)
Other cash receipts	\$	69 500	(27)	7 500	(354)
Total cash receipts	\$	940 300	(10)	96 200	(32)
Proportion of cash receipts from sugar	%	80	(3)	80	(28)
Total cash costs	\$	658 100	(10)	116 300	(35)
Farm cash income	\$	282 100	(16)	-20 100	(60)
Proportion of farms with negative farm cash income	%	0	(97)	80	(14)
Farm business profit	\$	158 700	(26)	-93 800	(13)
Rate of return (excluding capital appreciation)	%	4.5	(17)	-9.2	(11)
Farm capital at 30 June	\$	5 107 100	(13)	949 800	(13)
Farm debt at 30 June	\$	827 000	(27)	111 000	(45)
Equity ratio	%	83	(3)	88	(5)
Off-farm income	\$	23 100	(26)	48 800	(27)
Net capital additions	\$	35 700	(41)	-17 000	(126)
<b>Per hectare measures for sugarcane enterprise</b>					
Sugarcane receipts per hectare planted	\$/ha	3 580	(5)	2 200	(11)
Sugarcane receipts per tonne of cane	\$/tonne	40	(2)	33	(7)
Total cash costs	\$/ha	2 780	(4)	2 790	(10)
Cash operating margin	\$/ha	800	(19)	-590	(38)
Imputed family labour cost	\$/ha	90	(17)	360	(24)
Capital depreciation	\$/ha	310	(8)	710	(27)
Profit margin	\$/ha	400	(42)	-1 650	(16)
<b>Expected enterprise change over next five years a</b>					
No change	%	51	(12)	14	(75)
Expand the area planted to sugar cane	%	14	(24)	13	(88)
Reduce the area planted to sugar cane but continue to farm	%	10	(39)	22	(52)
Diversify and/or change into another agricultural industry	%	3	(95)	29	(44)
Retire or sell the farm	%	14	(36)	28	(31)

a Response to supplementary survey questions

Source: ABARES Australian Sugarcane Farm Businesses Survey

The top 25 per cent of sugarcane farm businesses had an average rate of return (excluding capital appreciation) of 4.5 per cent in 2013–14. These farms made strong positive farm business profits, averaging \$158 700 a farm.

Top performing farms typically operate larger sugarcane enterprises and achieve higher sugarcane yields. Although top performing farms account for 25 per cent of the population of commercial sugarcane farms, they accounted for 47 per cent of the total area planted to sugar cane and 50 per cent of total sugarcane production in 2013–14. In contrast, the bottom performing 25 per cent of farms accounted for just 6 per cent of total sugarcane production.

The bottom 25 per cent of sugarcane farms had an average rate of return (excluding capital appreciation) of -9.2 per cent (Table 8). Some of these farms were significantly affected by events such as flooding in the previous few years and, as a result, incurred large expenditure to replant damaged cane fields and repair fixed improvements. However, the majority of these farms would generate low farm cash incomes in most years because of their small size. Around 80 per cent of these farms realised negative farm cash incomes and largely relied on off-farm income to meet operator living expenses, with the off-farm income of bottom ranked farm businesses averaging \$48 800 in 2013–14.

In addition to achieving much higher sugarcane production per hectare, top ranked farms received higher prices per tonne of cane in 2013–14 as a result of higher CCS content. Higher receipts per hectare were also complemented by lower total sugarcane production costs per hectare.

Total cash costs of top and bottom performing farms were relatively similar in 2013–14, averaging around \$2 800 per hectare of sugar cane, although the composition of cash costs differed between the two groups. For example, top performing farms had a higher hired labour cost per hectare and relatively low administrative costs per hectare than bottom ranked farms. Overall, the non-cash costs of capital depreciation and value of unpaid family labour were much higher per hectare for bottom ranked farms.

A high proportion of low ranked farms are transitioning away from sugarcane production to other agricultural activity or operators of these farms plan to retire. In response to questions on future intentions, 28 per cent indicated an intention to retire, 29 per cent indicated an intention to diversify enterprises or move to other agricultural activity and 22 per cent indicated an intention to reduce their area of sugar cane but continue farming. Farms that are intending to leave the industry in the near future are unlikely to commit the large upfront fixed costs associated with planting. A small proportion indicated they were likely to expand production (13 per cent), with most of these being farms that were subject to poor seasonal conditions in 2013–14.

Few operators of top performing farms indicated an intention to retire in the next five years (14 per cent), with just over half indicating they did not expect to change from the size of their existing enterprise and 14 per cent, mainly operators of farms with more than 250 hectares under cane, indicated an intention to expand production.

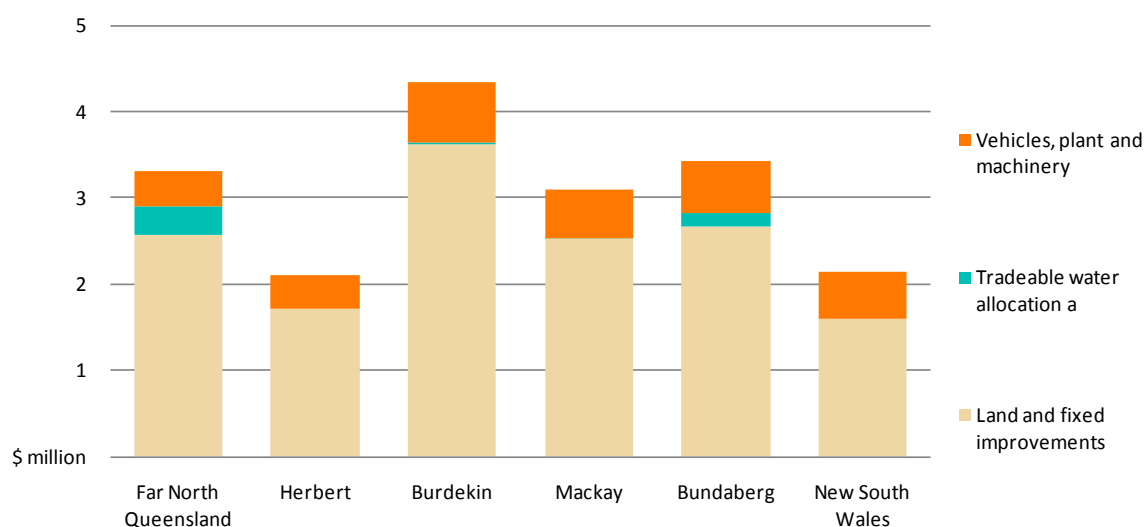
## 4 Capital, investment and debt

### Farm capital

At 30 June 2014, the average total capital value of sugarcane farm businesses was \$3.1 million. Average capital values vary across regions (Figure 4) with differences in the distribution of farm sizes (Figure 5) and differences in land values. On average, land and fixed improvements (including farm housing, buildings, fencing and water supply infrastructure) accounted for 80 per cent of the total capital value of farm businesses.

