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Australian beef

Financial performance of beef cattle producing farms

2008–09 to 2010–11

Therese Thompson and Peter Martin

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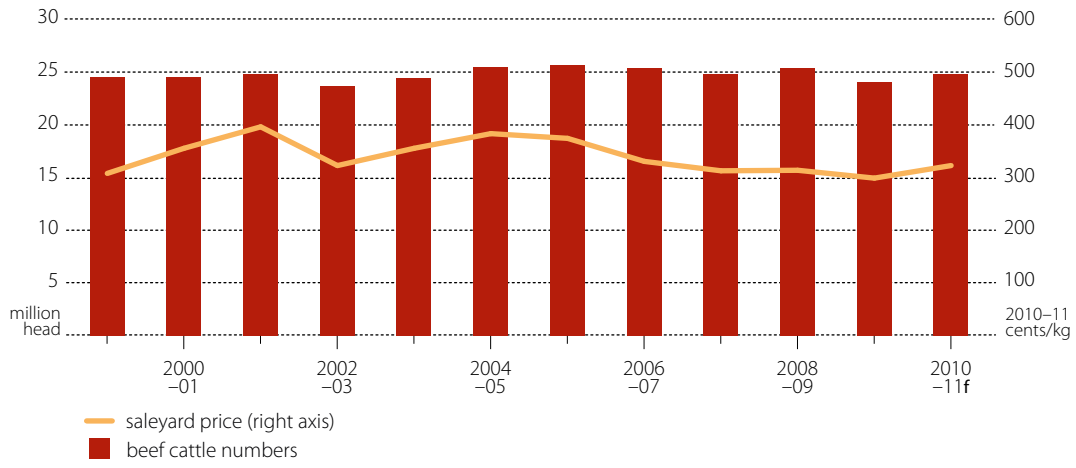
Introduction

Until recently, beef producers have responded to poor seasonal conditions across much of Australia by increasing beef cattle turn-off and reducing the number of cows mated, which has resulted in contraction of the Australian beef cattle herd. Beef cattle numbers declined from 25.6 million head in 2005–06 to 24.0 million head in 2009–10. However, during 2009–10 seasonal conditions began to improve in eastern and northern Australia culminating in very favourable seasonal conditions in 2010–11. Beef cattle producers responded to the improved seasonal conditions by rebuilding herds; the Australian beef cattle herd is forecast to expand to 24.8 million head in 2010–11 (figure 1).

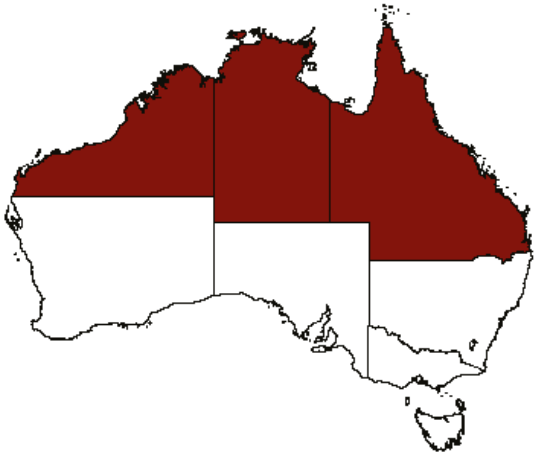
1 Beef cattle numbers and average saleyard price



f ABARES forecast.

Source: ABARES estimate from Australian Bureau of Statistics data

map 1 Northern Australian beef cattle industry



This report presents the farm financial performance of beef cattle producing farms in northern and southern Australia over the period 2008–09 to 2010–11. Northern Australia is defined as northern Western Australia, Queensland and the Northern Territory. The remainder of Australia, including southern Western Australia, South Australia, New South Wales, Victoria and Tasmania, is defined as southern Australia (map 1).

The report draws heavily on information obtained from ABARES' annual Australian Agricultural and Grazing Industries Survey (AAGIS) that is partly funded by Meat and Livestock Australia (MLA). Preparation of this report is also funded by MLA in order to monitor the production and financial performance of the Australian beef cattle industry.

The report covers the extent to which the financial performance of beef cattle producers varies between:

- farms with different scales of beef cattle production
- markets targeted (direct for slaughter, live export, feedlots and to other producers)
- the production system used, including grain finishing and cattle trading.

To provide insight into the performance of farms with different scales of operation, beef cattle farms ABARES surveyed were stratified into four groups based on the size of their beef cattle herd in each year the farm was surveyed – small, medium, large and very large. In general, beef cattle producers operate significantly larger farms in northern Australia than their counterparts in southern Australia. Consequently, to enable meaningful analysis of financial performance by scale in northern and southern Australia, different sized groups have been used in these regions (table 1).

1 Beef cattle herd group, by number of head

	northern Australia	southern Australia
Small	100–400	100–200
Medium	400–1 600	200–400
Large	1 600–5 400	400–800
Very large	> 5 400	> 800

In both northern and southern Australia, farms with fewer than 100 head of cattle are excluded from the analysis to focus on larger beef cattle producers. Farms with fewer than 100 head of cattle represent just 2 per cent of the national beef cattle herd and only contribute around 5 per cent to the value of beef cattle sales (table 2).

2 Distribution of broadacre beef cattle farms, by number of cattle, at 30 June

average between 2005–06 and 2009–10

	number of farms	share of farms	share of beef cattle	share of value of cattle sales
	no.	%	%	%
Northern Australia				
< 100	1 169	19.5	1	2
100–200 head	841	14.1	2	2
200–400 head	1 042	17.4	4	5
400–800 head	956	16.0	7	7
800–1 600 head	877	14.7	13	14
1 600–5 400 head	845	14.1	30	29
> 5 400 head	250	4.2	44	40
Total	5 981	100	100	100
Southern Australia				
< 100	4 956	31.3	5	7
100–200 head	3 845	24.3	11	11
200–400 head	3 593	22.7	20	21
400–800 head	2 247	14.2	25	23
800–1 600 head	855	5.4	18	17
1 600–5 400 head	310	2.0	16	17
> 5 400 head	27	0.2	4	3
Total	15 832	100	100	100
Australia				
< 100	6 125	28.1	2	5
100–200 head	4 686	21.5	5	7
200–400 head	4 635	21.2	10	13
400–800 head	3 203	14.7	14	15
800–1 600 head	1 732	7.9	15	15
1 600–5 400 head	1 155	5.3	24	23
> 5 400 head	276	1.3	29	22
Total	21 813	100	100	100

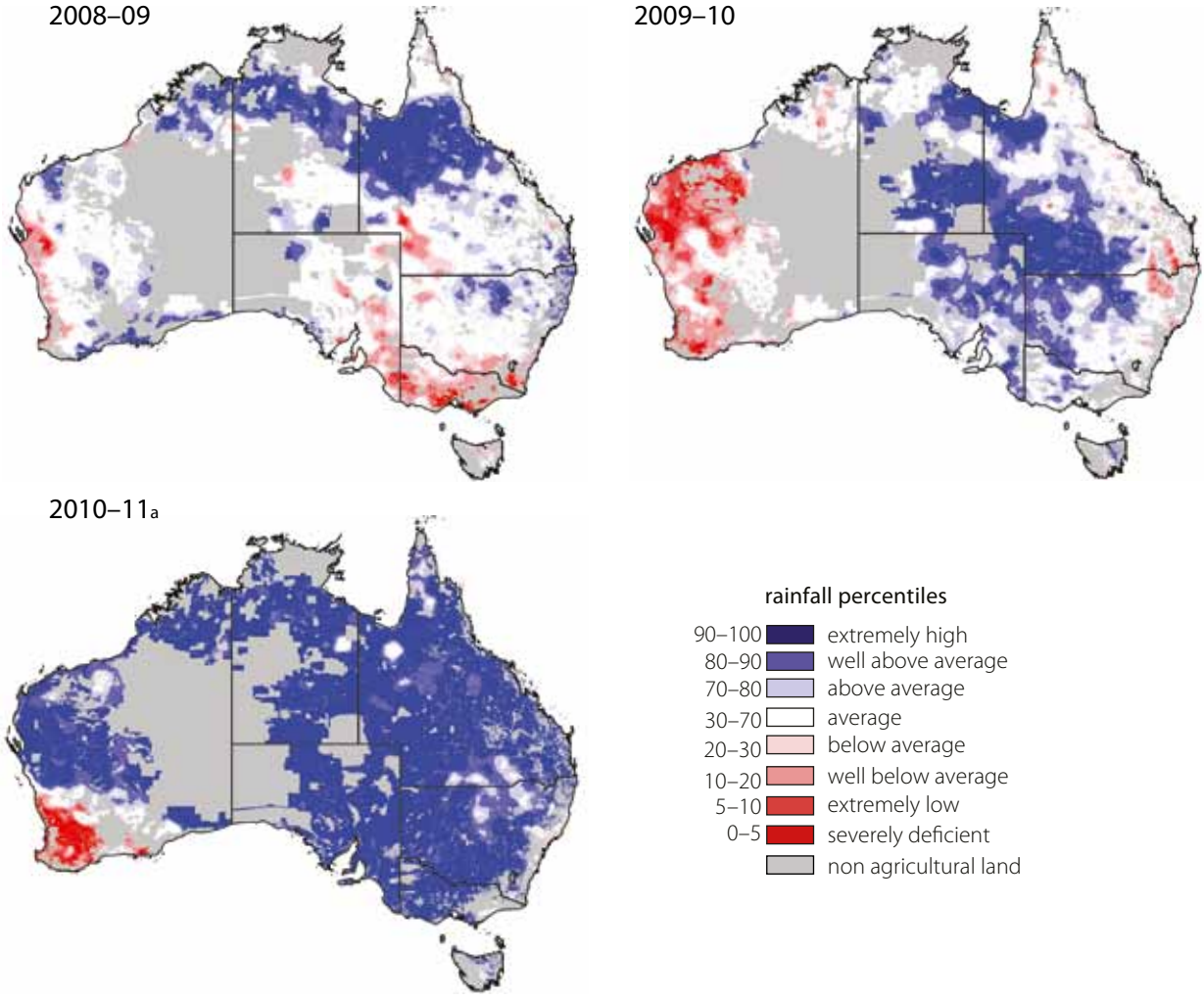
Note: Excludes major feedlots.

In addition, commercial feedlot operations have been excluded from this analysis. A farm with a commercial feedlot has been defined as one that had more than 5000 head of cattle fed on grain for more than 50 days during the financial year. However, those farms involved in grain finishing beef cattle on a lesser scale have been included in the analysis.

Seasonal conditions

Average to above average rainfall was received across a large part of northern Australia in late summer of 2008–09. Prior to this conditions had been dry with well below average wet seasons for the previous two years. Further south, in central Australia and in eastern and southern Queensland, conditions remained dry for a further 12 months (map 2).

map 2 Australian rainfall percentiles



a Year to March 2011.
Note: Percentiles is a way of dividing sorted data (in this case rainfall data) into 100 equal parts. The 10th percentile represents the lowest 10 per cent of the data and the 90th percentile represents the top 10 per cent of the data.
Source: Australian Bureau of Meteorology.

After several very dry years, seasonal conditions in southern Australia did not improve until rains were received in late 2009 across Victoria and South Australia.

Following the turnaround in seasonal conditions across much of northern Australia and parts of southern Australia in 2009–10, well above average rainfall was received through 2010–11 across most of Australia's agricultural regions (map 2).

During this period widespread flooding also occurred in parts of eastern and northern Australia in the summer of 2010–11 which resulted in considerable disruption to on-farm activities as well as cattle transport and sales. Losses of cattle, however, appear to have been relatively small in relation to the national herd and the main effect of the flooding appears to have been damage to farm and public infrastructure.

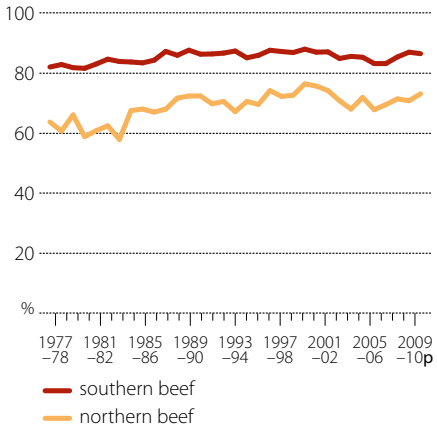
Cattle production

Northern Australia

Branding rates are typically lower and more variable in northern Australia than in southern Australia reflecting the greater variability in the quantity and quality of pasture. In addition, the extensive production systems and remote locations in the north make management practices, such as short-term supplementary feeding to deal with seasonal downturns in conditions, less cost effective than in southern Australia.

Branding rates trended upwards in northern Australia (and southern Australia) from the early 1980s until 1999–2000 (figure 2). Improved livestock genetics and pasture, along with increased herd and disease management and improved livestock transport operations, are all likely to have been some of the factors resulting in increased branding rates and higher herd productivity. However, between 1999–2000 and 2005–06 branding rates trended downwards in northern Australia, largely due to the dry conditions experienced over this period.

2 Beef cattle branding rates, Australia



p Preliminary estimate.
Note: Branding rate is defined as the number of calves marked as a proportion of cows mated.

Improved seasonal conditions led to an increase in the number of cows mated and calving in northern Australia in 2009–10. The number of calves branded in northern Australia increased in 2009–10 as branding rates rose to an eight-year high of 73 per cent, around 3 percentage points below the high of 76 per cent recorded in 1999–2000 (table 3, figure 2).

Improved grazing conditions across northern and central Australia in 2009–10 led to a reduction in cattle turn-off as producers retained stock and began rebuilding herds. Purchases of cattle increased on medium and large herd size farms and beef cattle numbers are estimated to have increased by an average of 4 per cent a farm in 2009–10. The largest increase was recorded for the very large herd size producers, with an increase of 7 per cent a farm (table 3).

