

‘GET BIG OR GET OUT’: IS THIS MANTRA STILL APPROPRIATE FOR THE NEW CENTURY?

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INTRODUCTION

In the years up until the mid-1980s the statement ‘Get Big or Get Out’ was frequently used when discussing the future of Australian farming, particularly in the broadacre sector. Many Australian farmers, with the help of their bankers, enthusiastically adopted this mantra and set about expanding the scale of their farm businesses as quickly as possible. Grain prices fell in 1985 and interest rates rose, resulting in many of these farms having high debt, low farm equity and poor debt-servicing capacity. It was to be the beginning of the end for some of these businesses. Many of the debt problems faced by farm businesses in the 1990s originated from farm expansion in the 1980s. This pattern of expansion followed by difficulty managing farm debt had been repeated many times over the past half century.

Since the early 1990s much of the focus in Australian agriculture has been on improving farm business management, with most of this effort aimed at avoiding problems such as those mentioned above. The emphasis has shifted from ‘Get Big’ to ‘Get Smart’. Nevertheless, in many cases farm businesses can enhance their economic viability in the long term by a well managed shift to a bigger operation - it can be ‘Smart’ to get ‘Big’. This article draws on ABARE research to examine the relationship between farm size and farm performance in the broadacre sector of Australian agriculture.

FARM NUMBERS AND FARM SIZE

Ownership of Australian farms is overwhelmingly dominated by family businesses. Information from ABARE surveys indicates that over 99 per cent of farms in the broadacre and dairy sectors were family owned and operated in 1999-2000.

Over time, falls in real agricultural prices have meant that some farms, particularly those with low productivity growth, can no longer provide sufficient returns to sustain production or, ultimately, provide adequate family incomes. Over the past four decades this has led farmers to expand their operations, providing a larger earning base by buying or leasing more land from other farms, resulting in a steady decline in the number of farms operating in Australia.

Over the past forty years the number of ‘commercial’ farms in Australia almost halved, from around 200 000 in 1961 to just over 100 000 in 2001. Over the same period the average area of land operated by these farms increased by almost 50 per cent from 2 800 hectares in 1961 to around 4 100 hectares in 2001 (Figure 1). Change in farm numbers and farm area occurred incrementally rather than catastrophically as farmers continually adjusted the size and nature of their operations in response to changes inherent in an open market economy.

In contrast, the number of ‘subcommercial’ farms has increased over time (see Box 1 for definitions). While the contribution of these farms to the gross value of agricultural production is estimated by the Australian Bureau of Statistics to be small (less than 5 per cent) they manage a significant quantity of relatively high value, productive land and make a substantial contribution to communities. Many of these farms are located in the high rainfall zone, near-urban locations.

Not having access to equity funding, the capacity of family farms to expand is limited by the profits they can generate and the funds they can borrow. Expansion for small and even medium-sized family farms is difficult, slow and, in many cases, impractical. Over recent decades, many operators of smaller commercial farms have sought more intensive land management pursuits or have turned to off-farm income as an alternative to farm expansion.