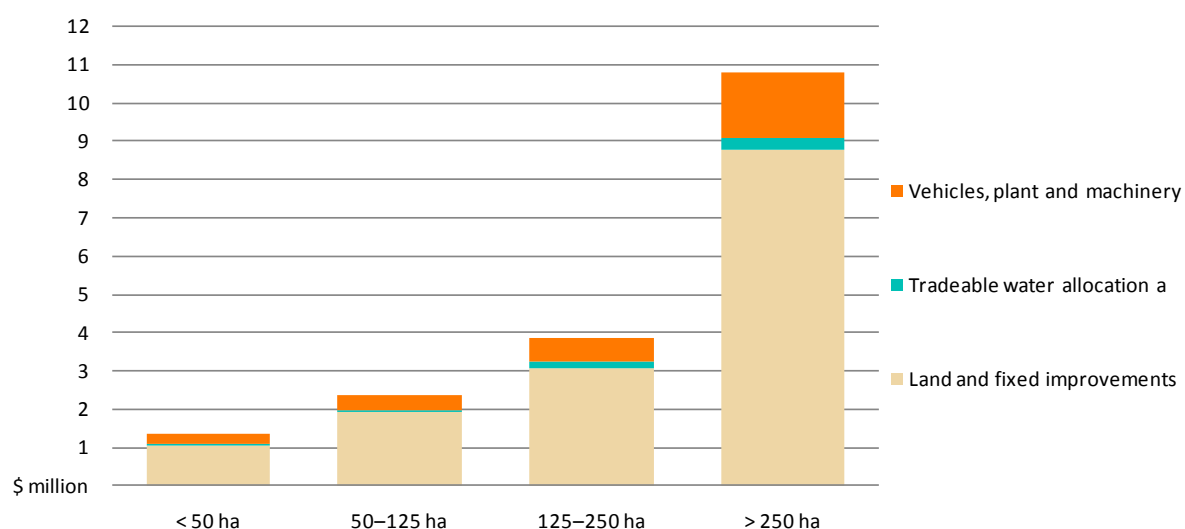
Figure 4 Capital value, Australian sugarcane farms, by region, at 30 June 2014

average per farm



a Value of water licences or rights not separately tradable from land are included in value of land and fixed improvements.  
Source: ABARES Australian Sugarcane Farm Businesses Survey

Figure 5 Composition of farm business capital, by area planted to sugar cane, at 30 June 2014



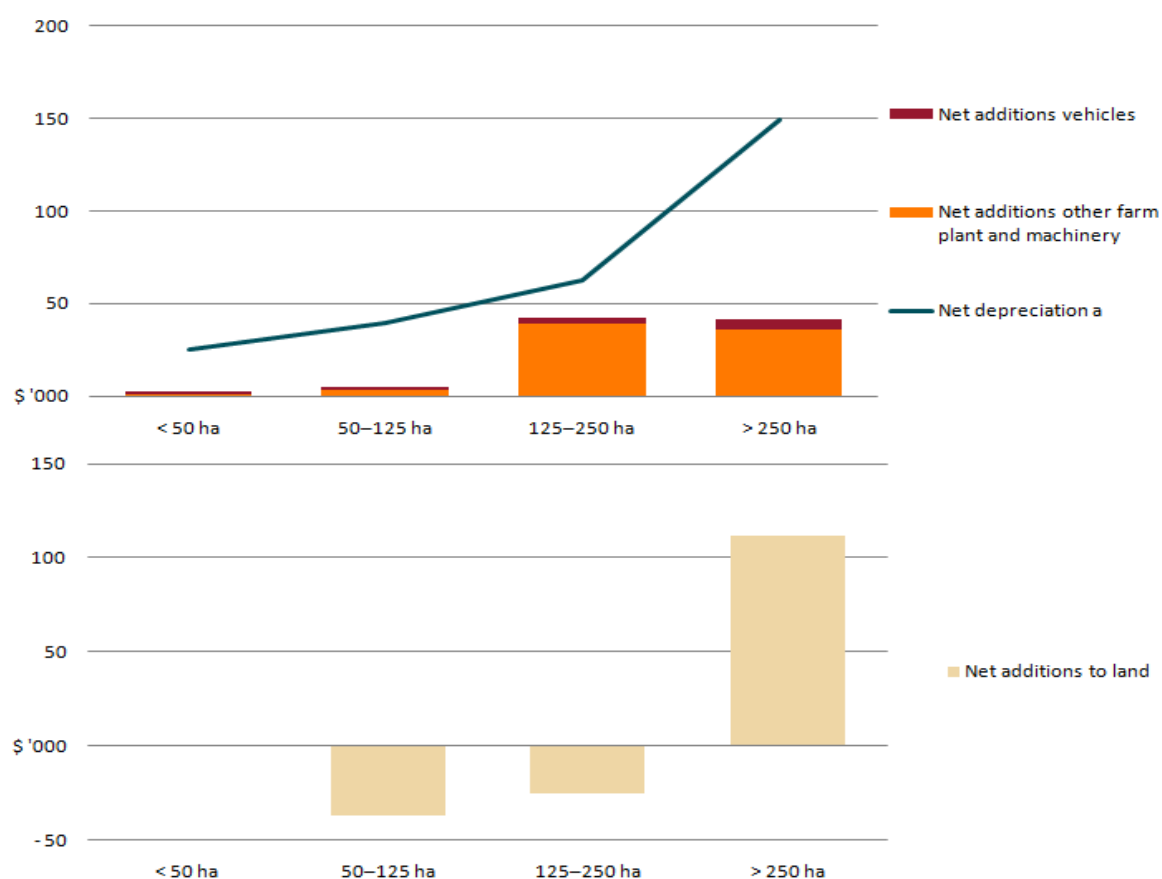
a Value of water licences or rights not separately tradable from land are included in value of land and fixed improvements.  
Source: ABARES Australian Sugarcane Farm Businesses Survey

Vehicles, plant and machinery (including trucks, tractors, cultivation and harvesting equipment) accounted for an average of 17 per cent of total farm capital; tradable irrigation water allocations accounted for a further 3 per cent. Vehicles, plant and machinery accounted for a significantly larger proportion of the total capital value of small sugarcane farm businesses than of larger sugarcane farm businesses (an average of 22 per cent for farms with less than 50 hectares planted to sugar cane compared with 16 per cent for farms with greater than 125 hectares).

### Investment

Net additions of vehicles, plant and machinery (the sum of all capital items purchased minus all capital items sold or disposed) were relatively low in 2013–14 across all regions and farm sizes when compared with net depreciation (Figure 6). Net depreciation is a measure of the requirement to replace farm capital as it wears out over time. Low net additions of vehicles, plant and machinery in 2013–14 are likely to have been a response to low farm cash incomes in 2013–14, particularly for smaller farms, and also to relatively high net additions in the years immediately preceding 2013–14.

Figure 6 Net additions to sugarcane farm businesses capital, by area planted to sugar cane, 2013–14



a Includes depreciation on fixed improvements

Source: ABARES Australian Sugarcane Farm Businesses Survey

Small sugarcane farm businesses mainly acquired vehicles; larger farm businesses acquired a broader range of farming plant and machinery. More than half total net additions on small farms (those with less than 50 hectares planted to sugar cane) were vehicles, compared with less than 15 per cent for farms with greater than 125 hectares of sugar cane.

Larger farms accounted for most land purchases and medium sized farms (50 to 250 hectares of sugar cane) most of the land sales (Figure 6). There were few land purchases or sales by the smallest farms. However, around 9 per cent of farms with greater than 250 hectares planted to sugar cane and 2 per cent of farms with between 125 and 250 hectares purchased land. Around 8 per cent of farms with between 50 and 125 hectares planted to sugar cane and 6 per cent of farms with between 125 and 250 hectares sold land.

Farmers are unlikely to make substantial investments in farm capital if they do not intend to continue sugarcane production. Of the population of farms that had negative net capital additions in 2013–14, 78 per cent signalled that they intended to reduce sugarcane production or leave the industry over the next five years. Farmers are also unlikely to make investments if they believe the stream of future benefits will not cover the upfront cost of the investment. In 2013–14, 40 per cent of sugarcane farmers responded that they were pessimistic about the outlook of the industry.

Top performing farms (as defined in the section High performing farms) dominate new investment in sugarcane farm businesses, accounting for just over 70 per cent of aggregate net capital additions in 2013–14. In contrast, the bottom performing 25 per cent of farms had negative capital additions, indicating that they were reducing their overall investment. Higher rates of new investment for high performing farms are likely to support future productivity gains to improve farm income in real terms over the longer term.

## Debt

Debt is an important source of funds for farm investment and ongoing working capital for sugarcane farm businesses, particularly those that are family owned and operated. Funding of family businesses for expansion and improvement is limited to the funds available to the family, the profits the business can generate and the funds it can borrow.

Farm business debt of sugarcane farm businesses averaged \$477 000 at 30 June 2014 (Table 9), with the ratio of debt to farm receipts averaging 109 per cent. The ratio of debt to farm receipts is a measure of the size of farm business debt relative to a business's capacity to service debt, which enables a comparison of businesses of differing sizes or industry types. In 2013–14 the ratio of business debt to farm receipts for sugarcane farm businesses was slightly lower than the average of 113 per cent for all Australian broadacre farm businesses.