In 2010–11, well above average pasture conditions are expected to result in a further reduction in beef cattle turn-off in northern Australia as producers continue to build cattle numbers (table 3). In addition, increases in cows mated and higher branding rates are expected to result in a further increase in the number of calves branded by northern Australian beef cattle producers in 2010–11. The number of calves branded is expected to increase across all herd size categories, except for the very large herd size category where a larger increase occurred in 2009–10.

Southern Australia

In 2009–10, the number of calves branded in southern Australia increased slightly due mainly to a small increase in cows mated (table 3). The average branding rate was also significantly higher than that recorded between 2002–03 and 2007–08 when prolonged drought conditions were experienced in much of southern Australia (figure 2).

Small and medium scale producers reported a decrease in the number of calves branded in 2009–10, largely due to reductions in the number of cows mated. In contrast, large to very large scale cattle producers increased the number of cows mated in 2009–10, and together with an increase in branding rates, resulted in an increase in the number of calves marked by these producers.

3 Selected physical characteristics, by herd size

average per farm

		small			medium			large		
		2008–09	2009–10p	2010–11z	2008–09	2009–10p	2010–11z	2008–09	2009–10p	2010–11z
Northern Australia										
Change in beef cattle numbers	%	1.6	–3.9	–4.2	5.6	3.6	1.2	0.9	2.4	4.4
Cows and heifers mated	no.	110	117	na	339	322	na	1018	1023	na
Calves branded	no.	79	93	97	267	249	273	750	769	796
Beef cattle purchases	no.	21	15	40	42	50	47	87	110	87
Beef cattle sales	no.	89	110	141	256	254	287	718	759	756
Change in sheep numbers	%	16.6	–8.6	0.3	–5.8	1.1	–1.0	–20.6	–3.7	5.1
Area operated as at 30 June	ha	1 903	2 019	na	8 235	7 121	na	41 453	39 730	na
Area cropped	ha	82	46	155	95	123	83	148	173	121
Southern Australia										
Change in beef cattle numbers	%	2.9	–0.9	5.6	–3.4	3.7	4.2	5.2	1.1	11.4
Cows and heifers mated	no.	60	63	na	138	121	na	252	261	na
Calves branded	no.	55	53	54	120	99	107	214	232	233
Beef cattle purchases	no.	18	28	29	21	31	24	47	40	41
Beef cattle sales	no.	66	79	76	140	114	119	220	258	216
Change in sheep numbers	%	–6.7	–0.2	13.8	–6.6	–6.1	4.9	–6.3	3.0	1.2
Area operated as at 30 June	ha	899	1 309	na	4 611	2 296	na	9 344	7 652	na
Area cropped	ha	153	203	147	241	191	98	281	332	219

		very large			all farms		
		2008–09	2009–10p	2010–11z	2008–09	2009–10p	2010–11z
Northern Australia							
Change in beef cattle numbers	%	1.7	7.0	5.7	2.2	4.2	3.3
Cows and heifers mated	no.	6 250	5 211	na	625	633	na
Calves branded	no.	4 124	3 571	3 087	442	462	398
Beef cattle purchases	no.	544	324	63	63	62	51
Beef cattle sales	no.	3 177	2 348	2 407	393	405	388
Change in sheep numbers	%	1.7	–3.6	16.2	–0.7	–4.3	0.7
Area operated as at 30 June	ha	255 951	247 863	na	22 444	23 966	na
Area cropped	ha	224	149	72	104	105	119
Southern Australia							
Change in beef cattle numbers	%	–0.5	3.0	8.5	0.4	2.1	7.6
Cows and heifers mated	no.	748	764	na	190	199	na
Calves branded	no.	652	669	559	165	172	163
Beef cattle purchases	no.	121	109	75	34	40	34
Beef cattle sales	no.	753	700	525	188	195	168
Change in sheep numbers	%	–8.6	–7.4	6.8	–7.0	–2.9	7.1
Area operated as at 30 June	ha	21 184	32 368	na	5 670	6 389	na
Area cropped	ha	632	505	255	255	258	152

p Preliminary estimates. **z** Provisional estimates. **na** not available.

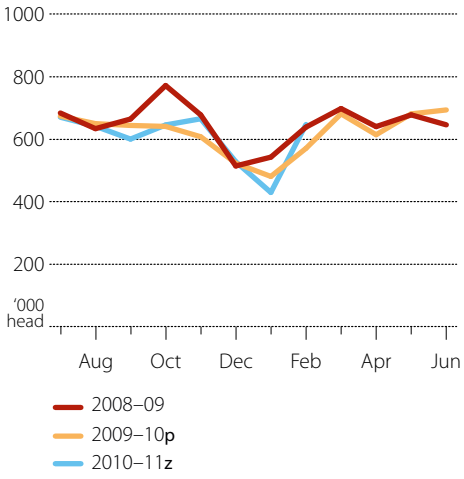
In 2010–11, turn-off of beef cattle is expected to reduce across southern Australia as producers rebuild herds in response to improved seasonal conditions; however, turn-off is projected to increase in southern Western Australia because of continuing dry conditions.

In 2010–11, a significant increase is expected in the number of calves branded in southern Australia because of increases in numbers of cows mated and in branding rates. Increased brandings are expected for small, medium and large herd size producers.

Beef cattle slaughter, 2008–09 to 2010–11

Slaughter of beef cattle in Australia typically exhibits a strong seasonal pattern, with slaughter being highest in late spring and lowest in mid to late summer (figure 3). In 2008–09, this pattern was particularly strong as dry seasonal conditions throughout much of eastern and southern Australia resulted in producers increasing turn-off of cattle for slaughter before summer.

3 Cattle slaughter



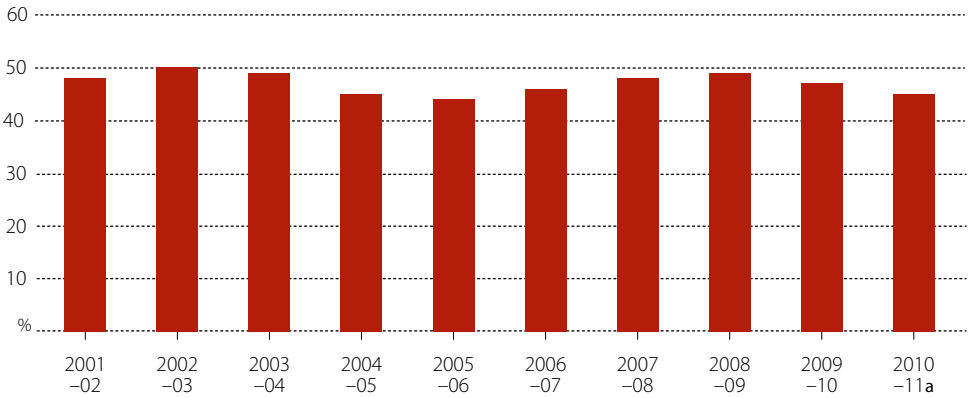
p Preliminary estimate. **z** Provisional estimate.
Source: ABS

In 2009–10 and 2010–11 this trend was less pronounced as improved seasonal conditions encouraged producers to begin rebuilding herds. The relatively high beef cattle slaughter recorded in November 2010 was driven mainly by increased slaughter in Western Australia because of dry seasonal conditions, together with diversion to slaughter of some cattle previously destined for live export from northern Australia.

Flooding in late 2010 and early 2011 also affected the seasonal pattern of cattle slaughter. The flooding across a large proportion of the eastern states caused damage to roads, bridges and rail lines, restricting movement of cattle. This resulted in some cattle sales being cancelled in early to mid January. Restricted cattle movement and cancelled sales resulted in slaughter numbers falling to the lowest for January since 1989. In January 2011, around 11 per cent fewer cattle were slaughtered than in January 2010. Cattle intended for slaughter in January 2011 were deferred till February 2011 with 647 000 head of cattle being slaughtered, just over 13 per cent higher than in February 2010.

The female share of beef cattle slaughter fell in 2009–10 (figure 4) and was further reduced in the first eight months of 2010–11 in line with producers retaining female stock to boost future calf production.

4 Female share of beef cattle slaughter



a Year to February.
Source: ABS

Age composition of the Australian beef cattle herd

A supplementary survey of the sex and age composition of the beef herd on broadacre farms was included in the 2010–11 AAGIS. In aggregate, broadacre farms account for around 80 per cent of the national beef herd.

The age and sex distribution of the beef herd on Australian broadacre farms at 30 June 2010 is presented as aggregate numbers and in percentage terms in tables 4, 5 and 6. The distributions are shown for Australia as a whole, by northern and southern Australia, by state, and by target market. In addition, a comparison of the herd composition on broadacre

farms at 30 June 2010 with the herd composition 10 years earlier (30 June 2000) before the onset of dry seasonal conditions in the 2000s is presented in figure 5. A decade ago, the national herd was around 2 per cent larger, at 24.4 million, compared with 2009–10.

Overall, the change in the age and sex composition of the Australian beef herd between 2000 and 2010 appears to have been relatively small (figure 5). At the national level, the cattle herd at 30 June 2010 is estimated to have a slightly lower proportion of female cattle under 4 years of age and a slightly higher proportion over 4 years of age compared with the herd in 2000. The proportion of other cattle over 3 years of age is estimated to be lower than a decade ago, as is the proportion of calves.

In northern Australia, a slightly higher proportion of female cattle of all age groups was recorded in 2010 compared with 2000. The proportion of other cattle in the 1 to 3 year age category was slightly higher and the proportion of other cattle in the 4 to 6 year age category slightly lower compared with 2000.

In southern Australia, a slightly lower proportion of young female cattle (less than 3 years of age) and a slightly higher proportion of female cattle over 4 years of age was recorded in 2010 compared with 2000. The proportion of other cattle over 4 years of age was significantly lower and the proportion of calves was slightly lower compared with 2000.

According to the survey estimates, the southern herd had a slightly higher proportion of female cattle in 2010 compared with the northern herd (table 4). In 2010, the southern herd also had a significantly higher proportion of calves compared with the northern herd. Destocking during extended drought periods in the 2000s resulted in the turn-off of a higher proportion of older stock, and as a consequence, producers mainly retained breeding stock, which resulted in a higher proportion of female cattle in both the northern and southern herds in 2010.

The proportion of female cattle in the broadacre beef cattle herd at 30 June 2010 was lowest in Tasmania and South Australia averaging around 51 per cent of the state herd (table 5 and figure 6). In contrast, the Northern Territory had the highest proportion of female cattle with an average of 60 per cent at 30 June 2010.

Despite variation in the proportion of female cattle between states, the proportion of young female cattle was relatively constant across all states, except Tasmania. The proportion of young female cattle was between 21 and 24 per cent in most states, whereas in Tasmania it was 18 per cent.

Cattle 3 years of age or younger made up 64 per cent of the Australian cattle herd. By comparison, 69 per cent of South Australia's herd and 58 per cent of the Northern Territory's herd were 3 years of age or younger.

4 Estimated beef herd composition on broadacre properties, at 30 June 2010

		calves		1–2 yr old replacement heifers		2–3 yr old cows		4–6 yr old cows		7 yrs plus cows		1–3 yr old other cattle		4–6 yr old other cattle		7 yrs plus other cattle		bulls		total	
Northern Australia																					
Total beef cattle	'000	2 790	(6)	1 159	(7)	1 500	(7)	2 618	(5)	1 264	(8)	2 425	(8)	203	(20)	42	(39)	240	(6)	12 240	(5)
Share of herd	%	23	(3)	9	(5)	12	(5)	21	(3)	10	(5)	20	(5)	2	(19)	0	(39)	2	(5)	100	
Southern Australia																					
Total beef cattle	'000	2 286	(7)	687	(9)	1 064	(8)	1 904	(6)	796	(9)	1 166	(9)	25	(35)	5	(57)	149	(7)	8 081	(5)
Share of herd	%	28	(4)	9	(7)	13	(6)	24	(4)	10	(6)	14	(8)	0	(35)	0	(57)	2	(4)	100	
Australia																					
Total beef cattle	'000	5 076	(5)	1 846	(6)	2 563	(5)	4 521	(4)	2 060	(6)	3 591	(6)	229	(18)	46	(36)	389	(5)	20 321	(4)
Share of herd	%	25	(2)	9	(4)	13	(4)	22	(3)	10	(4)	18	(5)	1	(18)	0	(36)	2	(3)	100	

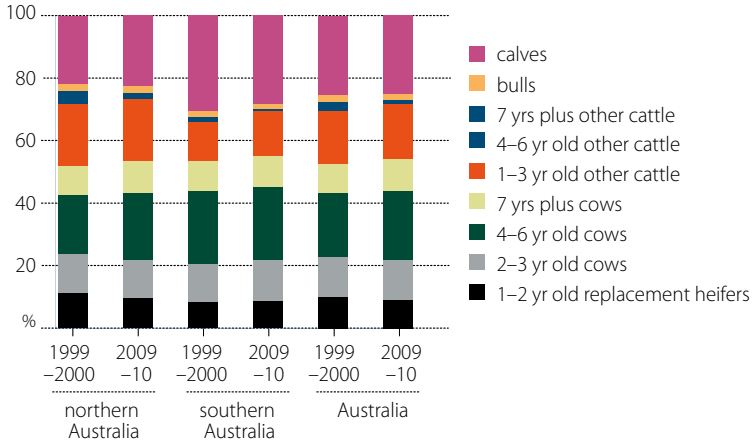
Note: Figures in parentheses are relative standard errors expressed as a percentage of the estimate. A guide on how to use RSEs is in the survey methods and definitions section.