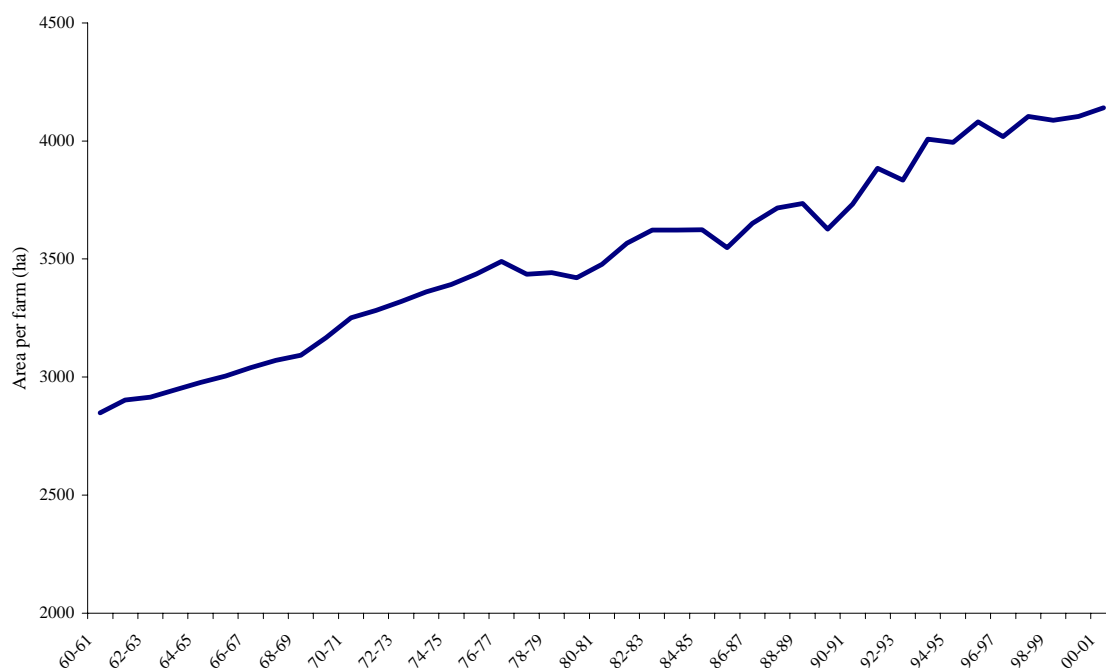


Figure 1. Average area operated per farm (Australian commercial farms).

Box 1: Defining Australian farms

Commercial farms are generally defined by the Australian Bureau of Statistics (ABS) to be farms with an estimated value of agricultural operations (EVAO) of \$22 500 or more. There were 111 326 agricultural establishments (farms broadly) at 30 June 2000 according to the ABS.

Subcommercial farms are establishments with some agricultural activities but with an estimated value of agricultural operations of less than \$22 500. The ABS estimates that these establishments contribute less than 5 per cent of the gross value of agricultural production. However, in 2000 these farms operated almost 16.6 million hectares of land, an area almost a third greater than that planted to wheat, Australia's most important crop. Typically families operating or residing on these establishments derive the majority of their income from off-farm or nonfarming activities.

In 2000, there were 33 674 establishments in Australia with an EVAO of less than \$22 500 but more than \$5 000. Generally, statistics are not collected for establishments with an EVAO of less than \$5 000. The majority of establishments below \$5 000 EVAO are essentially rural-residential establishments and generate negligible levels of agricultural output.

FARM SIZE AND FINANCIAL PERFORMANCE IN THE BROADACRE SECTOR

When ranked by farm area operated, the farm cash income (a measure of net cash flow defined as total cash receipts less total cash costs) of the largest third of farms has consistently been three to four times greater than the smallest farms (Figure 2).

Of greater significance is the fact that the smallest third of farms (ranked by area operated) have not once in the past 25 years achieved a greater rate of return than the largest farms (Figure 3). On average, larger farms have earned a positive rate of return in all years except 1982-83, a major drought year throughout Australia.