Around 59 per cent of sugarcane farm businesses had less than \$100 000 in farm business debt at 30 June 2014. These were predominantly smaller businesses with less than 125 hectares planted to sugar cane and total farm receipts of less than \$400 000.

Around 10 per cent of sugarcane farm businesses had more than \$1 million in farm business debt at 30 June 2014. These were mainly larger farm businesses, with almost half (48 per cent) of businesses with more than 250 hectares planted to sugar cane having more than \$2 million in farm business debt.

The highest average debt at 30 June 2014 was in the Burdekin region (\$850 000), the region with the largest average farm size, and the lowest was in New South Wales (\$54 000), the region with the smallest average farm size.

**Table 9 Distribution of sugarcane farm businesses, by farm business debt, debt-to-receipts ratio and equity ratio and at 30 June 2014**

percentage of farms / average per farm

<b>Area planted to sugar cane</b>		<b>&lt; 50 hectares</b>		<b>50–125 hectares</b>		<b>125–250 hectares</b>		<b>&gt; 250 hectares</b>		<b>All farms</b>	
<b>Farm business debt</b>											
< \$100 000	%	72	(14)	74	(10)	33	(23)	7	(57)	59	(9)
≥ \$100 000 and < \$250 000	%	14	(54)	11	(52)	15	(44)	6	(65)	13	(31)
≥ \$250 000 and < \$500 000	%	5	(88)	6	(68)	21	(28)	15	(45)	9	(26)
≥ \$500 000 and < \$1 million	%	7	(76)	6	(63)	17	(38)	15	(45)	9	(31)
≥ \$1 million and < \$2 million	%	3	(66)	2	(82)	11	(53)	9	(66)	5	(30)
≥ \$2 million	%	0	-	0	-	4	(82)	48	(18)	5	(21)
Average farm debt at 30 June	\$'000	127	(34)	120	(23)	492	(24)	3 003	(19)	477	(17)
Change in debt during year	%	-10	(62)	-3	(99)	18	(101)	4	(56)	4	(92)
<b>Farm business equity ratio a</b>											
≥ 90 per cent	%	77	(12)	83	(7)	58	(15)	42	(23)	71	(7)
≥ 80 and < 90 per cent	%	9	(68)	9	(64)	13	(42)	4	(73)	9	(30)
≥ 70 and < 80 per cent	%	6	(85)	7	(53)	18	(41)	17	(43)	10	(32)
≥ 60 and < 70 per cent	%	4	(83)	na		3	(95)	13	(50)	4	(47)
< 60 per cent	%	3	(112)	1	(103)	8	(56)	24	(35)	6	(39)
Equity ratio at 30 June	%	91	(3)	95	(1)	87	(3)	73	(5)	84	(3)
<b>Debt-to-receipts ratio</b>											
< 100 per cent	%	79	(11)	89	(3)	71	(11)	47	(21)	77	(5)
≥ 100 and < 300 per cent	%	8	(70)	10	(22)	22	(35)	40	(24)	14	(21)
≥ 300 per cent	%	13	(56)	1	(103)	7	(62)	13	(49)	9	(40)
Average debt-to-receipts ratio	%	90	(32)	39	(19)	85	(23)	161	(15)	109	(3)
<b>Interest-to-receipts ratio</b>											
	%	6	(32)	2	(22)	5	(21)	10	(18)	6	(14)

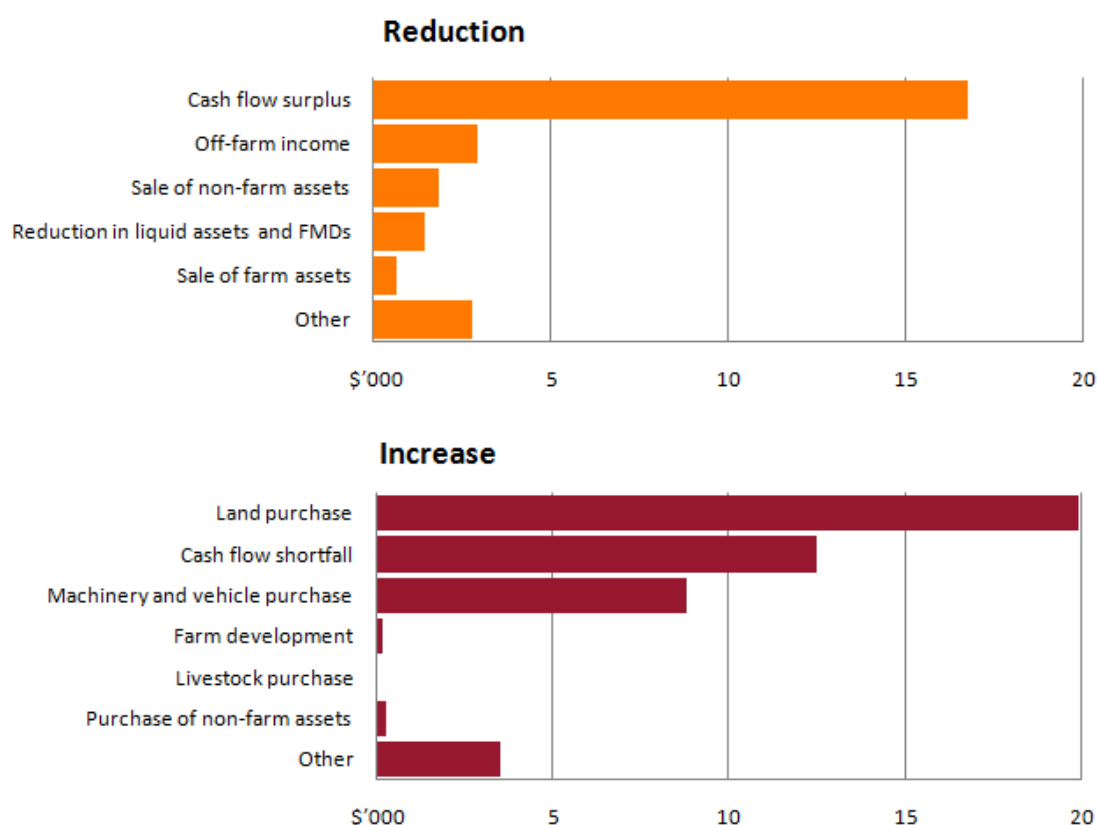
a Equity ratio defined as total owned business capital less debt as a percentage of total owned business capital. na Not available. Source: ABARES Australian Sugarcane Farm Businesses Survey

Farm business equity ratio averaged 84 per cent at 30 June 2014. Farm business equity ratio is the proportion of total farm business assets that are owned by a business compared with how much is owed to creditors. This ratio was below the average of 87 per cent for Australian broadacre farm businesses (ABARES 2015). However, 71 per cent of sugarcane farm businesses were estimated to have equity ratios exceeding 90 per cent, which was well above the 65 per cent recorded for all Australian broadacre farm businesses at 30 June 2014.

Around 10 per cent of sugarcane farm businesses had relatively weak debt servicing capacity in 2013–14, consuming more than 15 per cent of farm receipts to meet interest payments on debt. One-third of these were relatively large with strong business equity. Of the remainder, some had significant off-farm income to contribute to debt servicing. However, slightly more than half (or around 6 per cent of all sugarcane farm businesses) had equity ratios of less than 60 per cent and little capacity for further borrowing against the farm business. These farms had debt-to-receipts ratios exceeding 300 per cent and debt per hectare planted to sugar cane exceeding \$13 000 compared with an average of \$4 200 a hectare for all sugarcane producing farm businesses.

**Figure 7 Reason for change in farm business debt, Australian sugarcane farm businesses, 2013–14**

*average per farm*



Source: ABARES Australian Sugarcane Farm Businesses Survey

Overall, the debt servicing capacity of sugarcane farm businesses was relatively strong in 2013–14. On average, interest payments consumed 6.1 per cent of total cash receipts in 2013–14. This percentage is estimated to have increased slightly to 6.3 per cent in 2014–15 with reductions in farm receipts and despite lower interest rates. This percentage is below ABARES estimate for all Australian broadacre industries of 8 per cent in 2014–15 and well below the estimate for Queensland broadacre farms of 14 per cent in 2014–15 (ABARES 2015).