5 Estimated beef herd composition on broadacre properties at 30 June 2010, by state

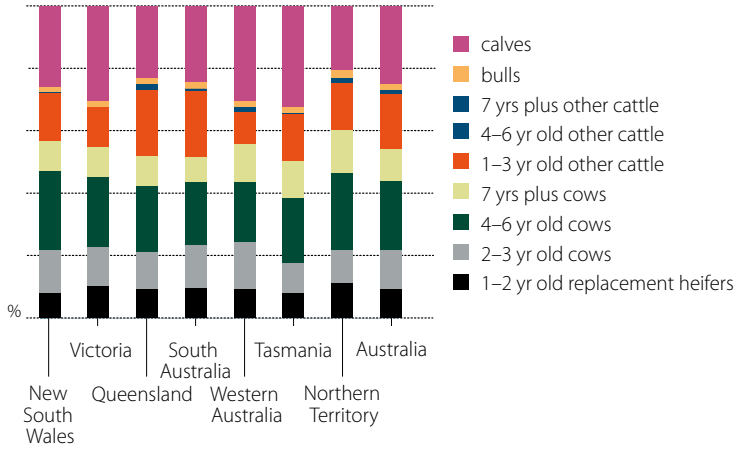
		calves	1–2 yr old replacement heifers	2–3 yr old cows	4–6 yr old cows	7 yrs plus cows	1–3 yr old other cattle	4–6 yr old other cattle	7 yrs plus other cattle	bulls	total
New South Wales											
Total	'000	1 041 (11)	318 (14)	550 (11)	1 024 (10)	373 (15)	626 (13)	9 (59)	2 (117)	71 (11)	4 014 (8)
Share of beef cattle herd	%	26 (6)	8 (13)	14 (7)	26 (6)	9 (10)	16 (14)	0 (59)	0 (117)	2 (7)	100
Victoria											
Total	'000	484 (14)	161 (15)	200 (15)	352 (9)	155 (14)	203 (16)	0 (70)	0	30 (16)	1587 (10)
Share of beef cattle herd	%	31 (8)	10 (11)	13 (9)	22 (6)	10 (12)	13 (14)	0 (74)	0	2 (11)	100
Queensland											
Total	'000	2 300 (6)	900 (8)	1 188 (7)	2 127 (6)	950 (9)	2 092 (9)	157 (24)	39 (42)	188 (7)	9 942 (6)
Share of beef cattle herd	%	23 (3)	9 (6)	12 (5)	21 (3)	10 (6)	21 (6)	2 (23)	0 (42)	2 (6)	100
South Australia											
Total	'000	202 (16)	77 (18)	116 (12)	166 (13)	65 (27)	176 (20)	5 (89)	0	16 (16)	824 (13)
Share of beef cattle herd	%	25 (12)	9 (14)	14 (10)	20 (6)	8 (20)	21 (13)	1 (82)	0	2 (8)	100
Western Australia											
Total	'000	611 (16)	185 (23)	302 (18)	383 (15)	250 (22)	200 (23)	32 (36)	6 (45)	37 (16)	2 005 (14)
Share of beef cattle herd	%	30 (6)	9 (16)	15 (15)	19 (12)	12 (14)	10 (18)	2 (36)	0 (48)	2 (10)	100
Tasmania											
Total	'000	96 (15)	23 (22)	28 (14)	62 (18)	35 (17)	45 (22)	1 (90)	0 (96)	6 (14)	295 (13)
Share of beef cattle herd	%	32 (5)	8 (14)	10 (8)	21 (10)	12 (15)	15 (18)	0 (91)	0 (97)	2 (10)	100
Northern Territory											
Total	'000	343 (21)	181 (16)	178 (13)	407 (8)	231 (12)	249 (17)	24 (41)	0 (65)	40 (12)	1 654 (12)
Share of beef cattle herd	%	21 (12)	11 (11)	11 (7)	25 (10)	14 (5)	15 (9)	1 (40)	0 (66)	2 (8)	100
Australia											
Total	'000	5 076 (5)	1 846 (5)	2 563 (5)	4 521 (4)	2 060 (6)	3 591 (6)	229 (18)	46 (36)	389 (5)	20 321 (4)
Share of beef cattle herd	%	25 (2)	9 (4)	13 (3)	22 (3)	10 (4)	18 (5)	1 (18)	0 (36)	2 (3)	100

Note: Figures in parentheses are relative standard errors expressed as a percentage of the estimate. A guide on how to use RSEs is in the survey methods and definitions section.

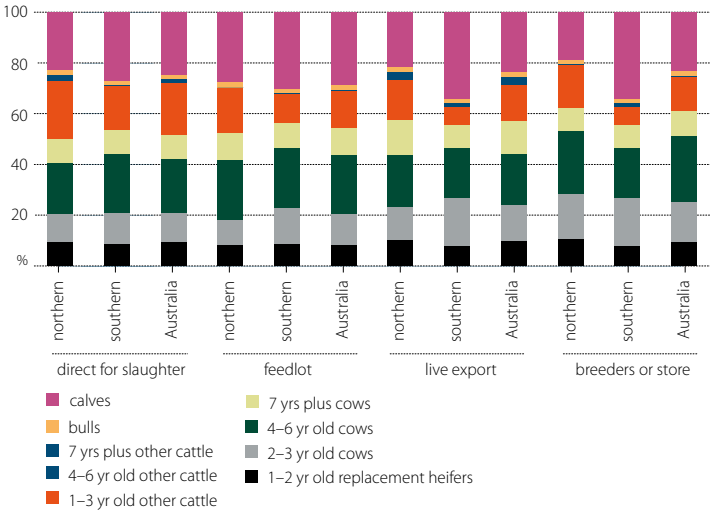
5 Age and sex composition, share of herd, at 30 June 2000 and 2010



6 Age and sex composition of broadacre herd, at 30 June 2010, by state



7 Age and sex composition of broadacre herd, at 30 June, by target market



Broadacre beef cattle producers sell cattle for slaughter or to other producers for breeding or further growing out. Producers can sell animals for slaughter in Australia to three types of buyers—abattoirs, live exporters or feedlots. To explore differences in the herd composition of producers supplying these different markets, beef cattle farms were divided into four market groups based on the predominant market to which they sold cattle. The groups were:

- direct for slaughter
- feedlots
- live export
- breeders or store.

The type of market producers sell to influences the composition of their cattle herd (table 6 and figure 7). Producers who predominantly sell cattle for live export and to breeders or for store purposes tend to sell cattle at a younger age. This results in fewer non-breeding cattle being retained on-farm which frees up resources to enable these farms to carry proportionally more breeding cows in their herds. Consequently, these farms had the highest proportion of young female cattle, averaging around one-quarter of their herd. In contrast, producers who predominantly sold cattle directly for slaughter had fewer cows and a higher proportion of young cattle (including calves and other cattle) that are carried for finishing before sale. The herd composition for those targeting feedlots was in line with the national average; however, they tended to have a slightly lower proportion of young female cattle.

6 Estimated beef herd composition on broadacre properties at 30 June 2010, by target market

		calves		1–2 yr old replacement heifers		2–3 yr old cows		4–6 yr old cows		7 yrs plus cows		1–3 yr old other cattle		4–6 yr old other cattle		7 yrs plus other cattle		bulls		total	
Direct for slaughter																					
Northern Australia	'000	1 447	(8)	595	(9)	695	(10)	1271	(8)	583	(10)	1450	(10)	121	(22)	33	(47)	112	(10)	6 307	(7)
	%	23	(3)	9	(6)	11	(6)	20	(4)	9	(7)	23	(6)	2	(23)	1	(47)	2	(8)	100	
Southern Australia	'000	1 270	(8)	404	(8)	577	(7)	1074	(7)	459	(10)	811	(10)	12	(50)	2	(127)	83	(9)	4 694	(6)
	%	27	(5)	9	(7)	12	(6)	23	(5)	10	(7)	17	(8)	0	(50)	0	(127)	2	(6)	100	
Australia	'000	2 717	(5)	1 000	(6)	1 272	(6)	2 345	(5)	1 042	(7)	2 261	(7)	133	(21)	35	(45)	196	(7)	11 001	(5)
	%	25	(3)	9	(5)	12	(4)	21	(3)	9	(5)	21	(5)	1	(21)	0	(45)	2	(5)	100	
Feedlot																					
Northern Australia	'000	509	(22)	148	(31)	188	(20)	435	(17)	195	(20)	329	(22)	5	(96)	0		40	(16)	1 849	(17)
	%	28	(11)	8	(20)	10	(7)	24	(5)	11	(7)	18	(20)	0	(96)	0		2	(11)	100	
Southern Australia	'000	491	(15)	136	(28)	233	(18)	380	(14)	165	(20)	183	(28)	2	(120)	1	(133)	27	(18)	1 618	(12)
	%	30	(8)	8	(25)	14	(11)	23	(7)	10	(15)	11	(27)	0	(119)	0	(132)	2	(12)	100	
Australia	'000	1 000	(13)	283	(21)	421	(14)	815	(11)	361	(14)	512	(18)	6	(77)	1	(133)	67	(12)	3 467	(11)
	%	29	(7)	8	(16)	12	(7)	23	(4)	10	(8)	15	(16)	0	(77)	0	(133)	2	(8)	100	
Live export																					
Northern Australia	'000	515	(17)	241	(18)	318	(14)	482	(10)	337	(16)	369	(17)	71	(30)	7	(73)	52	(10)	2 393	(12)
	%	22	(9)	10	(11)	13	(8)	20	(10)	14	(9)	15	(8)	3	(30)	0	(73)	2	(9)	100	
Southern Australia	'000	160	(39)	35	(60)	90	(69)	92	(21)	43	(27)	32	(38)	6	(95)	1	(95)	8	(33)	469	(35)
	%	34	(9)	8	(32)	19	(41)	20	(36)	9	(39)	7	(19)	1	(68)	0	(68)	2	(15)	100	
Australia	'000	676	(16)	277	(18)	408	(19)	574	(9)	380	(14)	401	(16)	77	(29)	9	(63)	61	(10)	2 862	(12)
	%	24	(7)	10	(11)	14	(12)	20	(10)	13	(10)	14	(9)	3	(28)	0	(62)	2	(8)	100	
Breeders or store																					
Northern Australia	'000	307	(24)	170	(21)	292	(18)	413	(14)	146	(16)	276	(44)	6	(55)	1	(58)	30	(39)	1 642	(15)
	%	19	(13)	10	(14)	18	(20)	25	(9)	9	(17)	17	(35)	0	(56)	0	(63)	2	(31)	100	
Southern Australia	'000	308	(8)	75	(8)	133	(7)	276	(7)	117	(10)	80	(10)	1	(50)	0	(127)	26	(9)	1 017	(6)
	%	34	(9)	8	(32)	19	(41)	20	(36)	9	(39)	7	(19)	1	(68)	0	(68)	2	(15)	100	
Australia	'000	615	(16)	246	(20)	425	(15)	689	(11)	263	(16)	356	(35)	7	(50)	1	(58)	56	(23)	2 659	(12)
	%	23	(8)	9	(13)	16	(14)	26	(8)	10	(12)	13	(29)	0	(51)	0	(61)	2	(17)	100	

Note: Figures in parentheses are relative standard errors expressed as a percentage of the estimate. A guide on how to use RSEs is in the survey methods and definitions section.

Farm financial performance—northern Australia

2009–10

The financial performance of beef cattle farms in northern Australia weakened in 2009–10 (table 7). On average, farm cash income in northern Australia was reduced from $79 481 a farm in 2008–09 to $39 120 in 2009–10. The decrease in farm cash income was due to the combination of a small reduction in prices received for cattle sold, reduced transfer of stock off-farm, lower crop receipts and a small increase in farm cash costs. Dry seasonal conditions at the start of the season in much of eastern northern Australia resulted in a 23 per cent increase in expenditure on fodder. In addition, expenditure on cattle purchases increased as re-stocking began and interest payments increased due to a rise in farm debt.

Farm financial performance varied between producers with different herd sizes (table 7). While farm cash income decreased in 2009–10 for all producers, those with a small herd size realised the smallest decrease and those with a very large herd size realised the largest decrease.

On average, farm cash receipts were lower for all producers except large herd size producers. For large herd size producers, lower receipts from the sale of beef cattle were more than offset by increased receipts from crops in 2009–10. For small herd size producers, the decrease in farm cash receipts was mainly driven by a decrease in receipts from crops, as a result of the smaller area planted to crops.

The largest increase in average farm cash costs was for medium and large herd size producers in 2009–10 compared with the previous year. This increase was mainly driven by increased spending on fodder. In contrast, small and very large scale beef cattle producing farms recorded a decrease in farm cash costs. A reduced area sown to crops in eastern and southern Queensland regions due to dry conditions led to lower expenditure on cropping inputs, including fertiliser, chemicals and fuel.

2010–11

Farm financial performance is projected to strengthen in northern Australia in 2010–11 (table 7). Farm cash income for beef cattle producers in northern Australia is forecast to increase by 54 per cent to an average of $60 100 a farm in 2010–11.

Projected farm financial performance estimates for 2010–11 do not include the effects of suspending exports of live cattle to Indonesia for the purpose of slaughter from 8 June 2011.

Receipts from the sale of beef cattle are expected to remain relatively similar to those recorded in 2009–10. An expected reduction in the number of cattle sold as producers rebuild herds is projected to be mostly offset by higher prices received for beef cattle. However, reduced numbers of beef cattle are expected to be transferred off corporate properties in northern Australia in the large and very large herd size categories and this is expected to contribute to an overall reduction in the value of cattle turn-off from northern properties. Despite increased receipts from sheep, wool and crops, particularly summer crops, total cash receipts for northern beef cattle properties are expected to be reduced in 2010–11 due to lower receipts from cattle turn-off.