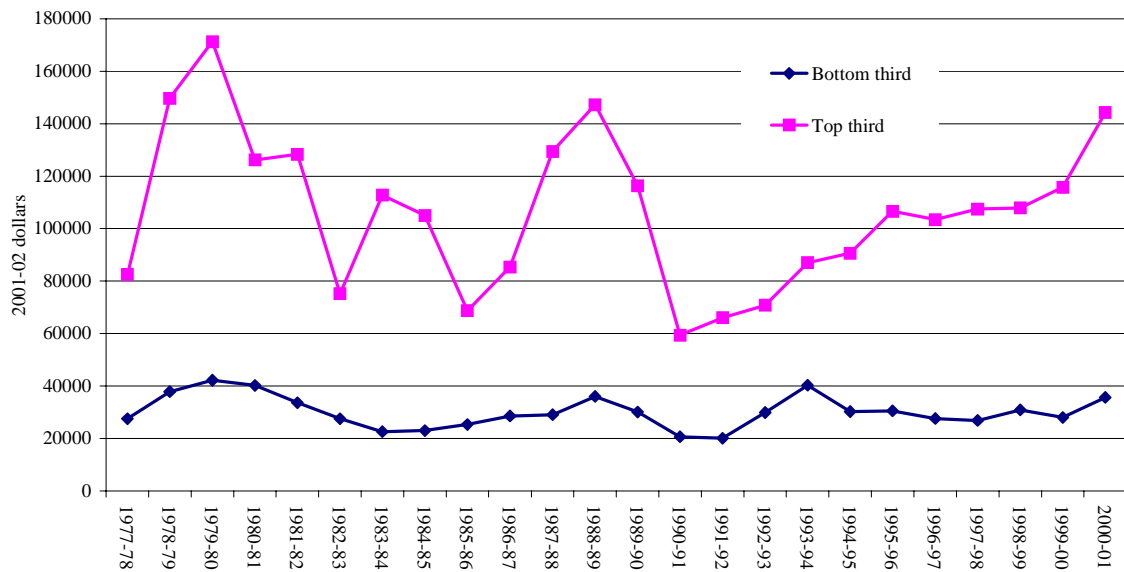


Figure 2. Farm cash income of the largest and smallest third of farms in the broadacre industries (ranked by area operated)

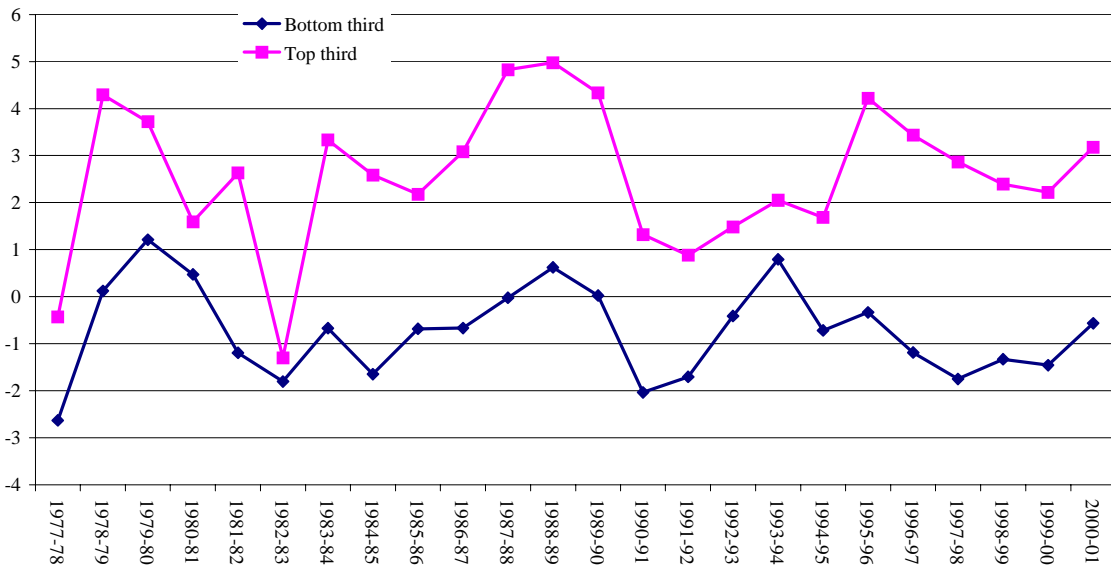


Figure 3. Rate of return of the largest and smallest third of farms in the broadacre industries (ranked by area operated).

However, physical area operated is not necessarily the best measure of the size of farm businesses due to variation in productive capacity of the land and differences in the intensity of land use.