Average debt of sugarcane farm businesses is estimated to have increased by 4 per cent during 2013–14 (Table 9). Around 42 per cent of businesses reduced debt during 2013–14 and around 19 per cent increased debt. Farms increasing debt were mainly larger farms purchasing land, machinery and vehicles. Debt increases for these farms were large, which resulted in an overall increase in average debt during the year.

For farms increasing debt, more than 60 per cent of the overall increase in borrowing in 2013–14 was to fund additional investment in farm businesses, particularly borrowing for land and machinery purchase. Land purchase accounted for 45 per cent of the increase in principal owed by sugarcane businesses (Figure 7). A further 19 per cent of the increase was for purchase of farm machinery and vehicles and 8 per cent for other purposes, particularly change in business ownership/partnership arrangements.

Around 28 per cent of the increase in debt was borrowing to cover cash flow shortfalls (business losses). The majority of this borrowing was undertaken by businesses with greater than 125 hectares planted to sugar cane. Despite many smaller businesses having negative farm cash incomes, the extent of these shortfalls was usually small resulting in little or no additional borrowing.

Among farms reducing debt, the main source of funds used to reduce farm debt was cash flow surplus, accounting for 64 per cent of the reduction in principal owed by sugarcane businesses. A further 11 per cent was repaid with off-farm income; 7 per cent from sale of non-farm assets; 5 per cent from liquid assets such as bank deposits and farm management deposits; 2 per cent with the sale of farm assets; and 11 per cent with other funds, including inheritances.



## 5 Responses to the supplementary farm management questionnaire

As part of the 2013–14 survey, sugarcane growers were asked a range of questions to gather detailed information on sugarcane management practices, growers' production intentions and information sources. Some results are highlighted in this section.

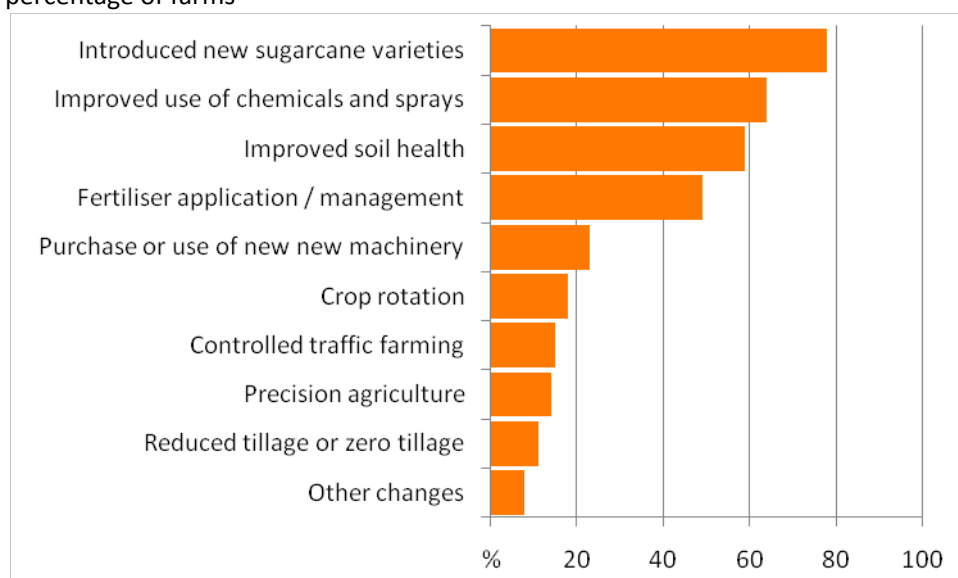
### Recent changes to farm management practices

Almost half of all sugarcane farm businesses (47 per cent) reported that they had made changes to farming practices, techniques or methods in the two years to 2015 (farmers were interviewed in early 2015).

Of farms that had made changes, 78 per cent reported introducing new sugarcane varieties; 64 per cent reported moving to more efficient use of herbicides and pesticides; and 59 per cent reported changes to improve soil health (Figure 8). Results were consistent across all surveyed regions and farm sizes.

**Figure 8 Management changes in the two years to March 2015, Australian sugarcane growing farms**

percentage of farms



Note: Farmers could make more than one response. Population of farms that changed farming practices, techniques or methods in the past two years.

Source: ABARES Australian Sugarcane Farm Businesses Survey

The top three reasons given by farmers for changing management practices were research and development outcomes in the sugar industry (44 per cent of sugarcane farms); advice from consultants (37 per cent); and Sugar Research Australia information, supported training events, workshops and projects (35 per cent). The Bundaberg region was the exception. In this region the two most commonly cited reasons for change were the weather (47 per cent) and environmental conditions (42 per cent).

## Future production intentions

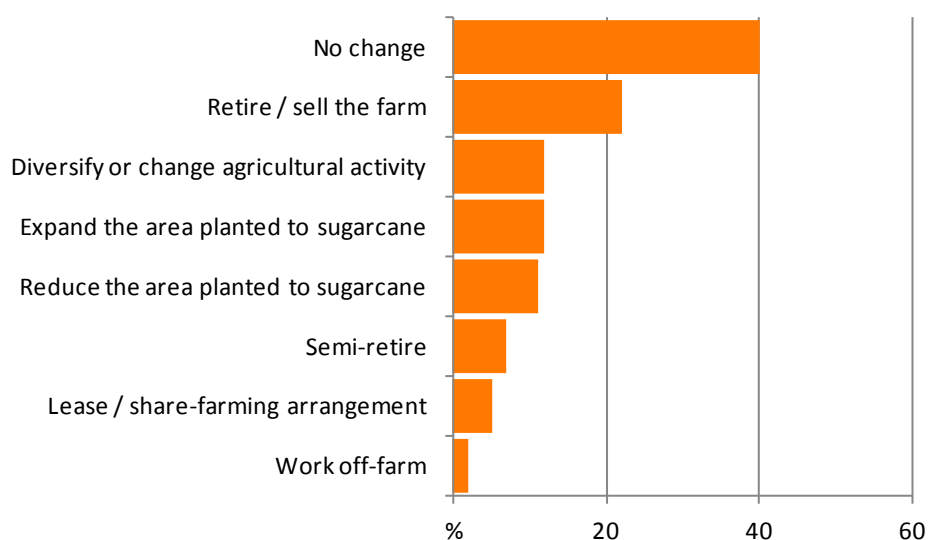
Around 40 per cent of sugarcane farmers indicated they expected to maintain the size of their existing sugarcane enterprise over the next five years.

Around 12 per cent of farmers indicated that they expected to expand their sugarcane area. These were mainly better performing and larger farms (see High performing farms section). Around 28 per cent of farms with at least 250 hectares planted to sugar cane intended to expand the area planted to sugar cane, compared with less than 10 per cent of farms with less than 250 hectares planted to sugar cane. The proportion of farms that intended to expand production was highest in the Mackay region (16 per cent), Burdekin (15 per cent) and Far North Queensland (13 per cent).

Around 12 per cent of sugarcane farmers indicated that they expected to diversify or change agricultural industry and 11 per cent indicated that they expected to reduce the area planted to sugar cane but remain in farming. Farms that intended to diversify or change to another agricultural industry in the next five years would most likely consider growing other crops (44 per cent) or beef cattle (40 per cent). The highest proportion of farms expecting to diversify or reduce production were in the Bundaberg (21 per cent) and New South Wales (31 per cent) regions. In addition, around 22 per cent of farmers indicated that they expected to either retire or sell the farm (Figure 9). A high proportion of farms intending to diversify or exit sugar production had low ranked financial performance in 2013–14.