Farm cash costs are projected to reduce in 2010–11 compared with 2009–10 due to reduced expenditure on the purchase of fodder and beef cattle, and in the number of cattle transferred between corporately owned properties. This reduction in cash costs is expected despite an increase in interest paid due to higher interest rates in 2010–11 and increases in expenditure on repairs and maintenance. Overall, because total cash costs are projected to be reduced by more than the reduction in total cash receipts, farm cash income is projected to increase in 2010–11.

Producers of all scales are forecast to experience improved farm cash income in 2010–11. For small and medium herd size producers the forecast improvement in farm cash income is driven by increased farm cash receipts that have more than offset higher farm cash costs. The increase in farm cash receipts is largely due to projected higher receipts from beef cattle and crops. Increased crop production is expected as a result of improved seasonal conditions, particularly for small and medium herd size producers located in south eastern and coastal Queensland. Higher farm cash costs have mainly been driven by increased fertiliser and chemical costs, inputs for crop production, together with higher expenditure on repairs. Increases in expenditure on repairs and maintenance are partly a result of damage to farm infrastructure caused by flooding.

7 Financial performance, northern beef industry

average per farm

		small				medium				large			
		2008–09	2009–10p		2010–11z	2008–09	2009–10p		2010–11z	2008–09	2009–10p		2010–11z
Farm cash receipts													
Beef cattle	$	54 283	64 340	(21)	86 100	188 174	174 470	(6)	196 700	549 846	542 890	(6)	546 000
Beef cattle transferred off–farm	$	503	0		na	828	0		na	20 198	47 770	(79)	na
Crops	$	25 802	11 080	(295)	15 000	35 151	29 180	(36)	63 600	41 922	45 660	(34)	41 800
Sheep and lambs	$	4 857	5 460	(22)	6 100	9 695	7 420	(35)	10 800	5 092	7 440	(75)	8 400
Wool	$	4 648	7 680	(40)	7 900	14 607	6 240	(38)	7 400	8 302	9 110	(74)	12 400
Total cash receipts	$	109 324	94 840	(44)	126 200	287 351	246 280	(8)	298 000	681 152	706 460	(7)	675 900
Farm cash costs													
Beef cattle purchases	$	11 421	9 800	(56)	20 900	27 101	29 930	(19)	26 700	58 668	66 990	(21)	54 200
Chemicals	$	3 306	2 070	(301)	2 600	4 812	4 630	(29)	6 900	13 058	9 800	(29)	10 800
Contracts	$	3 205	2 010	(265)	2 000	8 285	9 220	(18)	12 200	17 006	23 830	(21)	19 700
Fertilisers	$	2 255	1 450	(148)	1 400	4 121	2 810	(23)	3 000	2 761	1 910	(30)	3 100
Fodder	$	3 511	5 110	(19)	4 100	8 949	15 560	(12)	9 800	34 724	53 000	(15)	32 700
Fuel, oil and grease	$	8 385	5 960	(52)	7 800	17 588	15 950	(9)	18 400	38 388	36 300	(10)	38 000
Handling and marketing	$	3 284	1 960	(46)	na	5 838	5 810	(15)	na	13 792	14 530	(14)	na
Hired labour	$	1 334	2 270	(96)	1 900	4 955	6 480	(29)	8 400	25 260	30 760	(13)	26 100
Interest	$	9 786	8 580	(104)	9 700	27 619	30 950	(12)	38 800	97 121	95 350	(13)	102 700
Repairs and maintenance	$	10 437	9 390	(30)	12 700	21 207	21 570	(10)	27 000	51 624	56 260	(8)	64 800
Total cash costs	$	86 441	75 400	(53)	104 600	197 097	208 040	(7)	241 800	508 825	583 990	(9)	555 600
Farm financial performance													
Farm cash income	$	21 738	18 890	(56)	21 600	85 739	37 160	(27)	56 200	163 705	119 020	(22)	120 300
Farm business profit	$	–36 642	–54 130	(22)	–45 000	41 051	–24 680	(32)	–11 300	51 074	9 790	(243)	66 900
Rate of return													
– excl. capital appreciation	%	–0.9	–1.6	(22)	–1.2	1.2	0.2	(84)	0.7	1.3	1.1	(20)	1.8
– incl. capital appreciation	%	–0.4	–2.9	(36)	na	0.2	–0.6	(118)	na	–1.0	–2.7	(34)	na

continued...

7 Financial performance, northern beef industry

average per farm continued

		very large				northern Australia			
		2008–09	2009–10p		2010–11z	2008–09	2009–10p		2010–11z
Farm cash receipts									
Beef cattle	$	2 149 014	1 553 840	(8)	1 593 100	278 615	275 060	(6)	275 300
Beef cattle transferred off–farm	$	902431	604 520	(23)	na	46 516	40 620	(34)	na
Crops	$	31 395	36 990	(71)	37 300	31 831	25 850	(19)	37 700
Sheep and lambs	$	449	3 550	(98)	1 000	6 329	6 470	(24)	7 900
Wool	$	4 016	2 690	(98)	5 500	8 588	7 160	(28)	8 500
Total cash receipts	$	3 277 697	2 310 460	(8)	1 754 800	411 773	384 370	(6)	358 500
Farm cash costs									
Beef cattle purchases	$	325 681	247 190	(19)	56 600	39 227	40 670	(11)	30 600
Chemicals	$	13 692	5 840	(41)	6 800	5 876	4 710	(15)	5 800
Contracts	$	105 053	107 760	(22)	75 500	11 973	14 410	(18)	12 000
Fertilisers	$	6 079	3 430	(36)	4 600	3 151	2 150	(16)	2 400
Fodder	$	217 668	141 370	(8)	86 300	20 519	25 310	(7)	14 900
Fuel, oil and grease	$	174 125	135 490	(9)	103 200	24 184	22 270	(6)	21 200
Handling and marketing	$	60 353	49 570	(20)	na	8 543	8 290	(11)	na
Hired labour	$	245 311	226 360	(9)	121 100	17 968	20 980	(9)	13 800
Interest	$	379 795	305 090	(17)	463 400	47 404	49 060	(11)	56 800
Repairs and maintenance	$	190 733	170 600	(8)	164 300	29 254	31 350	(6)	33 900
Total cash costs	$	2 961 522	2 407 160	(9)	1 543 200	328 106	344 120	(7)	298 400
Farm financial performance									
Farm cash income	$	300 356	–93 980	(164)	211 600	79 481	39 120	(28)	60 100
Farm business profit	$	237 598	101 020	(123)	369 900	16 831	–22 750	(41)	5 500
Rate of return									
– excl. capital appreciation	%	1.7	1.3	(25)	2.9	0.9	0.5	(28)	1.1
– incl. capital appreciation	%	1.9	–1.3	(114)	na	0.2	–1.8	(35)	na

p Preliminary estimates. **z** Provisional estimates. **na** Not available.
Note: Figures in parentheses are relative standard errors expressed as a percentage of the estimate. A guide on how to use RSEs is in the survey methods and definitions section.

For large and very large scale producers the expected increase in farm cash income is a result of an expected decrease in farm cash costs which more than offset the decrease in farm cash receipts due to an expected reduction in the number of cattle transferred off corporate properties. The reduction in farm cash costs is due to decreases in expenditure on fodder, beef cattle purchases and lower transfers of beef cattle between corporate properties.

In addition to improvements in farm cash incomes, is a relatively larger increase in farm business profit (table 7) projected during 2010–11 because increases in the number of beef cattle on farms are expected to result in an increase in the value of on-farm inventories.

Farm financial performance—southern Australia

2009–10

Overall, the financial performance of beef cattle farms in southern Australia in 2009–10 remained similar to that recorded in 2008–09 (table 8). Farm cash income is estimated to have averaged $57 660 a farm in 2009–10, similar to the average of $60 763 recorded in 2008–09.

Farm cash receipts fell by around 3 per cent on average despite an increase in receipts from beef cattle due to a small increase in the number of cattle sold. Receipts from sheep, lambs and wool also increased. However, the increase in receipts from livestock was more than offset by reduced receipts from crops, largely as a consequence of continued dry seasonal conditions in New South Wales together with emergence of drought in southern Western Australia in 2009–10.

The financial performance of farms varied between producers of different scales of production. Farm cash income is estimated to have declined for small, medium and very large herd size producers in 2009–10. In contrast, large herd size producers experienced a 30 per cent increase in farm cash income in 2009–10. The increase in farm cash income for large herd size producers was mainly due to a 30 per cent rise in crop receipts as the area planted to crops was expanded in 2009–10.

Farm cash receipts increased for small herd size producers as numbers of cattle sold rose in 2009–10, but in the latter half of 2009–10, improving seasonal conditions resulted in increased purchases of beef cattle and a large rise in beef cattle purchase expenditure. The increase in total cash costs exceeded the increase in receipts and as a result average farm cash income fell slightly.

Reduced receipts from beef cattle and crops were the main drivers for lower farm cash incomes for medium and very large herd size producers. Medium and very large scale beef cattle producers planted a smaller area to crops in 2009–10 than in 2008–09 and this led to a reduction in receipts from the sale of crops. Improved seasonal conditions in the second half of 2009–10 also led to a fall in turn-off as producers began rebuilding herds and receipts from the sale of cattle were reduced.

2010–11

Improved seasonal conditions in southern Australia are projected to result in an increase in farm cash income of 15 per cent in 2010–11 to an average of $66 200 per farm. Despite an increase in receipts from crops, average farm cash receipts are expected to fall as a result of reduced turn-off as producers retain stock to rebuild herds. This reduction in receipts, however, is expected to be offset by an even larger reduction in farm cash costs. Well above average rainfall and abundant pasture growth are expected to result in much lower expenditure on fodder while purchases of beef cattle are also expected to be reduced due to limited availability of stock and high saleyard prices.

Despite a projected overall improvement in farm cash income in southern Australia, average farm cash income for large and very large herd size beef producers is expected to weaken in 2010–11. Average farm cash income for these two categories of production are expected to be reduced by 9 per cent and 10 per cent, respectively, as a consequence of a reduction in the number of cattle sold. However, herd rebuilding is expected to translate into an improvement in farm business profit for these producers as the marked increases in on-farm cattle numbers increase the value of farm inventories.

8 Financial performance, southern beef industry

average per farm

		small				medium				large			
		2008–09	2009–10p		2010–11z	2008–09	2009–10p		2010–11z	2008–09	2009–10p		2010–11z
Farm cash receipts													
Beef cattle	$	46 064	56 080	(9)	59 400	92 804	81 050	(13)	87 500	153 830	169 920	(6)	158 700
Beef cattle transferred off–farm	$	0	460	(166)	na	1925	0		na	149	140	(67)	na
Crops	$	55 378	55 200	(39)	75 100	89 764	54 980	(32)	70 200	110 306	142 590	(24)	102 400
Sheep and lambs	$	25 852	29 540	(25)	32 700	30 482	42 570	(25)	39 900	47 235	54 280	(13)	47 400
Wool	$	15 234	20 090	(33)	18 600	22 266	20 680	(24)	17 400	27 472	24 650	(15)	22 700
Total cash receipts	$	170 551	181 210	(17)	201 800	267 156	220 490	(15)	232 900	372 297	422 550	(10)	360 500
Farm cash costs													
Beef cattle purchases	$	10 340	16 150	(15)	15 600	12 849	16 450	(27)	14 100	26 833	25 670	(18)	23 300
Chemicals	$	6 677	9 850	(29)	13 000	11 631	10 490	(27)	11 000	16 826	22 330	(22)	20 100
Contracts	$	5 574	6 890	(23)	5 700	8 110	7 510	(36)	9 600	14 706	21 130	(27)	15 600
Fertilisers	$	13 314	12 990	(38)	16 700	20 072	15 980	(30)	15 900	26 394	24 040	(11)	23 400
Fodder	$	4 535	2 420	(32)	1 600	7 877	4 410	(43)	2 300	7 314	8 720	(16)	4 400
Fuel, oil and grease	$	13 584	10 780	(20)	13 200	17 026	12 530	(15)	11 600	21 797	22 930	(11)	22 400
Handling and marketing	$	4 903	5 290	(30)	na	6 422	5 620	(24)	na	13 200	12 130	(17)	na
Hired labour	$	3 416	3 390	(39)	3 900	5 959	6 100	(30)	6 000	13 464	17 260	(22)	13 900
Interest	$	17 260	14 520	(29)	13 000	25 998	17 560	(27)	19 500	42 214	43 650	(17)	34 800
Repairs and maintenance	$	12 604	13 880	(20)	19 700	18 694	15 320	(14)	16 000	29 549	32 320	(10)	30 400
Total cash costs	$	138 616	151 780	(16)	159 100	201 831	174 960	(16)	173 000	307 663	340 170	(10)	287 900
Farm financial performance													
Farm cash income	$	30 337	28 590	(38)	42 700	62 057	44 250	(30)	59 900	61 401	80 060	(17)	72 600
Farm business profit	$	–29 579	–36 960	(35)	–13 000	–21 033	–26 370	(45)	–3 900	–6 569	3 630	(407)	17 200
Rate of return													
– excl. capital appreciation	%	–0.4	–0.7	(73)	0.2	0.2	–0.1	(342)	0.7	0.8	1.0	(26)	1.3
– incl. capital appreciation	%	0.1	–0.3	(448)	na	0.3	6.0	(202)	na	0.3	1.7	(40)	na

continued...