The effective scale of operation of a farm can also be measured using the value of production or a physical measure of farm enterprise scale. In this article, sheep equivalents are used as a measure of the scale of operation of farms. The sheep equivalents measure for a broadacre farm is calculated as the sum of the number of sheep on hand at 30 June, eight times the number of beef cattle on hand 30 June, twelve times the number of dairy cattle on hand 30 June and twelve times the area cropped. This

measure overcomes many of the difficulties of comparing areas of land with differing productive capability. Also, it has the advantage over financial (turnover and value of production) measures that are influenced by variability in commodity prices over time.

However, regardless of the method used to rank farm size, the results observed in terms of farm financial performance are consistent. That is, there is both an income and a rate of return advantage to being big (Table 1).

‘GET BIG OR GET OUT’ AXIOM

Farm businesses increase their scale of operation by purchasing or leasing additional land and by working the existing land more intensively. By increasing the land use intensity of the existing land base and the productivity of the enterprises undertaken, producers can significantly improve profitability and rates of return.

For example, implementation of the brucellosis and tuberculosis eradication campaign (BTEC) in the 1980s provided the initial stimulus to more intensively managed beef production systems on the large pastoral holdings of northern Australia. Further, northern Australian beef producers have been able to improve profitability by increasing the turnoff rate in response to the developing live cattle trade and expansion in the feedlot and grain finishing sectors, increasing branding rates, reducing deaths, improving the herd genetics and health. Productivity has also been greatly enhanced by the introduction of a higher proportion of *bos indicus* cattle to northern herds.

Particularly in the cropping and to a lesser extent in the broadacre livestock industries, larger farms have generally been able to capture more benefits from new technologies and have achieved much higher growth in total factor productivity over the past two decades. Higher productivity growth for larger farms has been very important in improving the financial performance of large farms relative to that of smaller farms.

Table 1. Average financial performance of Australian farms, 1990-91 to 1999-2000.

	Small farms a		Medium farms b		Large farms c		All farms	
	Average	Top 25 % d	Average	Top 25 % d	Average	Top 25 % d		
Wheat and other crops								
Farm cash income	\$	42417	104622	88528	172461	170287	334154	97355
Farm business profit	\$	-6403	50800	17898	105129	67479	238611	24567
Rate of return	%	0.6	8.5	3.7	12.6	5.9	13.4	4.1
Mixed livestock-crops								
Farm cash income	\$	21151	54278	43619	89728	94001	162950	50812
Farm business profit	\$	-24339	9796	-16869	30865	11460	85384	-10906
Rate of return	%	-2.6	3.1	-0.1	5.2	2.5	6.9	0.8
Sheep								
Farm cash income	\$	2426	36658	16954	70088	37544	113481	17351
Farm business profit	\$	-35072	5609	-30669	25800	-21997	53090	-29882
Rate of return	%	-4.1	2.2	-2.0	3.5	0.5	4.2	-1.2
Beef								
Farm cash income	\$	6265	33152	19149	39831	62419	160947	27042
Farm business profit	\$	-36953	3432	-26264	17170	12467	167395	-18917
Rate of return	%	-3.8	1.3	-1.5	2.6	1.6	5.9	-0.4
Sheep-beef								
Farm cash income	\$	2535	53366	22077	68016	50022	145131	22448
Farm business profit	\$	-36706	7572	-26605	35140	-5080	153721	-24369
Rate of return	%	-4.7	1.7	-1.5	4.0	1.2	5.9	-0.7

a Small: the first third of farms ranked by size as measured in sheep equivalents. **b Medium:** the next third of farms ranked by size measured in sheep equivalents. **c Large:** the top third of farms ranked by size measured in sheep equivalents.

d Ranked by rate of return (adjusted to full equity).

Note: All estimates are expressed in 2000-01 dollars. Data presented are for farms that have continually been in the survey for a period of three years or more. Three year moving averages of their rate of return to capital (adjusted to full equity) have been used to classify farms to the top performing category. The average of the farm performance of these farms was calculated for each year. These annual values were then averaged to obtain the ten year average values.