**Figure 9 Expected change to sugarcane enterprise over five years starting 2015, Australian sugarcane farm businesses**

percentage of farms



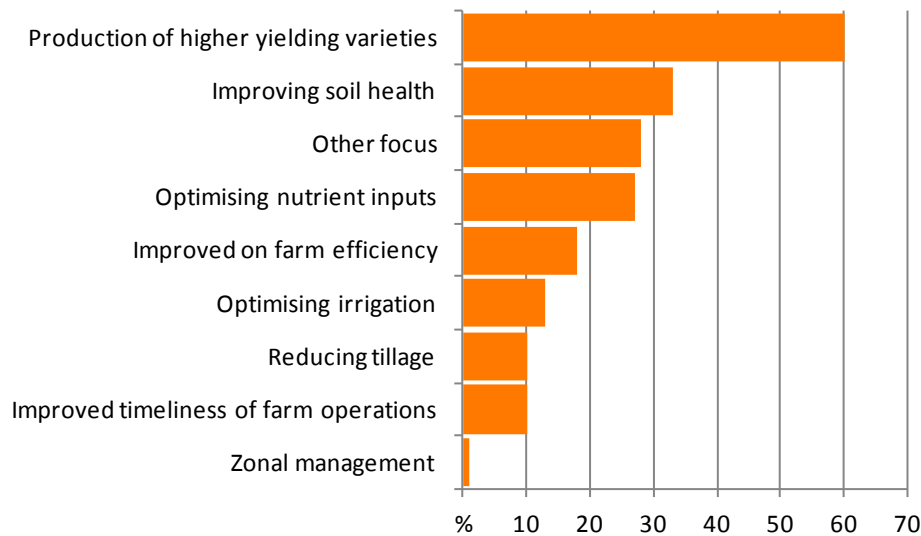
Source: ABARES Australian Sugarcane Farm Businesses Survey

## Focus on improving business productivity and profitability

Farmers were asked how they intended to improve profitability/productivity over the next five years. Most sugarcane farmers intended to focus on producing higher yielding varieties (60 per cent) (Figure 10). Improving soil health (33 per cent), optimising nutrient inputs (27 per cent) and improving on-farm efficiency (18 per cent) were also identified as important by many growers. Producing higher yielding varieties was the most common focus across all regions and farm sizes.

**Figure 10 Focus on improving profitability and productivity over five years starting 2015, Australian sugarcane farm businesses**

percentage of farms



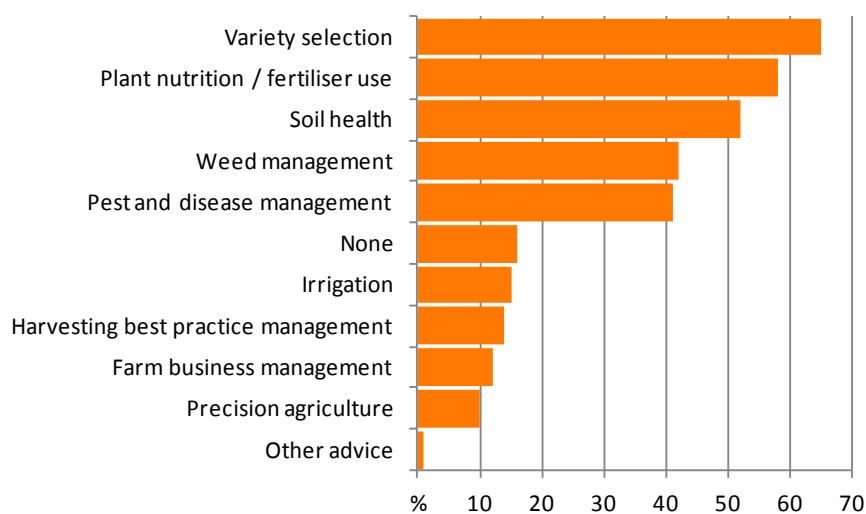
Note: Farmers could respond to a maximum of three options.  
 Source: ABARES Australian Sugarcane Farm Businesses Survey

### Types of information sought from extension providers

Information sought by sugarcane farms most commonly related to variety selection (65 per cent of sugarcane farms), plant nutrition and fertiliser use (58 per cent) and soil health (52 per cent) (Figure 11). Information was most commonly sought from Productivity Services Organisation extension staff (70 per cent), Sugar Research Australia staff (44 per cent) and private consultants (35 per cent).

**Figure 11 Information sought in the 12 months ending March 2015, Australian sugarcane farm businesses**

percentage of farms



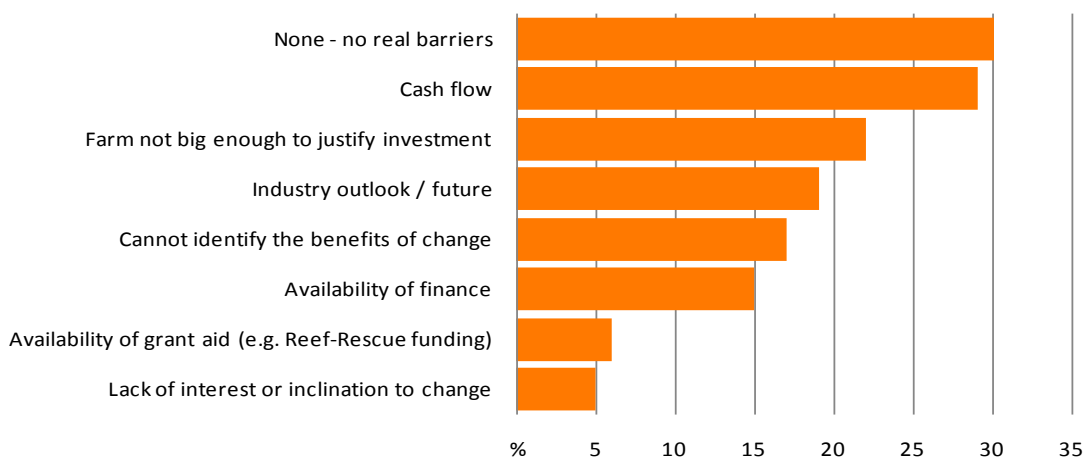
Note: Farmers could make more than one response.  
 Source: ABARES Australian Sugarcane Farm Businesses Survey

## Barriers to adoption of research and development outcomes

Just on 30 per cent of sugarcane growers thought there were no real barriers to adoption of research and development outcomes for their current farm business (Figure 12). For best performing farm businesses this proportion increased to just over 50 per cent.

However, almost as many growers (29 per cent) considered the cash flow of their current business to be a barrier to adoption. Further, 22 per cent of growers thought that their current farm was not big enough to justify the investment required; 19 per cent were concerned about the industry’s future; 17 per cent said they could not see the benefits of change; and 15 per cent identified availability of finance as a barrier. Among bottom performing farms these proportions were much higher, with 55 per cent of bottom performing farms indicating that they thought their current farm size was too small to justify the investment required to implement research and development outcomes.

Figure 12 Barriers to adopting research and development outcomes



Source: ABARES Australian Sugarcane Farm Businesses Survey

# Appendix A: Survey methods and definitions

## Target population

The Australian Sugarcane Farm Businesses Survey was designed from a frame (population list) drawn from the Australian Business Register (ABR) and maintained by the Australian Bureau of Statistics (ABS). The ABR based frame provided to ABARES consists of agricultural businesses registered with the Australian Taxation Office, together with their corresponding statistical local area, industry classification and size of operation variable. The size variable is an indicator of the extent of agricultural activity.

For the purposes of this survey, sugarcane farms in the sample were selected from units classified in ANZSIC 0151 (Sugarcane growing) or who had more than 5 hectares of cultivated sugar cane. Farms excluded from ABARES surveys are the smallest units, which in aggregate contribute little to the total value of sugarcane production.

The sugarcane growing industry definition is based on the Australian and New Zealand Standard Industrial Classification (ANZSIC). This classification is consistent with an international standard applied comprehensively across Australian industry, permitting comparisons between industries, both within Australia and internationally. Farms assigned to a particular ANZSIC class have a high proportion of their total output characterised by that class. Further information on ANZSIC and the sugarcane growing industry is provided in Australian and New Zealand Standard Industrial Classification (ABS 2006, cat. no. 1292.0).