8 Financial performance, southern beef industry

average per farm continued

		very large				southern Australia			
		2008–09	2009–10p		2010–11z	2008–09	2009–10p		2010–11z
Farm cash receipts									
Beef cattle	$	545 007	504 140	(9)	434 700	131 788	136 990	(5)	133 600
Beef cattle transferred off–farm	$	13524	3 080	(111)	na	2 120	550	(55)	na
Crops	$	287 179	155 600	(32)	206 900	100 481	83 040	(11)	94 300
Sheep and lambs	$	81 753	96 020	(33)	76 300	36 709	46 000	(11)	43 300
Wool	$	62 015	62 880	(32)	51 600	24 551	26 060	(12)	23 000
Total cash receipts	$	1 065 366	876 320	(12)	802 800	330 177	319 010	(5)	315 400
Farm cash costs									
Beef cattle purchases	$	83 429	73 980	(21)	48 400	21 465	24 690	(9)	20 400
Chemicals	$	47 278	32 220	(24)	37 500	14 280	14 970	(10)	16 500
Contracts	$	46 120	44 610	(27)	43 600	12 150	14 100	(14)	13 600
Fertilisers	$	76 222	56 560	(20)	56 400	24 350	21 030	(7)	22 500
Fodder	$	44 374	24 430	(29)	12 800	10 322	6 770	(13)	3 700
Fuel, oil and grease	$	55 320	39 220	(11)	36 700	20 462	16 890	(6)	17 100
Handling and marketing	$	24 423	27 570	(21)	na	8 791	9 240	(10)	na
Hired labour	$	64 667	54 230	(19)	47 200	12 301	12 710	(11)	11 800
Interest	$	127 022	89 690	(18)	111 700	35 766	29 600	(12)	31 400
Repairs and maintenance	$	67 422	62 550	(11)	59 300	23 168	23 400	(5)	25 100
Total cash costs	$	889 878	718 090	(12)	663 900	266 213	259 680	(5)	249 100
Farm financial performance									
Farm cash income	$	166 708	153 770	(25)	138 900	60 763	57 660	(12)	66 200
Farm business profit	$	60 951	31 760	(133)	91 100	–13 456	–18 060	(42)	8 500
Rate of return									
– excl. capital appreciation	%	1.6	1.1	(28)	2.1	0.6	0.4	(43)	1.1
– incl. capital appreciation	%	1.4	0.9	(147)	na	0.6	2.0	(99)	na

p Preliminary estimates. **z** Provisional estimates. **na** Not available.
Note: Figures in parentheses are relative standard errors expressed as a percentage of the estimate. A guide on how to use RSEs is in the survey methods and definitions section.

Average farm cash incomes for small and medium herd size producers are expected to increase by 49 per cent and 35 per cent, respectively, as increases in farm cash receipts exceed increases in cash costs. A small increase is projected in beef cattle receipts, resulting from a small increase in numbers of cattle sold and higher prices received. Receipts from crops, sheep and lambs and wool are also expected to increase. For medium herd size producers a reduction in fodder expenditure is expected to be offset by increased expenditure on interest payments while a small increase is expected in cash costs of small herd size farms due to increased expenditure on crop inputs in 2010–11.

Beef producers experiencing financial stress

Some beef producers operating with low equity and a negative farm cash income may struggle to improve the viability of their farms. Usually, in any year, only a small percentage of farms have both low equity and negative farm cash income. In 2009–10, 4 per cent of beef cattle producing farms in Australia are estimated to have had low equity (an equity ratio of less than 70 per cent) and negative farm cash incomes (table 9). In comparison, around two-thirds of beef producers were in a sound financial position during this period, with high equity and positive farm cash incomes.

During 2009–10, beef producers with low equity and negative farm cash income had an average farm cash income of negative $190 500 a farm and an average equity ratio of 60 per cent (table 9). Additionally, this group had an interest payment on farm debt to receipts ratio of 33 per cent, compared with 7 per cent for beef producers with high equity and positive farm cash income.

Low farm equity may occur on farms that accumulate losses over a prolonged period. However, more commonly low equity is characteristic of farm businesses in an early stage of development or undertaking major expansion. In 2009–10, the average age of operators of low equity properties was younger than the overall industry average. Some of these producers are likely to be relatively new entrants to farming and have high debt as they have recently acquired farms.

Beef producers with low equity and positive farm cash income had much higher receipts, costs and farm cash income than the average beef producing farm. If these farms can maintain a high farm cash income they are likely to be in a position to fund future investment and reduce debt.

9 Financial performance and debt characteristics, by equity ratio and farm cash income position, 2009–10 average per farm

		low equity a				high equity b			
		negative cash income		positive cash income		negative cash income		positive cash income	
Proportion of farms	%	4		3		26		67	
Area operated, 30 June	ha	22 650	(69)	9 230	(35)	10 300	(16)	6 560	(10)
Number of beef cattle, 30 June	no.	1 430	(27)	940	(21)	600	(12)	680	(4)
Age of operator/owner	yrs	52	(3)	51	(6)	61	(2)	59	(1)
Total cash receipts	$	669 530	(29)	965 990	(25)	168 970	(11)	296 630	(4)
Total cash costs	$	860 030	(26)	790 510	(28)	214 400	(11)	197 450	(4)
Farm cash income	$	–190 500	(19)	175 480	(19)	–45 430	(15)	99 180	(5)
Farm business profit	$	–282 390	(19)	15 310	(234)	–71 970	(15)	11 650	(48)
Rate of return									
– excluding capital appreciation	%	–0.6	(90)	3.0	(18)	–1.0	(25)	0.8	(15)
Equity ratio	%	60	(4)	60	(3)	93	(1)	95	(0)
Interest to receipts ratio	%	33	(10)	20	(7)	16	(11)	7	(8)
Change in debt during the year	%	8	(68)	7	(60)	9	(35)	4	(81)

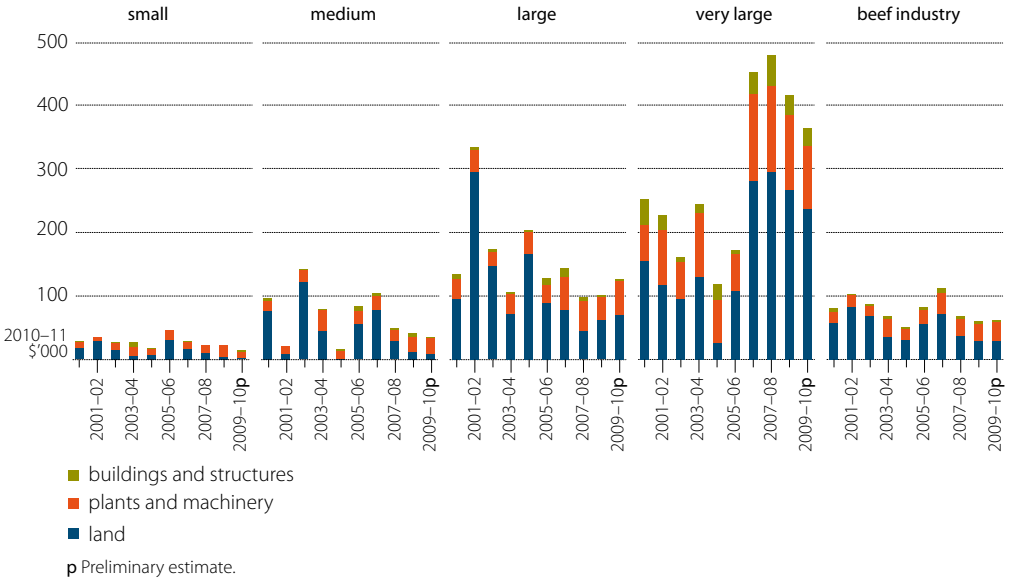
a Farms with an equity ratio of less than 70 per cent are defined as having low farm equity. **b** Farms with an equity ratio of more than 70 per cent are defined as having high farm equity.
Note: Figures in parentheses are relative standard errors expressed as a percentage of the estimate. A guide on how to use RSEs is in the survey methods and definitions section.

Farm investment

Overall, beef cattle producers' expenditure in Australia on additional capital averaged $76 000 a farm in 2009–10, which is significantly higher than the 10 year average of $62 900 a farm.

In northern Australia, however, expenditure by beef cattle producers on additional capital was $61 900 a farm which was below the 10-year average of $74 900 a farm. While overall capital additions increased in northern Australia, on average, investment for small, medium, and very large herd size producers declined in 2009–10 (figure 8). All scales of producers invested proportionally less into land in 2009–10, except for very large herd size producers who maintained a relatively constant proportion of investment between land, plant and machinery, and buildings and structures.

8 Capital purchases, northern Australia, by herd size



p Preliminary estimate.

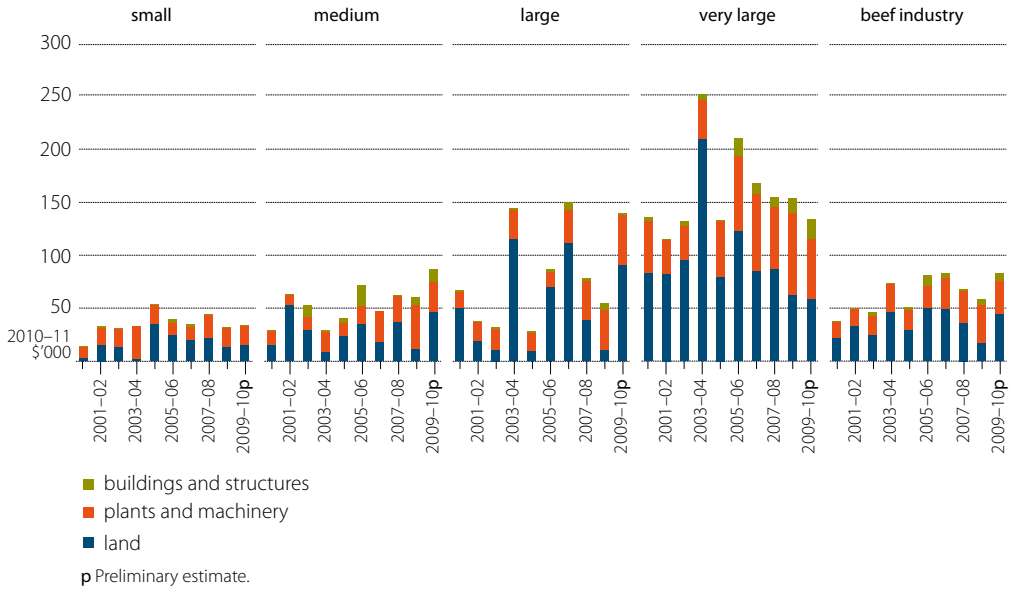
Expenditure by southern Australian beef cattle producers on capital additions was $82 000 a farm which was significantly above the 10-year average of $58 400 a farm for this region. In 2008–09, most of this investment was directed toward plant and machinery, but in 2009–10 a higher proportion of investment was directed to land purchase (figure 9). On average, the amount invested by all herd size categories increased in 2009–10, except for very large herd size producers. In contrast to northern Australia, the proportion of investment being directed toward purchasing land increased across all herd sizes.

Over the past decade land values have increased proportionally more in northern Australia than in southern Australia (figure 10). However, reported values fell slightly in both northern and southern Australia in 2008–09 and 2006–07, respectively. Despite this reduction, reported land values in 2009–10 in both northern and southern Australia remained historically high, in real terms. In 2009–10, the proportion of beef producing farms that purchased land increased. This halted the gradual reduction over the three previous financial years in the proportion of farms purchasing additional land (figure 11). This turnaround may be due to the combination of increased confidence as seasonal conditions improved, increased farm cash income, relatively low interest rates and a small reduction in land values for beef production.

Financial performance of beef cattle producers, by target market

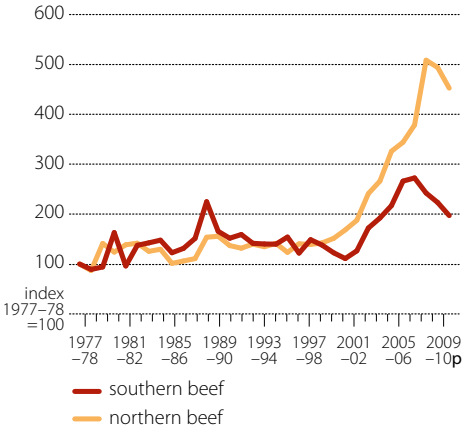
Broadacre beef cattle producers have the option of selling cattle for slaughter (directly to the abattoir, to live exporters and to feedlots) or to other producers for breeding or store purposes (growing out). This section will explore the financial performance of these producers by target market (see also 'Age composition of the Australian beef cattle herd' and table 6 for discussion of herd composition of producers targeting the different markets).

9 Capital purchases, southern Australia, by herd size



p Preliminary estimate.

10 Average land values for beef industry farms



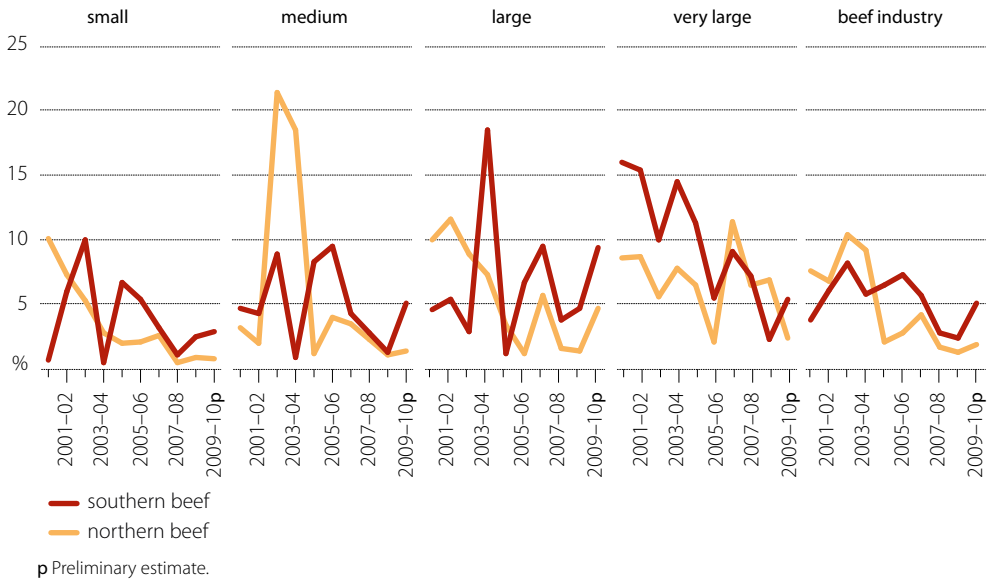
p Preliminary estimate.