TRENDS IN LAND TRANSACTIONS

Since 1998-99, the number of broadacre farms purchasing or leasing additional land increased to the highest level since ABARE started surveying broadacre farms in 1977-78. Around 6.5 per cent of all broadacre farms increased the amount of land they operated in 2000-01, up from a figure of around 4 per cent in the mid-1990s (Figure 4). Significantly, it was not just larger farms expanding. ABARE survey data indicate that farms across the entire size spectrum were actively acquiring land in 2000-01.

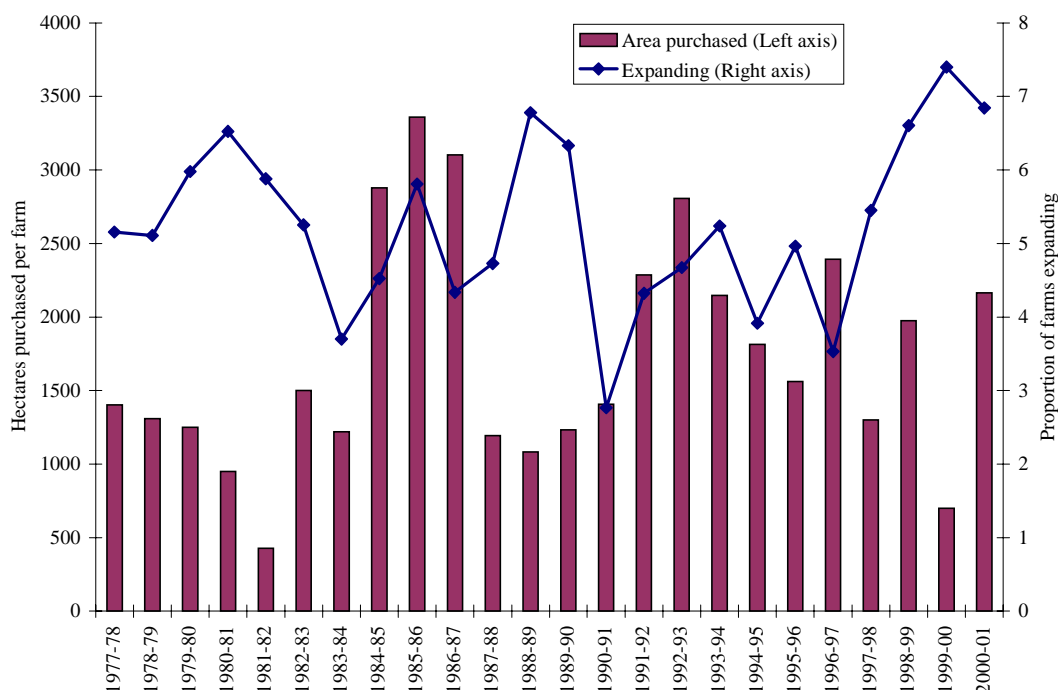


Figure 4. Land transactions

In the mid-1980s the average area purchased by broadacre farms that were increasing the amount of land operated peaked at around 3 000 hectares per farm. While fluctuating in the 1990s, the downward trend in average area purchased is clear (Figure 4). This largely reflects the general increase in the profitability of broadacre agriculture across all scales of operation, leading to the opportunity for smaller farms to expand, resulting in a high volume of smaller land transactions.

The industries in which expansion occurs change over time, with changes in profitability, resulting from the relative changes in the price of commodities, seasonal conditions and productivity growth and with changes in expected future returns.

During the 1990s, cropping industries accounted for an increasing proportion of purchases, as favorable cropping returns encouraged producers to expand the amount of land devoted to crops.

Steady demand for additional land in the beef industry during the 1990s and early 2000s has been stimulated as producers in northern Australia responded to the development of, and steady growth in, the live cattle and slaughter export markets.