## Survey design and sample weighting

The target population was grouped into strata defined by state and size of operation. The size of each stratum was determined using Dalenius–Hodges method (Lehtonen & Pahkinen 2004). The sample allocation to each stratum is a compromise between allocating a higher proportion of the sample to strata with high variability in the size variable and an allocation proportional to the population of the stratum.

In 2013–14 there were an estimated 3 508 sugarcane farm businesses in Australia (farm businesses with an estimated value of agricultural operations of at least \$30 000) (Map 1). Results are based on a sample of 172 sugarcane farms. Mackay, Far North Queensland and the Burdekin regions had the largest numbers of commercial sugar farms, accounting for 61 per cent of sugarcane farms across Australia. Farms in South Queensland were surveyed and contribute to results at a national level, but the sample size was insufficient to provide stand-alone estimates for that region.

Farm-level estimates published in the report are calculated by appropriately weighting the data collected from each sample farm and using the weighted data to calculate population estimates. Sample weights are calculated to population estimates from the sample for numbers of farms and areas of sugar cane planted correspond as closely as possible (at a region level and by groups of farms by area of sugarcane planted) to the most recently available ABS estimates from data collected in the Agricultural Census and Agricultural Survey. The weighting process ensures estimates are applicable for all commercial sugar farms rather than just those in the sample.

The weighting methodology for the sugarcane survey uses a model-based approach with a linear regression model linking the survey variables and the estimation benchmark variables. The details of this method are described by Bardsley and Chambers (1984).

Benchmark variables used to weight the data provided by the ABS include:

- total numbers of farms in scope
- total area of sugar cane cultivated.

Generally, larger farms have smaller weights and smaller farms have larger weights, reflecting the strategy of sampling a higher fraction of larger farms than smaller farms (the former having greater variability of key characteristics and accounting for a much larger proportion of total output) and the relatively lower number of large farms.

**Table A1 Population and sample numbers, Australian sugarcane growing farms, 2013–14**

<b>Region</b>	<b>Sample size (no.)</b>	<b>Number of growers (no.)</b>
New South Wales	17	364
Far North Queensland	27	621
Herbert	25	478
Burdekin	27	515
Mackay	33	1 009
Bundaberg	26	454
South Queensland	10	67
All farms	172	3 508

Source: ABARES Australian Sugarcane Farm Businesses Survey

## Survey questionnaire

The survey of sugarcane growing enterprises covered:

- pre-interview questions, to:
  - determine eligibility and stratification level
  - establish business structure and activities
  - confirm address and location
  - check availability of financial and production data
- production details
  - sugarcane-related production for the survey year
  - details of each type of product (including quantity produced, sales, transfers and stocks on hand)
- labour
  - family and hired labour
  - workers' status in the operation, hours worked and wages paid

- questions about operators' and spouses' education, off-farm work and government assistance
- assets
  - type and value of liquid assets (owned by or available to the business), land, vehicles, plant and equipment, and buildings and other structural improvements used in the business
- liabilities
  - details of farm debt
- income and expenses
  - all costs and income associated with the vegetable business
- supplementary survey questions covering a range of issues, including:
  - costs of production
  - constraints
  - farm management intentions
  - sources of information
  - changes on farm
  - adoption of research and development.

### **Reliability of estimates**

The reliability of estimates of population characteristics presented in this report depends on the design of the sample and the accuracy of the measurement of characteristics for individual sample farms.

### **Preliminary estimates and provisional projections**

The 2013–14 estimates are preliminary, based on full production and accounting information from farmers. However, editing and addition of sample farms may be undertaken and ABS production and population benchmarks may also change.

The 2014–15 estimates are provisional projections developed from the data collected through on-farm interviews undertaken between February and May, and from the preliminary estimates. Projection estimates include crop and livestock production, receipts and expenditure up to the date of interview, together with expected production receipts and expenditure for the remainder of the projection year. Modifications are made to expected receipts and expenditure where significant production and price change has occurred post-interview. Provisional projection estimates are subject to greater uncertainty than the preliminary and final estimates.

Preliminary and projection estimates of farm financial performance are produced within a few weeks of completion of survey collections. However, these may be updated several times. Subsequent versions will be more accurate because they will be based on upgraded information and slightly more accurate input datasets.

## Sampling errors

Only a subset of farms out of the total number of farms in a particular industry is surveyed. The data collected from each sample are weighted to calculate population estimates. Estimates derived from these farms are likely to be different from those that would have been obtained if information had been collected from a census of all farms. Any such differences are called ‘sampling errors’.

The size of the sampling error is most influenced by the survey design and estimation procedures, as well as the sample size and variability of farms in the population. The larger the sample size, the lower the sampling error is likely to be. Hence, national estimates are likely to have lower sampling errors than industry and state estimates.

To give a guide to the reliability of the survey estimates, standard errors are calculated for selected estimates. These estimated errors are expressed as percentages of the survey estimates and termed relative standard errors (RSEs).

## Comparing estimates

When comparing estimates between two groups, recognising that the differences are also subject to sampling error is important. As a rule of thumb, a conservative estimate of the standard error of the difference can be constructed by adding the squares of the estimated standard errors of the component estimates and then taking the square root of the result. For example:

Suppose the estimates of total cash receipts were \$682 600 in the Burdekin region and \$388 000 in Herbert region—a difference of \$294 600—and the RSE is given as 16 per cent and 11 per cent respectively, then the standard error of the difference can be estimated as:

$$\sqrt{(16 \times \$682\,600/100)^2 + (11 \times 388\,000/100)^2} = 117\,259$$

A 95 per cent confidence interval for the difference is:

$$\$294\,600 \pm (1.96 \times \$117\,259) = (\$524\,428, \$64\,772)$$

If a larger number (towards infinity) of different samples are taken, approximately 95 per cent of the time the difference between the two estimates will be between \$524 428 and \$64 772. Since zero is not in this confidence interval, it is possible to say that the difference between the estimates is statistically significantly different from zero at the 95 per cent confidence level.



# Appendix B: Regional results

**Table B1 Financial performance, sugarcane growing farms, all farms, 2013–14 and 2014–15**

percentage of farms / average per farm

	Units	2013–14		2014–15	
<b>Cash receipts</b>					
Sugarcane cash receipts (net of freight)	\$	364 700	(8)	366 000	(11)
Other cash receipts	\$	97 300	(32)	83 000	(26)
Total cash receipts	\$	462 000	(7)	449 000	(10)
Proportion of cash receipts from sugar	%	79	(4)	82	(3)
<b>Cash costs</b>					
Contracts paid	\$	57 800	(9)	57 000	(10)
Fertiliser	\$	61 200	(7)	63 000	(11)
Repairs and maintenance	\$	44 300	(8)	45 000	(11)
Fuel, oil and grease	\$	36 200	(9)	31 000	(11)
Hired labour	\$	27 800	(14)	29 000	(15)
Interest	\$	28 300	(17)	28 000	(18)
Rates	\$	22 500	(10)	23 000	(12)
Total handling and marketing expenditure	\$	17 200	(11)	18 000	(12)
Crop and pasture chemicals	\$	16 000	(9)	17 000	(12)
Electricity	\$	12 600	(12)	12 000	(14)
Administration	\$	9 800	(13)	10 000	(13)
Land rent	\$	7 800	(22)	8 000	(21)
Total freight (excl. sugar freight)	\$	5 700	(37)	6 000	(25)
Total cash costs	\$	372 300	(7)	379 000	(10)
<b>Farm financial performance</b>					
Farm cash income	\$	89 700	(15)	70 000	(21)
Proportion of farms with negative farm cash income	%	27	(21)	39	(14)
Capital depreciation	\$	49 600	(6)	51 000	(9)
Total imputed family labour	\$	55 800	(4)	57 000	(5)
Farm business profit	\$	-14 300	(94)	-36 000	(37)
Proportion of farms with negative farm business profit	%	66	(7)	74	(6)
<b>Rate of return a</b>					
–excluding capital appreciation	%	0.7	(61)	0.0	–
–including capital appreciation	%	0.1	(471)	na	–
Farm capital at 30 June b	\$	3 136 600	(6)	na	–
Farm debt at 30 June c	\$	477 000	(17)	na	–
Equity ratio cd	%	84	(3)	na	–

**a** Rate of return to farm capital excluding capital appreciation. **b** Excludes leased plant and equipment. **c** Average per responding farm. **d** Equity expressed as a percentage of farm capital. **na** Not available.