For all producers the average price received for beef cattle was lower in 2009–10 than for the previous three years (table 10). This is primarily a result of lower saleyard prices in 2009–10 due to increased competition for Australian beef in key export markets, especially in Japan and the Republic of Korea. In addition, the higher average value of the Australian dollar, especially against the US dollar, placed downward pressure on beef export earnings and, hence, on domestic saleyard prices.

Despite lower prices received per head sold, average farm cash income and rates of return for southern producers increased in 2009–10, regardless of the target market, compared with the average for the previous three years. In contrast, the average farm cash income of northern producers decreased in 2009–10 relative to the average for the previous three years, regardless of target market. This outcome reflects the strong overriding influence of seasonal conditions on producers' financial performance regardless of the main market type used to sell cattle. That is, farm performance is less affected by the type of market and more influenced by seasonal conditions experienced during the period.

Producers that sold directly for slaughter realised a higher average beef cattle price in 2009–10 than producers targeting other markets (table 10). This result reflects the more finished state of cattle sold for slaughter. In addition, in both southern and northern Australia producers in 2009–10 that targeted the direct for slaughter market experienced the least variation from the average farm cash income for the previous three years, than producers targeting other markets.

11 Proportion of farms expanding land area, by herd size



p Preliminary estimate.

10 Physical and financial performance indicators, grouped by main market targeted

average per farm

		southern Australia						northern Australia							
		direct for slaughter		feedlot		breeders or store		direct for slaughter		feedlot		live export		breeders or store	
		3 yr avg	2009 –10p	3 yr avg	2009 –10p	3 yr avg	2009 –10p	3 yr avg	2009 –10p	3 yr avg	2009 –10p	3 yr avg	2009 –10p	3 yr avg	2009 –10p
Number of beef cattle, 30 June	hd	417	445	573	433	385	421	2 027	1 902	1 127	1 026	8 511	10 071	926	792
– bulls	%	2	2	2	2	3	3	2	2	2	2	2	2	2	2
– cows	%	44	43	43	44	49	50	42	36	45	42	49	45	50	47
– replacement heifers	%	10	10	10	12	12	9	10	9	9	8	11	12	11	13
– calves	%	26	27	24	30	26	30	17	19	22	24	16	22	20	18
– other	%	18	18	20	13	11	8	30	36	22	24	22	19	17	20
Number of cows mated	hd	182	190	254	189	198	219	804	700	507	405	3 559	4 270	443	342
Branding rate	%	86	87	84	89	86	86	71	76	73	77	63	64	71	70
Number of beef cattle purchased	hd	69	45	93	35	31	13	103	73	77	82	126	158	37	18
Number of beef cattle sold	hd	214	184	284	207	216	212	486	477	355	325	1 593	1 705	319	231
– direct for slaughter	%	95	91	11	12	12	16	93	92	13	12	6	11	9	12
– to feedlots/backgrounding	%	2	5	85	84	3	9	2	5	81	84	0	2	2	3
– for live export	%	0	1	1	0	0	0	1	0	1	0	88	87	1	4
– to breeders or for store	%	2	3	3	4	85	75	4	3	5	3	5	1	87	82
Average price received for beef cattle	$/hd	764	744	743	686	618	610	830	770	658	596	590	567	614	524
Farm financial performance															
Farm cash income	$	50 532	54 611	53 323	75 176	27 925	59 876	118 466	81 208	59 398	13 611	90 683	–113 162	41 517	6 653
Farm business profit	$	–39 277	–15 430	–31 885	784	–68 513	–37 899	77 976	–200	–7 825	–25 769	160 678a	53 631	–58 512	–48 325
Rate of return															
– excluding capital appreciation	%	0.0	0.5	0.5	0.8	–0.9	–0.2	1.7	0.8	0.8	0.4	1.8	1.2	–0.5	–0.6

a Farm business profit exceeds farm cash income as herd rebuilding activities resulted in a sharp increase in the value of farm trading stocks. **p** Preliminary estimates.

Financial performance of live export producers

In early 2010 the Indonesian Government decided to enforce a legislated 350 kilogram weight limit on live imports. Indonesia also reduced the availability of import permits for 2010. However, due to the relatively high level of exports in the final quarter of 2009 total live cattle exports to Indonesia in 2009–10 increased slightly, resulting in an increase in the total number of live cattle exported from Australian in 2009–10.

11 Physical characteristics, live export producers, Australia 2007–08 to 2009–10 average per farm

		2007–08	2008–09		2009–10p
Area operated, 30 June	ha	79 870	113 634	(18)	139 307
Area sown to crops	ha	50	130	(589)	194
Number of beef cattle, 30 June	hd	3 608	5 340	(41)	6 595
– bulls	%	2	2	(12)	2
– cows	%	51	44	(9)	46
– replacement heifers	%	11	11	(21)	11
– calves	%	15	18	(18)	24
– other	%	20	25	(23)	17
Number of cows mated	hd	1 515	2 144	(47)	2 837
Branding rate	%	68	66	(21)	67
Number of beef cattle purchased	hd	63	141	(184)	160
Number of beef cattle sold	hd	766	1 158	(127)	1 308
– direct for slaughter	%	9	8	(349)	9
– to feedlots/backgrounding	%	0	0	(–99)	1
– for live export	%	84	89	(29)	88
– to breeders or for store	%	7	3	(159)	2
Average price received for beef cattle	$/hd	616	598	(57)	568

p Preliminary estimates.
Note: Figures in parentheses are relative standard errors expressed as a percentage of the estimate. A guide on how to use RSEs is in the survey methods and definitions section.

In line with the continued increase in Australian live cattle exports in 2009–10, the average number of beef cattle sold per farm is estimated to have increased by 13 per cent to 1308 head in 2009–10 (table 11). The increase in number of cattle sold more than offset the reduction in the average price received and thereby resulted in an increase in receipts from the sale of beef cattle by live exporting producers in 2009–10 (table 12).

Despite an increase in receipts from the sale of beef cattle, total farm cash receipts for live export producing farms decreased in 2009–10. Farm cash costs were higher due to increases in numbers of beef cattle purchased along with higher fuel and hired labour costs. Consequently, farm cash income fell from $66 120 a farm in 2008–09 to $8300 a farm in 2009–10. Increase in beef cattle numbers on live exporting farms resulted in higher inventory values and a rise in average farm business profit to $96 206 a farm at the national level in 2009–10 (table 12).

Continued herd building in northern Australia in 2009–10 led to a reduction in the number of beef cattle transferred off corporately owned properties, lowered total farm receipts and average cash farm income fell to –$113 162 a farm for northern Australian live exporting farms. However, increased cattle numbers on farms resulted in positive farm business profit, on average. Farm business profit averaged $53 631 a farm in 2009–10 for northern Australian live export producers (table 10).

Financial performance of producers grain finishing cattle

In the three years to 2009–10, around 5 per cent of beef cattle producers in northern and southern Australia used grain to finish beef cattle for sale.

Northern Australia

Based on recent AAGIS results, most beef cattle producers in northern Australia that used grain to finish cattle for sale were located in Queensland. Almost 58 per cent of these farms were located in south eastern and central Queensland, where farms are typically smaller than elsewhere in northern Australia and grain can be grown or more readily sourced. As a result, in this region farms using grain finishing were, on average, smaller than farms not using grain finishing.

Farms grain finishing cattle had an average of around 13 per cent more cattle on hand and sold around one-third more cattle than non-grain finishing farms (table 13). On average, producers fed grain to 315 head of cattle, or 53 per cent of cattle sold, for an average of 86 days. AAGIS data indicate that producers that grain finished cattle realised an average price for cattle sold directly for slaughter of $958 a head, around 20 per cent more than their non-grain finishing counterparts. The higher prices received are likely to be due to a higher carcass weight or superior meat characteristics of animals that have been grain feed.

12 Financial performance, live export producers, Australia 2007–08 to 2009–10

average per farm

		2007–08	2008–09		2009–10p
Farm cash receipts					
Beef cattle	$	471 971	691 960	(184)	743 200
Crops	$	4 203	149 310	(695)	135 400
Sheep and lambs	$	12 323	14 460	(56)	8 200
Wool	$	6 530	3 850	(71)	3 000
Total cash receipts	$	624 609	1 189 240	(203)	1 183 500
Farm cash costs					
Beef cattle purchases	$	55 563	102 930	(254)	124 100
Chemicals	$	4 347	10 800	(658)	18 600
Contracts	$	25 359	57 700	(315)	54 900
Fertilisers	$	12 814	39 820	(614)	22 300
Fodder	$	37 999	76 150	(144)	77 700
Fuel, oil and grease	$	50 537	60 910	(22)	73 900
Handling and marketing	$	26 093	16 230	(51)	24 400
Hired labour	$	56 269	99 550	(161)	116 800
Interest	$	35 451	104 690	(46)	109 300
Repairs and maintenance	$	48 499	80 520	(153)	87 400
Total cash costs	$	639 810	1 126 430	(156)	1 175 500
Farm financial performance					
Farm cash income	$	–16 497	66 120	(1070)	8 300
Farm business profit	$	51 123	67 890	(1507)	96 206
Rate of return					
– excl. capital appreciation	%	1.2	1.5	(415)	1.5
– incl. capital appreciation	%	3.0	0.7	(1012)	–3.2

p Preliminary estimates.
Note: Figures in parentheses are relative standard errors expressed as a percentage of the estimate. A guide on how to use RSEs is in the survey methods and definitions section.

While non-grain finishing farms generated a larger average farm cash income than grain fishing farms this was largely because of differences in the scale of operation. When the rate of return excluding capital appreciation (a measure of farm economic performance that substantially reduces the effect of difference in farm scale on performance) was compared, no significant difference between grain finishing and non-grain finishing farm performance was discerned.

In order to investigate any differences in farm financial performance between grain finishing farms, beef cattle producers in northern Australia that used grain finishing were divided into three groups based on the average length of time that cattle were fed, namely:

- less than 80 days
- 80 to 100 days
- more than 100 days.

Producers that fed cattle for less than 80 days fed an average of 210 cattle, compared with 346 cattle for producers feeding 80 to 100 days and 365 cattle for producers feeding more than 100 days (table 14).

13 Physical and financial performance indicators, 2007–08 to 2009–10

average per farm

		southern Australia				northern Australia			
		grain finishing		no grain finishing		grain finishing		no grain finishing	
Cattle production									
Number of beef cattle, 30 June	hd	595	(10)	418	(2)	1 795	(20)	1 569	(3)
Branding rate	%	90	(1)	86	(1)	79	(9)	71	(1)
Beef turn-off rate	%	58	(11)	43	(2)	34	(13)	32	(2)
Number of beef cattle purchased	hd	125	(27)	33	(6)	240	(45)	51	(8)
Number of beef cattle sold	hd	329	(17)	178	(3)	598	(23)	389	(3)
– direct for slaughter	%	71	(9)	63	(3)	84	(6)	54	(3)
– for live export	%	9	(64)	3	(24)	1	(193)	11	(8)
– to feedlots/backgrounding	%	11	(29)	18	(8)	7	(37)	17	(7)
– to breeders or for store	%	9	(51)	16	(8)	8	(39)	18	(8)
Grain finishing									
Number of beef cattle grain finished	hd	201	(28)	–		315	(28)	–	
Average length of grain finishing	days	79	(5)	–		86	(2)	–	
Proportion of cattle sold that were grain finished	%	61	(22)	–		53	(19)	–	
Average price received for beef cattle sold directly to slaughter	$/hd	786	(6)	720	(1)	958	(6)	765	(1)
Farm financial performance									
Farm cash income	$	103 743	(42)	51 491	(7)	50 898	(77)	70 092	(10)
Farm business profit	$	13 354	(332)	–22 618	(16)	–31 970	(88)	8 779	(75)
Rate of return									
– excl. capital appreciation	%	1.6	(39)	0.3	(28)	0.9	(34)	0.9	(11)

Note: Figures in parentheses are relative standard errors expressed as a percentage of the estimate. A guide on how to use RSEs is in the survey methods and definitions section.

Producers that fed for 80 to 100 days sold the highest proportion of grain finished cattle, averaging 63 per cent of cattle sold.

Between 2007–08 and 2009–10, purchases of grain represented, on average, just over 50 per cent of the total quantity of grain available for on-farm use for producers feeding cattle for more than 100 days, compared with almost 40 per cent for producers feeding 80 to 100 days and around 20 per cent for producers feeding less than 80 days (table 14).

During this period, northern Australian producers that fed cattle for more than 100 days realised the highest average price for cattle sold directly for slaughter, averaging $982 a head, around 2 per cent higher than the average realised by producers feeding for 80 to 100 days, but 11 per cent higher than producers feeding less than 80 days (table 14).