Many transactions occurred after the wool floor price scheme was removed and the sheep industry entered a decade of decline, forcing some producers from the industry. However, in recent years, signs of a recovery in wool prices and continued strengthening in lamb and mutton prices have resulted in sheep and sheep-beef industry farms purchasing sizable areas of land (Figure 5).

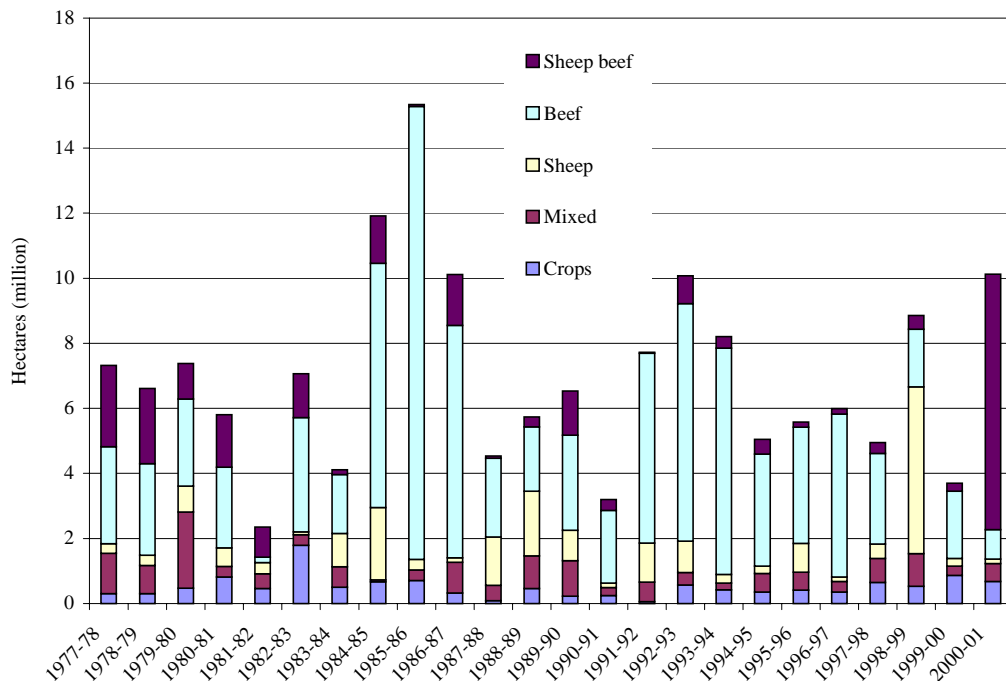


Figure 5. Total area acquired by expanding farms, by industry

CHARACTERISTICS OF EXPANDING FARMS

ABARE survey estimates show that at practically any scale of operation, the more efficient and profitable farmers tend to be expanding farm area, while those who are managing less profitable operations tend to be the ones contracting farm area.

Producers who expanded their area operated in 2000-01, on average earned higher farm business profits and rates of return on their capital in the previous year. Also, the land that these producers operated in 1999-2000 was more productive (as indicated by wheat yields, lambing rates and wool clip per head shorn) than the less profitable producers who disposed of land in 2000-01 (Table 2).

Profitability is a major factor influencing decisions to change farm size. However, another reason is the age of the farm’s operators. Generally, producers reducing the area they operate are older. In 2000-01, the average age of producers disposing of land was 11 years greater than the average age for those acquiring land (table 2).

As a proportion of the existing farm’s land base, the additional land typically represented an expansion of 13 - 30 per cent, irrespective of the farm’s initial scale of operation (table 3). A large proportion of these farms acquired land of a lower value than their existing farms, suggesting that, on average, they may be buying land that was relatively less productive than that which they already operated.