Note: Figures in parentheses are standard errors expressed as a percentage of the estimate.

Source: ABARES Australian Sugarcane Farm Businesses Survey

**Table B2 Financial performance, sugarcane growing farms, Bundaberg, 2013–14 and 2014–15**

percentage of farms / average per farm

	Units	2013–14		2014–15	
<b>Cash receipts</b>					
Sugarcane cash receipts (net of freight)	\$	292 100	(22)	266 000	(24)
Other cash receipts	\$	230 800	(34)	222 000	(39)
Total cash receipts	\$	522 900	(16)	488 000	(22)
Proportion of cash receipts from sugar	%	56	(13)	55	(14)
<b>Cash costs</b>					
Contracts paid	\$	48 400	(15)	44 000	(18)
Fertiliser	\$	47 100	(17)	51 000	(23)
Repairs and maintenance	\$	60 500	(22)	62 000	(21)
Fuel, oil and grease	\$	39 500	(16)	34 000	(24)
Hired labour	\$	53 700	(27)	56 000	(31)
Interest	\$	10 600	(25)	11 000	(30)
Rates	\$	21 900	(22)	22 000	(20)
Total handling and marketing expenditure	\$	13 100	(26)	13 000	(25)
Crop and pasture chemicals	\$	18 500	(21)	20 000	(28)
Electricity	\$	22 600	(29)	20 000	(30)
Administration	\$	15 200	(45)	15 000	(40)
Land rent	\$	14 100	(69)	14 000	(66)
Total freight (excl. sugar freight)	\$	21 500	(35)	22 000	(37)
Total cash costs	\$	428 800	(17)	464 000	(21)
<b>Farm financial performance</b>					
Farm cash income	\$	94 100	(23)	24 000	(97)
Proportion of farms with negative farm cash income	%	6	(68)	47	(28)
Capital depreciation	\$	58 300	(13)	60 000	(15)
Total imputed family labour	\$	59 600	(7)	61 000	(7)
Farm business profit	\$	-23 700	(86)	-96 000	(24)
Proportion of farms with negative farm business profit	%	56	(26)	89	(7)
<b>Rate of return a</b>					
–excluding capital appreciation	%	0	–	-2.1	(45)
–including capital appreciation	%	0	–	na	–
Farm capital at 30 June b	\$	3 419 600	(11)	na	–
Farm debt at 30 June c	\$	218 500	(23)	na	–
Equity ratio cd	%	93	(2)	na	–

**a** Rate of return to farm capital excluding capital appreciation. **b** Excludes leased plant and equipment. **c** Average per responding farm. **d** Equity expressed as a percentage of farm capital. **na** Not available.

Note: Figures in parentheses are standard errors expressed as a percentage of the estimate.

Source: ABARES Australian Sugarcane Farm Businesses Survey

**Table B3 Financial performance, sugarcane growing farms, Mackay, 2013–14 and 2014–15**

percentage of farms / average per farm

	Units	2013-14		2014-15	
<b>Cash receipts</b>					
Sugarcane cash receipts (net of freight)	\$	371 300	(19)	364 000	(28)
Other cash receipts	\$	62 500	(102)	54 000	(99)
Total cash receipts	\$	433 800	(17)	418 000	(27)
Proportion of cash receipts from sugar	%	86	(4)	87	(4)
<b>Cash costs</b>					
Contracts paid	\$	34 600	(17)	36 000	(23)
Fertiliser	\$	62 500	(16)	64 000	(26)
Repairs and maintenance	\$	47 000	(16)	51 000	(26)
Fuel, oil and grease	\$	42 400	(20)	37 000	(28)
Hired labour	\$	23 000	(25)	23 000	(34)
Interest	\$	45 000	(30)	45 000	(37)
Rates	\$	16 600	(26)	17 000	(29)
Total handling and marketing expenditure	\$	17 100	(23)	18 000	(32)
Crop and pasture chemicals	\$	14 200	(21)	15 000	(28)
Electricity	\$	8 500	(23)	9 000	(34)
Administration	\$	8 100	(18)	8 000	(25)
Land rent	\$	7 000	(41)	7 000	(42)
Total freight (excl. sugar freight)	\$	2 500	(43)	3 000	(45)
Total cash costs	\$	351 600	(14)	355 000	(24)
<b>Farm financial performance</b>					
Farm cash income	\$	82 100	(46)	62 000	(64)
Proportion of farms with negative farm cash income	%	33	(41)	49	(26)
Capital depreciation	\$	47 700	(14)	49 000	(25)
Total imputed family labour	\$	49 000	(9)	50 000	(14)
Farm business profit	\$	-13 000	(284)	-35 000	(97)
Proportion of farms with negative farm business profit	%	70	(14)	72	(15)
<b>Rate of return a</b>					
–excluding capital appreciation	%	1.3	(97)	0.6	(218)
–including capital appreciation	%	-0.6	(356)	na	-
Farm capital at 30 June b	\$	3 099 200	(16)	na	-
Farm debt at 30 June c	\$	675 400	(29)	na	-
Equity ratio cd	%	78	(6)	na	-

**a** Rate of return to farm capital excluding capital appreciation. **b** Excludes leased plant and equipment. **c** Average per responding farm. **d** Equity expressed as a percentage of farm capital. **na** Not available.

Note: Figures in parentheses are standard errors expressed as a percentage of the estimate.

Source: ABARES Australian Sugarcane Farm Businesses Survey

**Table B4 Financial performance, sugarcane growing farms, Burdekin, 2013–14 and 2014–15**

percentage of farms / average per farm

	Units	2013–14		2014–15	
<b>Cash receipts</b>					
Sugarcane cash receipts (net of freight)	\$	606 900	(18)	665 000	(28)
Other cash receipts	\$	75 700	(67)	42 000	(112)
Total cash receipts	\$	682 600	(16)	707 000	(28)
Proportion of cash receipts from sugar	%	89	(4)	94	(2)
<b>Cash costs</b>					
Contracts paid	\$	97 300	(19)	96 000	(28)
Fertiliser	\$	83 300	(19)	86 000	(32)
Repairs and maintenance	\$	66 600	(18)	67 000	(30)
Fuel, oil and grease	\$	43 500	(19)	37 000	(31)
Hired labour	\$	41 500	(31)	43 000	(44)
Interest	\$	44 200	(26)	44 000	(40)
Rates	\$	55 300	(18)	57 000	(30)
Total handling and marketing expenditure	\$	29 700	(17)	31 000	(26)
Crop and pasture chemicals	\$	26 500	(21)	29 000	(28)
Electricity	\$	36 500	(19)	35 000	(27)
Administration	\$	12 000	(18)	12 000	(22)
Land rent	\$	9 000	(52)	9 000	(58)
Total freight (excl. sugar freight)	\$	6 400	(54)	7 000	(65)
Total cash costs	\$	578 700	(15)	583 000	(29)
<b>Farm financial performance</b>					
Farm cash income	\$	103 800	(29)	124 000	(35)
Proportion of farms with negative farm cash income	%	25	(56)	18	(65)
Capital depreciation	\$	64 000	(16)	65 000	(22)
Total imputed family labour	\$	65 600	(8)	67 000	(8)
Farm business profit	\$	-20 000	(124)	-3 000	(1351)
Proportion of farms with negative farm business profit	%	54	(31)	58	(28)
<b>Rate of return a</b>					
–excluding capital appreciation	%	0.9	(66)	1.3	(67)
–including capital appreciation	%	0.9	(67)	na	–
Farm capital at 30 June b	\$	4 320 700	(12)	na	–
Farm debt at 30 June c	\$	849 500	(22)	na	–
Equity ratio cd	%	80	(4)	na	–

**a** Rate of return to farm capital excluding capital appreciation. **b** Excludes leased plant and equipment. **c** Average per responding farm. **d** Equity expressed as a percentage of farm capital. **na** Not available.