Producers in northern Australia that fed cattle for 80 to 100 days realised the highest farm cash income, averaging $54 384 a farm a year (table 14). In comparison, producers that fed cattle for more than 100 days realised a slightly higher return on capital, excluding capital appreciation, averaging 1.3 per cent, compared with 0.7 per cent, on average, for producers that fed for 80 to 100 days and less than 80 days.

14 Physical and financial performance indicators of farms grain finishing beef cattle, by duration on grain, 2007–08 to 2009–10 average per farm

		southern Australia						northern Australia					
		less than 60 days		60 to 90 days		more than 90 days		less than 80 days		80 to 100 days		more than 100 days	
Cattle production													
Number of beef cattle, 30 June	hd	882	(50)	571	(23)	516	(22)	1 223	(33)	1 506	(86)	2 708	(9)
Number of beef cattle purchased	hd	152	(81)	171	(20)	86	(24)	146	(111)	224	(46)	343	(19)
Number of beef cattle sold	hd	507	(56)	377	(59)	239	(25)	417	(22)	551	(17)	825	(16)
– direct for slaughter	%	61	(42)	70	(17)	80	(12)	79	(30)	87	(8)	82	(8)
– for live export	%	25	(132)	2	(135)	5	(119)	3	(154)	2	(101)	–	
– to feedlots/backgrounding	%	9	(98)	19	(61)	4	(63)	7	(121)	6	(99)	8	(51)
– to breeders or for store	%	4	(98)	10	(58)	11	(58)	11	(122)	5	(102)	9	(44)
Grain production													
Crop area sown	ha	354	(56)	933	(59)	1 010	(25)	235	(22)	309	(17)	356	(16)
Grain production	t	905	(143)	1 162	(46)	1 424	(28)	281	(19)	323	(20)	322	(38)
less grain sold	t	500	(131)	997	(55)	1 349	(29)	262	(30)	216	(24)	270	(38)
plus opening stocks of grain	t	107	(71)	103	(36)	253	(21)	124	(59)	118	(41)	62	(47)
plus grain purchases	t	36	(87)	34	(37)	86	(76)	42	(69)	137	(91)	119	(57)
Total grain available for use on farm	t	548	(122)	306	(17)	414	(24)	185	(38)	363	(57)	233	(48)
Grain finishing													
Number of beef cattle grain finished	hd	194	(66)	236	(23)	181	(41)	210	(62)	346	(33)	365	(22)
Average length of grain finishing	days	35	(15)	69	(3)	100	(5)	67	(1)	85	(1)	106	(3)
Proportion of cattle sold that were grain finished	%	38	(72)	63	(12)	76	(31)	50	(79)	63	(22)	44	(11)
Price received for beef cattle sold direct for slaughter	$/hd	784	(18)	757	(6)	813	(7)	881	(54)	967	(8)	982	(7)
Farm financial performance													
Farm cash income	$	68 681	(270)	144 111	(68)	89 293	(81)	43 844	(98)	54 384	(284)	52 127	(116)
Rate of return													
– excl. capital appreciation	%	1.1	(255)	2.0	(58)	1.4	(67)	0.7	(189)	0.7	(198)	1.3	(29)

Note: Figures in parentheses are relative standard errors expressed as a percentage of the estimate. A guide on how to use RSEs is in the survey methods and definitions section.

Southern Australia

As in northern Australia, grain finishing farms in southern Australia were, on average, smaller than non-grain finishing farms. Despite operating on a smaller area, grain finishing farms, on average, held over 40 per cent more cattle and sold almost twice as many cattle than non-grain finishing farms in southern Australia.

Southern Australian farms that used grain to finish cattle before sale fed, on average, 201 head of cattle for an average of 79 days. This represented just over 60 per cent of the total cattle sold by these properties between 2007–08 and 2009–10. On average, farms that grain finished cattle realised $786 a head for cattle sold directly for slaughter, almost 10 per cent higher than the price realised by non-grain finishing farms (table 13).

During this period, farms that grain finished cattle realised markedly higher farm financial performance, with an average annual farm cash income just over double that of non-grain finishing farms. Further, grain finishing producers realised a higher return on capital, excluding capital appreciation, averaging 1.6 per cent in comparison to 0.3 per cent for non-grain finishing farms (table 13).

To further explore this superior financial performance, grain finishing farms in southern Australia were also divided into three groups based on the average length of time that cattle were fed grain. Reflecting the generally shorter length of time that southern producers feed grain to cattle, the groups were defined as producers who fed for:

- less than 60 days
- 60 to 90 days
- more than 90 days.

The proportion of cattle that had been grain finished before sale increased with the duration of time cattle were on feed (table 14). That is, the proportion of grain finished cattle sold increased from 38 per cent for producers feeding less than 60 days, to 63 per cent for producers feeding for 60 to 90 days, and 76 per cent for producers feeding for more than 90 days.

During this period, producers that fed cattle for more than 90 days realised the highest average price for cattle sold directly for slaughter, while producers that fed for 60 to 90 days realised the lowest average price. However, producers that fed 60 to 90 days realised the highest farm cash income, and the highest rate of return excluding capital appreciation.

Farm performance of beef cattle traders

Beef cattle producers can be classified into one of two groups—traders or non-traders—based on the source of their cattle. Non-traders run self-replenishing cattle herds, with finished stock and surplus calves sold. Traders largely rely on other beef cattle farms to produce young animals that traders purchase and finish before resale. A farm is defined as a trader if both turn-on and turn-off rates are above 60 per cent.

For traders, more than 60 per cent of the cattle carried were steers or bullocks (other cattle) in both northern and southern Australia (table 15). In contrast, less than 30 per cent of non-traders' herds consisted of steers and bullock, as they tended to carry a higher proportion of breeding stock.

Herd composition in 2009–10 for non-traders in northern and southern Australia was similar to the three-year average (2006–07 to 2008–09). In 2009–10, there was a small increase in the proportion of calves and a decrease in the proportion of cows for both northern and southern non-traders reflecting improved seasonal conditions and the commencement of herd rebuilding. In addition, the number of beef cattle purchased decreased slightly in 2009–10 relative to the three-year average, also indicating a move toward herd expansion through natural increase.

While herd composition of southern beef cattle traders remained similar to the three-year average, the proportion of cows in the herd for northern traders declined. Traders in both northern and southern Australia also sold substantially fewer beef cattle in 2009–10 relative to the three-year average. Traders in northern Australia decreased the proportion of cattle sold direct for slaughter and increased the proportion of cattle sold to feedlots and for backgrounding.

In northern Australia, non-traders realised a higher rate of return than traders in 2009–10 as well as for the three-year average. In contrast, traders in southern Australia realised a higher rate of return in comparison to non-traders for both 2009–10 and the three-year average.

15 Physical and financial performance indicators, traders of beef cattle versus non–traders, 2006–07 to 2008–09, and 2009–10 average per farm

		southern Australia				northern Australia			
		non-traders		traders		non-traders		traders	
		3 yr avg[a]	2009–10[p]	3 yr avg[a]	2009–10[p]	3 yr avg[a]	2009–10[p]	3 yr avg[a]	2009–10[p]
Number of beef cattle, 30 June	hd	435	460	393	303	1 709	1 642	1 267	681
– bulls	%	2	2	1	1	2	2		
– cows	%	46	45	17	15	44	40	24	5
– replacement heifers	%	11	11	6	4	10	10	2	9
– calves	%	26	28	14	13	18	20	2	6
– other	%	15	14	62	67	25	29	71	79
Number of cows mated	hd	201	205	70	57	719	649	130	29
Number of beef cattle purchased	hd	31	27	672	364	62	50	730	551
Number of beef cattle sold	hd	190	187	743	393	415	402	835	516
– direct for slaughter	%	65	56	74	71	58	56	77	40
– for live export	%	2	5	1	2	9	11	2	0
– to feedlots/backgrounding	%	16	24	21	16	13	18	9	59
– to breeders or for store	%	16	15	4	11	19	15	12	1
Average price received for cattle	$/hd	643	672	824	801	686	658	864	726
Farm financial performance									
Farm cash income	$	43 933	59 412	86 506	57 249	83 722	41 895	114 381	–22 609
Rate of return									
– excluding capital appreciation	%	0.0	0.4	0.8	1.2	1.3	0.5	0.1	–0.7

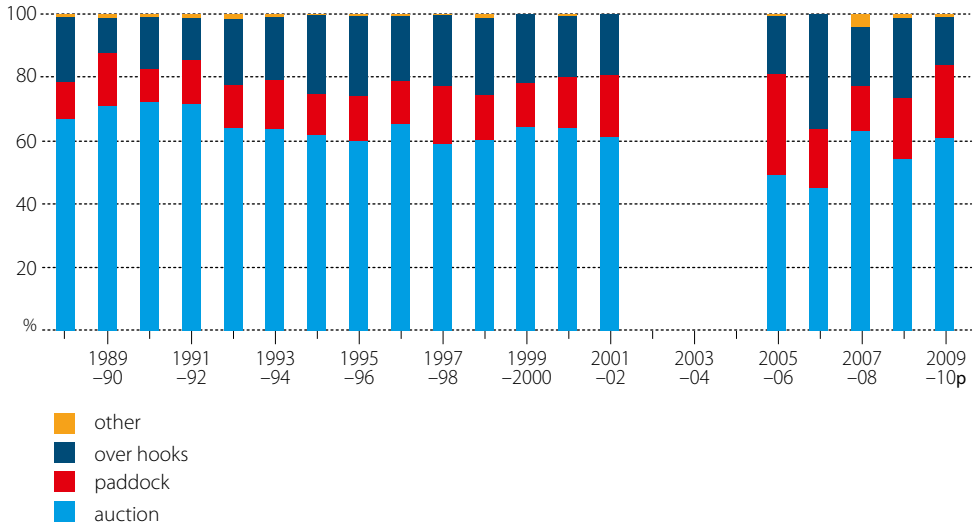
a 3 yr avg is the 3 year average for 2006–07 to 2008–09. **p** Preliminary estimates.
Note: Figures in parentheses are relative standard errors expressed as a percentage of the estimate. A guide on how to use RSEs is in the survey methods and definitions section.

Selling methods used for beef cattle

Australian beef cattle producers employ a number of methods to sell cattle; the primary methods are through auction, in the paddock and over the hooks. AAGIS data indicate significant differences between northern and southern Australian producers in preferred method of sale.

In southern Australia the auction system remained the main method of sale in 2009–10 with just over 60 per cent of beef cattle sales (figure 12). Over the hooks sales decreased in 2009–10 in favour of auction and paddock sales.

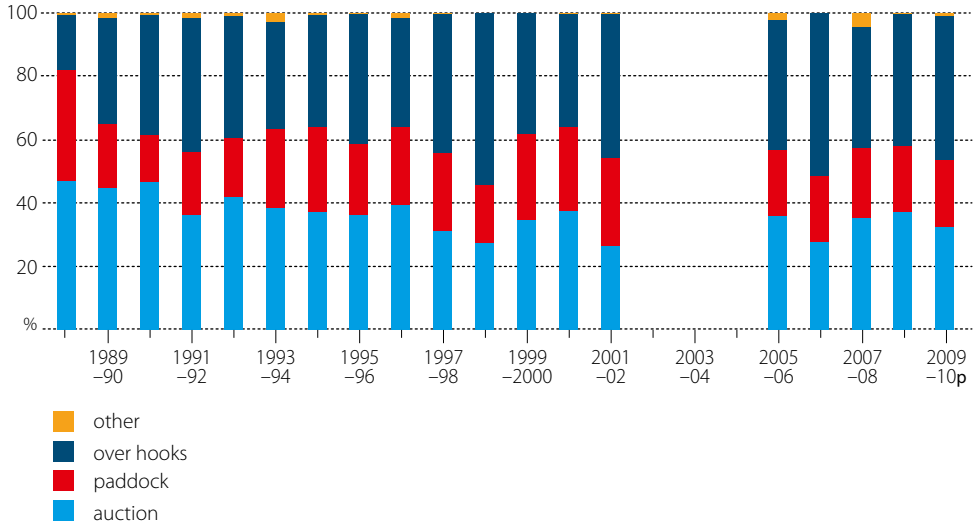
12 Method of selling beef cattle, southern Australia



p Preliminary estimates.
Note: Because of changes in the data collected, consistent results cannot be provided for the period 2002–03 to 2004–05.

In contrast to southern Australia, the proportion of over the hooks sales increased in northern Australia in 2009–10 (figure 13) at the expense of auction sales, while the proportion of paddock sales remained similar to 2008–09.

13 Method of selling beef cattle, northern Australia



p Preliminary estimate.

Note: Because of changes in the data collected, consistent results cannot be provided for the period 2002–03 to 2004–05.

When beef cattle producers in both northern and southern Australia were ranked by farm financial performance (as measured by rate of return, excluding capital appreciation) over the period 2007–08 to 2009–10, survey data showed differences in preferred selling methods between the top 25 per cent of producers and other producers (table 16). In southern Australia, the top 25 per cent of producers, on average, tended to sell a greater proportion of cattle over the hooks and in the paddock and fewer through auction. In northern Australia, the top 25 per cent and middle 50 per cent of producers employed similar selling methods, however, the bottom 25 per cent of producers in northern Australia tended to sell a larger proportion to auction and fewer over the hooks.

16 Beef cattle selling methods 2007–08 to 2009–10, by farm performance a

average per farm

		bottom 25%		middle 50%		top 25%	
Southern Australia							
Paddock	%	19	(18)	15	(15)	24	(9)
Over hooks	%	11	(30)	17	(12)	23	(10)
Auction	%	69	(29)	67	(18)	51	(17)
Other	%	2	(58)	2	(41)	3	(25)
Northern Australia							
Paddock	%	26	(13)	19	(10)	22	(10)
Over hooks	%	24	(13)	45	(5)	44	(6)
Auction	%	48	(29)	34	(21)	32	(24)
Other	%	2	(71)	2	(32)	2	(51)

a Farms ranked by rate of return, excluding capital appreciation.