Table 2. Physical and financial characteristics in 1999-2000 of farms whose area operated contracted, expanded or remained constant in 2000-2001 (values in parentheses are relative standard errors, expressed a percentage of the estimate provided)

Characteristic		Farms decreasing		Farms with		Farms increasing	
		land area		unchanged land area		land area	
Age of operator	years	56	(3)	54	(1)	45	(4)
Area operated at 30 June	ha	5 518	(119)	6 490	(9)	4 235	(36)
Average value of land at 30 June	\$/ha	246	(111)	211	(9)	311	(56)
Area sown to crops	ha	198	(42)	319	(4)	315	(25)
Livestock on hand at 30 June							
- sheep	no	1 854	(51)	1 591	(4)	1 831	(44)
- beef cattle	no	320	(99)	329	(6)	329	(133)
Wheat yield	t/ha	2.1	(26)	2.1	(4)	1.9	(15)
Wool cut per head	kg	4.2	(8)	4.7	(1)	4.6	(16)
Lambing rate (a)	%	78	(18)	82	(2)	88	(7)
Farm cash receipts	\$	197 295	(29)	227 605	(8)	268 422	(46)
Farm cash costs	\$	150 302	(37)	173 673	(11)	199 988	(57)
Farm cash income	\$	46 993	(27)	53 932	(6)	68 434	(26)
Farm business profit	\$	- 841	(99)	-6 511	(45)	12 614	(99)
Rate of return (b)	%	0.9	(99)	0.7	(28)	2.5	(72)
Equity ratio	%	85	(16)	83	(2)	79	(12)
Capital value at 30 June (c)	\$	1 377 125	28	1 388 232	3	1 318 360	(63)

(a) Number of lambs marked per ewe mated. (b) Rate of return excluding capital appreciation.

(c) Capital value including leased items.

Table 3. Average increase in area operated and price paid, by scale of operation, 1998-1999 to 2000-2001 (values in parentheses are relative standard errors, expressed a percentage of the estimate provided)

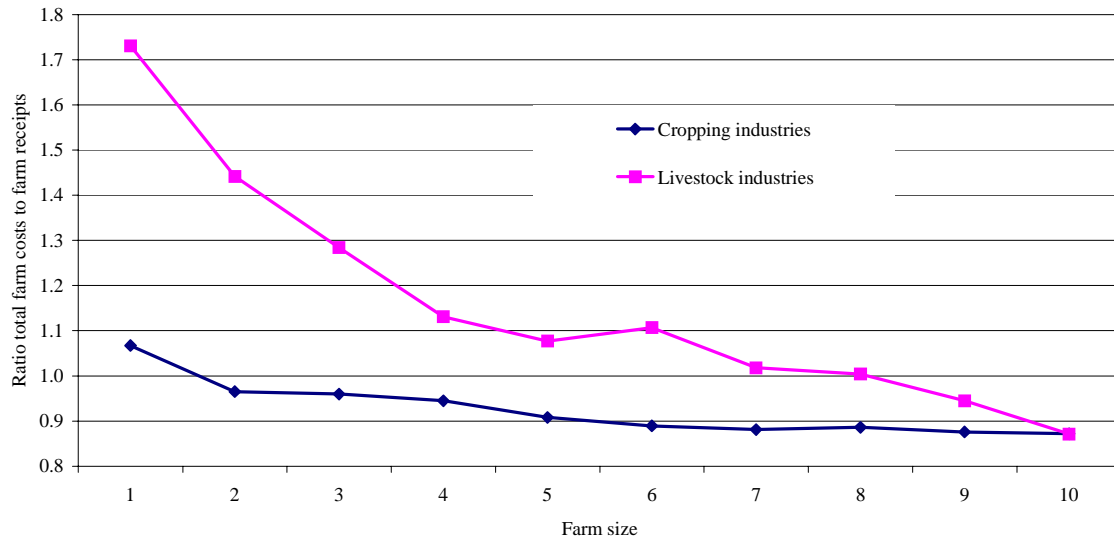
Farm size	Estimated number of farms acquiring land	Change in area (%)	Proportion of farms buying land cheaper than existing farm lands
Small	4 700	23 (29)	59 (16)
Medium	1 900	30 (71)	78 (12)
Large	1 900	30 (20)	75 (10)
Very large	600	13 (25)	57 (6)

WILL THE TREND TOWARD LARGER FARMS CONTINUE IN THE FUTURE?