Note: Figures in parentheses are standard errors expressed as a percentage of the estimate.

Source: ABARES Australian Sugarcane Farm Businesses Survey

**Table B5 Financial performance, sugarcane growing farms, Herbert, 2013–14 and 2014–15**

percentage of farms / average per farm

	Units	2013–14		2014–15	
<b>Cash receipts</b>					
Sugarcane cash receipts (net of freight)	\$	335 500	(11)	331 000	(17)
Other cash receipts	\$	52 500	(23)	42 000	(23)
Total cash receipts	\$	388 000	(11)	373 000	(17)
Proportion of cash receipts from sugar	%	86	(4)	88	(4)
<b>Cash costs</b>					
Contracts paid	\$	67 000	(13)	67 000	(17)
Fertiliser	\$	64 600	(13)	65 000	(21)
Repairs and maintenance	\$	28 300	(15)	25 000	(19)
Fuel, oil and grease	\$	24 400	(20)	22 000	(25)
Hired labour	\$	13 200	(42)	14 000	(38)
Interest	\$	13 900	(21)	14 000	(28)
Rates	\$	16 300	(9)	17 000	(16)
Total handling and marketing expenditure	\$	17 400	(20)	18 000	(22)
Crop and pasture chemicals	\$	6 400	(21)	7 000	(24)
Electricity	\$	1 600	(21)	1 000	(19)
Administration	\$	12 700	(40)	13 000	(40)
Land rent	\$	6 100	(29)	6 000	(34)
Total freight (excl. sugar freight)	\$	300	(43)	na	–
Total cash costs	\$	291 200	(10)	287 000	(17)
<b>Farm financial performance</b>					
Farm cash income	\$	96 900	(21)	86 000	(26)
Proportion of farms with negative farm cash income	%	22	(53)	25	(40)
Capital depreciation	\$	40 000	(13)	41 000	(17)
Total imputed family labour	\$	55 900	(8)	57 000	(10)
Farm business profit	\$	2 400	(715)	–10 000	(164)
Proportion of farms with negative farm business profit	%	63	(16)	62	(16)
<b>Rate of return a</b>					
–excluding capital appreciation	%	1.1	(78)	0.5	(180)
–including capital appreciation	%	0.2	(600)	na	–
Farm capital at 30 June b	\$	2 113 900	(10)	na	–
Farm debt at 30 June c	\$	239 000	(19)	na	–
Equity ratio cd	%	89	(2)	na	–

**a** Rate of return to farm capital excluding capital appreciation. **b** Excludes leased plant and equipment. **c** Average per responding farm. **d** Equity expressed as a percentage of farm capital. **na** Not available.

Note: Figures in parentheses are standard errors expressed as a percentage of the estimate.

Source: ABARES Australian Sugarcane Farm Businesses Survey

**Table B6 Financial performance, sugarcane growing farms,  
Far North Queensland, 2013–14 and 2014–15**

percentage of farms / average per farm

	Units	2013–14		2014–15	
<b>Cash receipts</b>					
Sugarcane cash receipts (net of freight)	\$	388 500	(9)	335 000	(26)
Other cash receipts	\$	145 600	(77)	128 000	(53)
Total cash receipts	\$	534 100	(17)	463 000	(24)
Proportion of cash receipts from sugar	%	73	(15)	73	(9)
<b>Cash costs</b>					
Contracts paid	\$	79 000	(29)	76 000	(26)
Fertiliser	\$	72 400	(11)	73 000	(25)
Repairs and maintenance	\$	40 600	(19)	39 000	(23)
Fuel, oil and grease	\$	40 300	(16)	35 000	(21)
Hired labour	\$	32 000	(39)	34 000	(34)
Interest	\$	27 800	(44)	28 000	(38)
Rates	\$	22 700	(20)	23 000	(27)
Total handling and marketing expenditure	\$	16 000	(42)	16 000	(31)
Crop and pasture chemicals	\$	21 900	(20)	24 000	(28)
Electricity	\$	8 300	(37)	8 000	(32)
Administration	\$	8 400	(18)	9 000	(19)
Land rent	\$	7 500	(27)	8 000	(37)
Total freight (excl. sugar freight)	\$	6 900	(145)	7 000	(73)
Total cash costs	\$	413 900	(22)	418 000	(23)
<b>Farm financial performance</b>					
Farm cash income	\$	120 300	(25)	45 000	(86)
Proportion of farms with negative farm cash income	%	31	(40)	57	(21)
Capital depreciation	\$	38 900	(14)	40 000	(21)
Total imputed family labour	\$	61 700	(10)	63 000	(10)
Farm business profit	\$	19 800	(174)	-57 000	(69)
Proportion of farms with negative farm business profit	%	67	(10)	85	(7)
<b>Rate of return a</b>					
–excluding capital appreciation	%	1.7	(52)	-0.7	(196)
–including capital appreciation	%	1.5	(58)	na	–
Farm capital at 30 June b	\$	3 310 800	(11)	na	–
Farm debt at 30 June c	\$	528 500	(52)	na	–
Equity ratio cd	%	83	(10)	na	–

**a** Rate of return to farm capital excluding capital appreciation. **b** Excludes leased plant and equipment. **c** Average per responding farm. **d** Equity expressed as a percentage of farm capital. **na** Not available.

Note: Figures in parentheses are standard errors expressed as a percentage of the estimate.

Source: ABARES Australian Sugarcane Farm Businesses Survey

**Table B7 Financial performance, sugarcane growing farms,  
New South Wales, 2013–14 and 2014–15**

percentage of farms / average per farm

	Units	2013–14		2014–15	
<b>Cash receipts</b>					
Sugarcane cash receipts (net of freight)	\$	133 000	(18)	193 000	(22)
Other cash receipts	\$	43 700	(71)	25 000	(48)
Total cash receipts	\$	176 700	(18)	218 000	(22)
Proportion of cash receipts from sugar	%	75	(8)	88	(4)
<b>Cash costs</b>					
Contracts paid	\$	35 300	(23)	33 000	(30)
Fertiliser	\$	27 100	(17)	27 000	(20)
Repairs and maintenance	\$	15 200	(24)	14 000	(27)
Fuel, oil and grease	\$	16 200	(13)	14 000	(16)
Hired labour	\$	1 800	(74)	2 000	(84)
Interest	\$	4 800	(60)	5 000	(60)
Rates	\$	4 800	(14)	5 000	(14)
Total handling and marketing expenditure	\$	8 900	(26)	10 000	(25)
Crop and pasture chemicals	\$	6 800	(20)	7 000	(19)
Electricity	\$	1 700	(38)	2 000	(42)
Administration	\$	3 500	(26)	4 000	(28)
Land rent	\$	3 200	(49)	3 000	(56)
Total freight (excl. sugar freight)	\$	100	(78)	na	–
Total cash costs	\$	138 500	(14)	136 000	(20)
Farm financial performance					
<b>Farm cash income</b>	\$	38 100	(46)	82 000	(32)
Proportion of farms with negative farm cash income	%	40	(54)	16	(69)
Capital depreciation	\$	52 600	(23)	54 000	(25)
Total imputed family labour	\$	48 500	(8)	49 000	(9)
Farm business profit	\$	–63 500	(29)	–22 000	(84)
Proportion of farms with negative farm business profit	%	79	(17)	77	(15)
<b>Rate of return a</b>					
–excluding capital appreciation	%	–2.6	(33)	–0.6	(148)
–including capital appreciation	%	–1.8	(59)	na	–
Farm capital at 30 June <b>b</b>	\$	2 146 000	(12)	na	–
Farm debt at 30 June <b>c</b>	\$	54 200	(59)	na	–
Equity ratio <b>cd</b>	%	97	(2)	na	–

**a** Rate of return to farm capital excluding capital appreciation. **b** Excludes leased plant and equipment. **c** Average per responding farm. **d** Equity expressed as a percentage of farm capital. **na** Not available.

Note: Figures in parentheses are standard errors expressed as a percentage of the estimate.

Source: ABARES Australian Sugarcane Farm Businesses Survey

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