Note: Figures in parentheses are relative standard errors expressed as a percentage of the estimate. A guide on how to use RSEs is in the survey methods and definitions section.

Survey methods and definitions

ABARES has conducted surveys of selected Australian agricultural industries since the 1940s. These surveys provide a broad range of information on the economic performance of farm business units in the rural sector. This comprehensive information is widely used for research and analysis which forms the basis of many publications, briefing material and industry reports.

The annual agricultural surveys currently undertaken are:

- Australian Agricultural and Grazing Industries Survey (AAGIS)
- Australian Dairy Industry Survey (ADIS).

Target populations

The AAGIS is designed from a population list drawn from the Australian Business Register and maintained by the Australian Bureau of Statistics (ABS). The Australian Business Register comprises businesses registered with the Australian Taxation Office. The Australian Business Register-based population list provided to ABARES consists of agricultural establishments with their corresponding statistical local area, ANZSIC and a size of operation variable.

The population list for the ADIS is a list of dairy farms that have paid levies based on their milk deliveries, sourced from the Levies Revenue Service. Dairy Australia provides the list, which consists of dairy businesses with their corresponding region and total milk production.

ABARES surveys target farming establishments that make a significant contribution to the total value of agricultural output (commercial farms). Farms excluded from the ABARES target population will be the smallest units, and in aggregate will contribute less than 2 per cent to the total value of agricultural production for the industries covered by the surveys.

The size of operation variable used in ABARES survey designs is usually 'estimated value of agricultural operations' (EVAO). However, in some recent surveys other measures of agricultural production have also been used. EVAO is a standardised dollar measure of the level of agricultural output. A definition of EVAO is given in *Agricultural Industries: Financial Statistics* (ABS 2001). Since 2004–05, the ABARES survey has included establishments classified as having an EVAO of $40 000 or more. Between 1991–92 and 2003–04 the survey included establishments with an EVAO of $22 500 or more. Between 1987–88 and 1991–92 the survey included establishments with an EVAO of $20 000 or more. Before 1986–87 the survey included establishments with an EVAO of $10 000 or more.

Survey design

The target population is grouped into strata defined by ABARES region, ANZSIC and size of operation. The sample allocation 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.

A large proportion of sample farms is retained from the previous year's survey. The sample chosen each year maintains a high proportion of the sample between years to accurately measure change while meeting the requirement to introduce new sample farms to account for changes in the target population and to reduce the burden on survey respondents.

The sample size for AAGIS is usually around 1600 and for ADIS around 300.

The main method of collection for both surveys is face-to-face interviews with the owner-manager of the farm. Detailed physical and financial information is collected on the operations of the farm business during the preceding financial year. Cooperating farms are required to provide detailed accounting information. Respondents to the AAGIS and ADIS are also contacted by telephone in October each year to obtain estimates of projected production and expected receipts and costs for the current financial year.

ABARES surveys also allow supplementary questionnaires to be attached to the main or to the telephone surveys. These additional questions help address specific current issues.

Sample weighting

ABARES survey estimates 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 so population estimates from the sample for numbers of farms, areas of crops and numbers of livestock correspond as closely as possible to the most recently available ABS estimates from Agricultural Census and Survey data. The weighting methodology for AAGIS and ADIS uses a model-based approach, with a linear regression model linking survey variables and estimation benchmark variables (see Bardsley and Chambers 1984).

For AAGIS, the benchmark variables ABS provided include:

- total number of farms in scope
- area planted to wheat, rice, other cereals, grain legumes (pulses) and oilseeds
- closing numbers of beef and sheep.

For ADIS, the benchmark variables Dairy Australia provided are:

- total number of in-scope dairy farms
- total milk production.

Generally, larger farms have smaller weights and smaller farms have larger weights, reflecting both the strategy of sampling a higher fraction of the 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.

Reliability of estimates

The reliability of the estimates of population characteristics published by ABARES depends on the design of the sample and the accuracy of the measurement of characteristics for the individual sample farms.

Preliminary estimates and projections

Estimates for 2008–09 and all earlier years are final. All data from farmers, including accounting information, have been reconciled; final production and population information from the ABS has been included and no further change is expected in these estimates.

The 2009–10 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 2010–11 estimates are projections developed from the data collected through on-farm interviews and telephone interviews in the period October to December as well as 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. Projection estimates are necessarily 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 the completion of survey collections. However, these may be updated several times at later dates. These subsequent versions will be more accurate, as they will be based on upgraded information and slightly more accurate input datasets.

Sampling errors

Only a subset of the total number of farms in a particular industry is surveyed. The data collected from each sample farm 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 the estimation procedures, as well as the sample size and the 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 all estimates published by ABARES. These estimated errors are expressed as percentages of the survey estimates and termed 'relative standard errors'.

Calculating confidence intervals using relative standard errors

Relative standard errors can be used to calculate 'confidence intervals' that give an indication of how close the actual population value is likely to be to the survey estimate.

To obtain the standard error, multiply the relative standard error by the survey estimate and divide by 100. For example, if average total cash receipts are estimated to be $100 000 with a relative standard error of 6 per cent, the standard error for this estimate is $6000. This is one standard error. Two standard errors equal $12 000.

There is roughly a two-in-three chance that the 'census value' (the value that would have been obtained if all farms in the target population had been surveyed) is within one standard error of the survey estimate. This range of one standard error is described as the 66 per cent confidence interval. In this example, there is an approximately two-in-three chance that the census value is between $94 000 and $106 000 ($100 000 plus or minus $6000).

There is roughly a nineteen-in-twenty chance that the census value is within two standard errors of the survey estimate (the 95 per cent confidence interval). In this example, there is an approximately nineteen-in-twenty chance that the census value lies between $88 000 and $112 000 ($100 000 plus or minus $12 000).

Comparing estimates

When comparing estimates between two groups, it is important to recognise that some of the differences are subject to sampling error. 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 taking the square root of the result.

For example, suppose the estimates of total cash receipts were $100 000 in the beef industry and $125 000 in the sheep industry—a difference of $25 000—and the relative standard error is given as 6 per cent for each estimate. The standard error of the difference can be estimated as:

$$\sqrt{((6 \times \$100\,000 / 100)^2 + (6 \times \$125\,000 / 100)^2)} = \$9605$$

A 95 per cent confidence interval for the difference is:

$$\$25\,000 \pm 1.96 * \$9605 = (\$6174, \$43\,826)$$

Hence, if a large number (towards infinity) of different samples was taken, in approximately 95 per cent of them, the difference between these two estimates would lie between $6174 and $43 826. Also, 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.

Definition of terms

Owner manager The primary decision-maker for the farm business. This person is usually responsible for the day-to-day operation of the farm and may own or have a share in the farm business.

Physical items

Total area operated Includes all land operated by the farm business, whether owned or rented by the business, but excludes land sharefarmed on another farm.

Labour Measured in work-weeks, as estimated by the owner manager or manager. It includes all work on the farm by the owner manager, partners, family, hired permanent and casual workers, and sharefarmers but excludes work by contractors.

Hired labour Excludes the farm business manager, partners and family labour, and work by contractors. Expenditure on contract services appears as a cash cost.

Beef cattle Cattle kept primarily for the production of meat, irrespective of breed.

Dairy cattle Cattle kept or intended mainly for the production of milk or cream.

Financial items

Capital The value of farm capital is the value of all the assets used on a farm, including the value of leased items but excluding machinery and equipment either hired or used by contractors. The value of 'owned' capital is the value of farm capital excluding the value of leased machinery and equipment.

ABARES uses the owner manager's valuation of the farm property. The valuation includes the value of land and fixed improvements used by each farm business in the survey, excluding land sharefarmed off the sample farm. Residences on the farm are included in the valuations.

Livestock are valued at estimated market prices for the land use zones within each state. These values are based on recorded sales and purchases by sample farms.

Prior to 2001–02, ABARES maintained an inventory of plant and machinery for each sample farm. Individual items were valued at replacement cost, depreciated for age. Each year, the replacement cost was indexed to allow for changes in that cost.

Since 2001–02, total value of plant and machinery has been based on market valuations provided by the owner manager for broad categories of capital such as tractors, vehicles, irrigation plant, etc.

The total value of items purchased or sold during the survey year was added to or subtracted from farm capital at 31 December of the relevant financial year, irrespective of the actual date of purchase or sale.

Farm business debt Estimated as all debts attributable to the farm business, but excluding personal debt, lease financed debt and underwritten loans including harvest loans. Information is collected at the interview, supplemented by information contained in the farm accounts.

Change in debt Estimated as the difference between debt at 1 July and the following 30 June within the survey year, rather than between debt at 30 June in consecutive years. It is an estimate of the change in indebtedness of a given population of farms during the financial year and is thus unaffected by changes in sample or population between years.

Farm liquid assets Assets owned by the farm business which can be readily converted to cash. They include savings bank deposits, interest bearing deposits, debentures and shares. Excluded are items such as real estate, life assurance policies and other farms or businesses.

Receipts and costs Receipts for livestock and livestock products sold are determined at the point of sale. Selling charges and charges for transport to the point of sale are included in the costs of sample farms.

Receipts for crops sold during the survey year are gross of deductions made by marketing authorities for freight and selling charges. These deductions are included in farm costs. Receipts for other farm products are determined on a 'farm-gate' basis. All cash receipt items are the revenue received in the financial year.

Farm receipts and costs relate to the whole area operated, including areas operated by on-farm sharefarmers. Thus, cash receipts include receipts from the sale of products produced by sharefarmers. If possible, on-farm sharefarmers' costs are amalgamated with those of the sample farm. Otherwise, the total sum paid to sharefarmers is treated as a cash cost.

Some sample farm businesses engage in off-farm contracting or sharefarming, employing labour and capital equipment also used in normal on-farm activities. Since it is not possible to accurately allocate costs between off-farm and on-farm operations, the income and expenditure attributable to such off-farm operations are included in the receipts and costs of the sample farm business.

Total cash receipts

Total of revenues received by the farm business during the financial year, including revenues from the sale of livestock, livestock products and crops, plus the value of livestock transfers off a property. It includes revenue received from agistment, royalties, rebates, refunds, plant hire, contracts, sharefarming, insurance claims and compensation, and government assistance payments to the farm business.

Total cash costs

Payments made by the farm business for materials and services and for permanent and casual hired labour (excluding owner manager, partner and other family labour). It includes the value of livestock transfers onto the property as well as any lease payments on capital, produce purchased for resale, rent, interest, livestock purchases and payments to sharefarmers. Capital and household expenditures are excluded from total cash costs.

- Handling and marketing expenses include commission, yard dues, levies etc. for farm produce sold.
- Administration costs include accountancy fees, banking and legal expenses, postage, stationery, subscriptions and telephone.
- Contracts paid refers to expenditure on contracts such as harvesting. Capital and land development contracts are not included.
- Other cash costs include stores and rations, seed purchased, electricity, artificial insemination and herd testing fees, advisory services, motor vehicle expenses, traveling expenses and insurance. While 'other cash costs' may comprise a relatively large proportion of total cash costs, individually the components are relatively small overall, and as such, have not been listed.

Financial performance measures

Farm cash income

The difference between total cash receipts and total cash costs.

Build-up in trading stocks

The closing value of all changes in the inventories of trading stocks during the financial year. It includes the value of any change in herd or flock size or in stocks of wool, fruit and grains held on the farm. It is negative if inventories are run down.

Depreciation of farm improvements, plant and equipment

Estimated by the diminishing value method, based on the replacement cost and age of each item. The rates applied are the standard rates allowed by the Commissioner of Taxation. For items purchased or sold during the financial year, depreciation is assessed as if the transaction had taken place at the midpoint of the year. Calculation of farm business profit does not account for depreciation on items subject to a finance lease because cash costs already include finance lease payments.

Imputed labour cost

Payments for owner manager and family labour may bear little relationship to the actual work input. An estimate of the labour input of the owner manager, partners and their families is calculated in work-weeks and a value is imputed at the relevant Federal Pastoral Industry Award rates.

Farm business profit

Farm cash income plus Build-up in trading stocks, less depreciation and the imputed value of the owner manager, partner(s) and family labour.

Profit at full equity

Farm business profit, plus rent, interest and finance lease payments, less depreciation on leased items. It is the return produced by all the resources used in the farm business.

Rates of return	Calculated by expressing profit at full equity as a percentage of total opening capital. Rate of return represents the ability of the business to generate a return to all capital used by the business, including that which is borrowed or leased. The following rates of return are estimated: • rate of return excluding capital appreciation • rate of return including capital appreciation.
Farm business equity	The value of owned capital, less farm business debt at 30 June. The estimate is based on those sample farms for which complete data on farm debt are available.
Farm equity ratio	Calculated as farm business equity as a percentage of owned capital at 30 June.
Off-farm income	Collected for the owner manager and spouse only, including income from wages, other businesses, investment, government assistance to the farm household and social welfare payments.

References

ABS 2006, *Australian and New Zealand Standard Industrial Classification,* cat. no. 1292.0, Australian Bureau of Statistics, Canberra.

ABS 2001, *Agricultural Industries, Financial Statistics, Australia, Preliminary, 1999–2001*, cat. no. 7506.0, Australian Bureau of Statistics, Canberra.

Bardsley, P and Chambers, RL 1984, 'Multipurpose estimation from unbalanced samples', *Journal of the Royal Statistical Society, Series C* (*Applied Statistics*), vol. 33, pp. 290–99.

Further information on beef cattle producers

Farm survey data for the beef, lamb and sheep industries
www.abares.gov.au/surveys

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