The ratio of costs to receipts declines with increase in farm size (Figure 6) in both broadacre cropping and livestock industries. Similarly, as mentioned earlier, rates of return increase with farm size (Figure 7). This suggests that there are significant economies of size in both the broadacre cropping and the livestock industries.

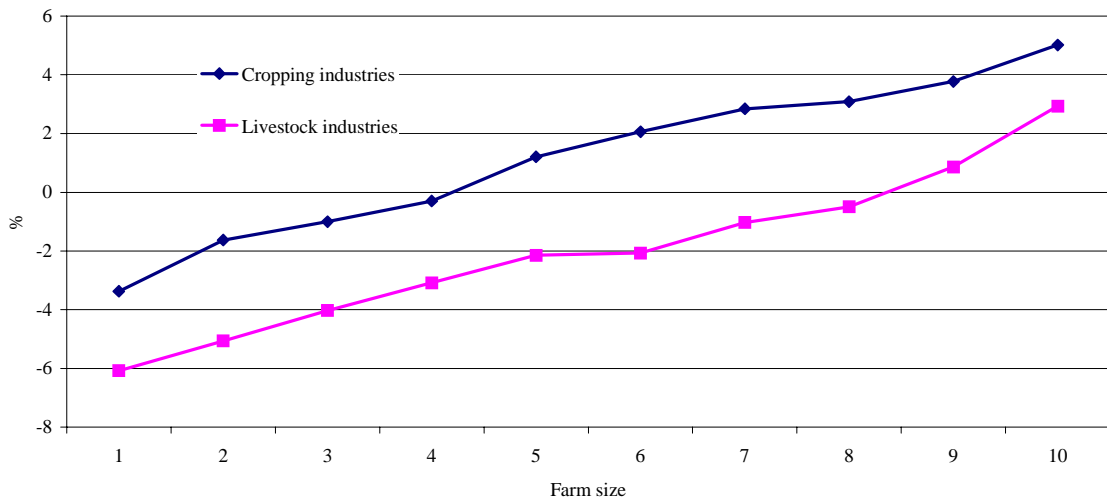
As farm size grows, output can be expanded without the need to necessarily add extra units of major capital inputs and overhead costs can be spread over more units of output. For example, up to some point, crop area can be expanded without the need to acquire more farming equipment or a larger tractor.

Additionally, larger farms also have an advantage in marketing their products because of the larger volumes of product they produce they can more easily establish strategic alliances and enter into longer term relationships with buyers. It is also likely that greater separation of management and labour roles on larger farms frees managers to take more advantage of information available for marketing products and managing the farm business. Very large farms also have more bargaining power when acquiring inputs such as chemicals and fertiliser because they are buying larger quantities.



Farms in the cropping and livestock industries were ranked into farm size deciles in each year in the period 1991-92 to 2000-01. The average for each decile was then calculated. Farm size was calculated in sheep equivalents

Figure 6. Cost to receipts in the broadacre cropping and livestock industries, by farm size decile



Farms in the cropping and livestock industries were ranked into size deciles in each year in the period 1991-92 to 2000-01. The average for each decile was then calculated. Farm size was measured in sheep equivalents.

Figure 7. Rate of return in the broadacre cropping and livestock industries, by farm size decile

The analysis presented indicates that, in broadacre agriculture, there are rewards for farms that get bigger. Therefore, it is economically rational for broadacre producers to continue the trend toward larger farms particularly since, as yet, no diseconomies of size are apparent within the current range of farm sizes in the broadacre industries (Figures 6 and 7).